

#### ERCOT Finance & Audit Committee Meeting 7620 Metro Center Drive, Austin, Texas Met Center, Conference Room 206 September 21, 2010; 7:30am – 9:55am\*

Item #	Agenda Item Type	Description/Purpose/Action Required	Presenter	Time
1.		Call to order Executive Session	C. Karnei	7:30am
2.		2a. Announcement of proxies	C. Karnei	7:31am
	Decision required	2b. Approval of executive session minutes (Vote) (8/17/10)	C. Karnei	7:32am
	For discussion	2c. Internal Audit status report	B. Wullenjohn	7:35am
	Informative	2d. Update on timeline for 2011 Internal Audit plan	B. Wullenjohn	7:40am
	Informative	2e. EthicsPoint update	B. Wullenjohn	7:45am
3.	Informative	Contracts, personnel, litigation and security	Various	7:55am
		Recess Executive Session		8:00am
		Convene General Session		
4.	Decision required	Approval of general session minutes (Vote) (08/17/10)	C. Karnei	8:00am
5.	Decision required	Review results of and vote on acceptance of 2009 401(k) audit report (Vote)	L. Porter	8:02am
6.	Decision required	Recommendation for approval of the First Priority Security Interest Agreement (Vote)	C. Seely	8:15am
7.	For discussion	Review assumptions and preliminary schedules for the 2011 annual operating budget	M. Petterson	8:25am
8.	Informative	Nodal credit risk profile and status	C. Yager	8:55am
9.	Informative	CWG status update	T. Nikazm	9:10am
10.	For discussion	Annual review of Committee Charter and structure	C. Karnei	9:20am
11.	Informative	Quarterly Committee education on accounting developments	R. Beckham	9:30am
12.	Informative	Committee Briefs (Q&A only)	All	9:40am
13.	Informative	Future agenda items	M. Petterson	9:45am
14.		Other business	M. Petterson	9:47am
		Adjourn meeting	C. Karnei	9:50am

\* Background material is enclosed or will be distributed prior to meeting. All times shown in the agenda are approximate. The next Finance & Audit Committee Meeting will be held Tuesday, October 19, 2010, at ERCOT, 7620 Metro Center Drive, Austin, Texas 78744, in Room 206.

Decision required For discussion 4. Approval of General Session Minutes Clifton Karnei

## **Approval of General Session Minutes**

• Vote 8/17/10



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#### DRAFT ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC. MINUTES OF THE FINANCE & AUDIT COMMITTEE – GENERAL SESSION

7620 Metro Center Drive (Room 206) - Austin, Texas 78744 August 17, 2010

Pursuant to notice duly given, the Finance & Audit Committee ("F&A" and/or "Committee") of Electric Reliability Council of Texas, Inc. ("ERCOT") convened on the above-referenced date. Committee Chairman Clifton Karnei confirmed that a quorum was present and called the meeting to order at approximately 7:35 a.m. The Committee immediately went into Executive Session, where it remained until it recessed and reconvened in General Session at 9:05 a.m.

#### **General Session Attendance**

Committee members.			
Bermudez, Jorge	Unaffiliated Board Member	Unaffiliated Board Member	Present
Crowder, Calvin	American Electric Power Service Corporation	Investor Owned Utility	Present
Dreyfus, Mark	Austin Energy	Municipal	Present
Espinosa, Miguel (Vice Chair)	Unaffiliated Board Member	Unaffiliated Board Member	Not Present
Fehrenbach, Nick	City of Dallas	Commercial Consumers	Present
Karnei, Clifton (Chair)	Brazos Electric Power Cooperative	Cooperative	Present
Zlotnik, Marcie	StarTex Power	Independent REP	Present

#### Committee members:

#### **Other Board Members and Segment Alternates:**

Walker, Mark	NRG Texas	Independent Generator	Present
Whittle, Brandon	DB Energy Trading	Independent Power Market Representative	Present

#### **ERCOT Staff and Guests:**

Anderson, Ken	Public Utility Commission of Texas (Commissioner)
Bevill, Rob	GMEC
Brandt, Adrianne	Austin Energy
Brenton, Jim	ERCOT – Principal, Cyber Standard Development
Brewer, Chris	City of Eastland
Cleary, Mike	ERCOT – Chief Operating Officer
Day, Betty	ERCOT – Director, Commercial Operations
DiPastena, Phil	ERCOT – Enterprise Risk Manager
Doggett, Trip	ERCOT – Chief Executive Officer
Forfia, David	ERCOT – Director, IT Infrastructure
Gonzales, Daniel	City of Eastland
Hancock, Misti	ERCOT – Manager, Budget & Financial Analysis
Helton, Bob	International Power America Services
Jones, Brad	Luminant

Jones, Randy	Calpine
Kolodziej, Eddie	Customized Energy Solutions
Lester, Suzanne	ERCOT – Executive Assistant, Finance
Magness, Bill	ERCOT – Interim Vice President and General Counsel
Manning, Chuck	ERCOT – Vice President and Chief Compliance Officer
Manz, Laura	ERCOT – Senior Systems Analyst
Morehead, Juliana	ERCOT – Associate Corporate Counsel
Morgan, Richard	ERCOT – Vice President and Chief Information Officer
Moseley, Cheryl	ERCOT – Manager, ICMP
Nikazm, Tamila	Austin Energy
Oehler, Melissa	Public Utility Commission of Texas
Petterson, Mike	ERCOT – Controller
Prochazka, Scott	CenterPoint Houston Electric, LLP
Saathoff, Kent	ERCOT – Vice President, Grid Operations and System Planning
Seely, Chad	ERCOT – Senior Corporate Counsel
Seymour, Cesar	GDF Suez
Smitherman, Barry T.	Public Utility Commission of Texas (Chairman)
Stark, Ruth	Public Utility Commission of Texas
Starnes, Bill	RUC
Stauffer, Tarra	ERCOT – Paralegal
Swanson, Leslie	ERCOT – Treasury Manager (contractor)
Wullenjohn, Bill	ERCOT – Director, Internal Audit
Yager, Cheryl	Treasurer

Chairman Karnei announced that a quorum was present and that he held a proxy for Miguel Espinosa.

#### Approval of General Session Minutes – July 20, 2010 (Agenda Item 4)

Mr. Karnei asked for a motion to approve the July 20, 2010 General Session F&A Committee meeting minutes ("Minutes").

#### Calvin Crowder moved to approve the Minutes. Jorge Bermudez seconded the motion. The motion passed unanimously with no abstentions.

Barry T. Smitherman, Chairman of the Public Utility Commission of Texas called to order the meeting of the Public Utility Commission of Texas ("PUCT") as noticed, and welcomed PUCT Commissioner Ken Anderson.

#### <u>Review Assumptions for Preliminary Schedules for the 2011 Annual Operating Budget</u> (Agenda Item 5)

Mike Petterson reviewed the assumptions for preliminary schedules for the 2011 Annual Operating Budget ("Budget"). Mr. Petterson covered key cost drivers (operating costs and project costs); cost management initiatives; staffing approaches; and systems operations costs (hardware/software systems, outside services and facilities). He noted that Betty Day would be explaining how ERCOT was building the staffing budget for 2011, and future years from the bottom-up based on the capability model. Further, Mr. Petterson stated that Richard Morgan

would speak about system operating costs, and how transition into a Nodal market would increase costs.

Mr. Crowder inquired as to how the increased cost estimation (i.e., \$0.15 - \$0.20 per MWh), as shown on page 11 of the Committee's materials, was derived. Mr. Petterson explained that a large share of said cost was associated with hardware and software support, and maintenance on ERCOT systems, which was required to operate a Nodal market. He also noted that the estimate covered incremental outside services costs associated with the rapid response. maintenance, and support of new systems and the purchase of proprietary software developed specifically for Nodal markets. Mr. Doggett informed Mr. Crowder, that slides 13 and 14 would further enumerate some of the components that created the estimate, and noted that ERCOT would be presenting a more detailed overview at the September 2010 meeting. Mr. Crowder suggested that offsetting reductions be further detailed in the 2011 Budget preparation process. Mr. Petterson responded that slide 12 of the meeting materials reflected some cost-saving initiatives in the organization, albeit not directly tied to the transition from a Zonal to a Nodal market, but which indicated a savings between \$2M and \$3M, and noted that Richard Morgan would address key cost drivers related to operating and outside service costs. Mr. Doggett noted an error on page 14 of the Committee materials. Specifically, he explained that the bottom line total reflected as \$11M - \$15M should read "in progress" because a staffing number was yet to be developed. Mr. Cleary reemphasized that ERCOT was not ready to identify a bottom line estimate, but wanted to identify what was driving costs of the internal organization. Mr. Crowder stated that this summary was good, and indicated that his assumption would be that the Committee would see some offsetting cost reductions as ERCOT moved away from Zonal. He noted that it would be helpful to know figures for such reductions. Mr. Morgan responded that he would speak to Mr. Crowder's request later in the meeting.

Mr. Petterson then spoke of the key cost drivers related to projects, and noted that in the Board meeting later that day, Richard Morgan and David Forfia would further discuss the necessity of replacing hardware and software that had reached "end of life", and costs associated therewith. Mr. Karnei indicated that the gross number was provided in the materials, rather than the impact to the fee, which would be the 40% revenue piece. Mr. Petterson agreed, and explained that the total stabilization was defined as a project effort and the numbers associated thereto reflected a six-month horizon. Furthermore, he noted that covered in the range of costs was an estimate of defects that could arise over the next ten months, as well as a cost estimate for incremental ERCOT staff time to cover the necessity for market diagnostics related to dispute resolutions.

Marcie Zlotnik asked whether the estimate included items in the Parking Deck. Mr. Petterson noted that Parking Deck items were not included at that time, but were captured under "Other." He explained that ERCOT was developing cost estimates for such items, and expected them to be evaluated, prioritized, and placed in a release schedule consistent with a software release program. Mr. Cleary described the Parking Deck as something that should be viewed as enhancements to the market through Nodal stabilization.

Chairman Smitherman noted that every penny in the administrative fee raised about \$3.2M in revenue. He then noted his concern that if by assuming that ERCOT would use the same number of KWhs in the calculation, and a 40% calculation on the hardware and software systems was used, a low-range number of an incremental \$46M and a high-range number of \$62M, would cause a minimum addition of \$0.13 - \$0.17 to the administrative fee, with four items undefined (i.e., in progress). Mr. Karnei mentioned that page 11 of the materials included the four items in progress, and that the potential increase range included a rough estimate for

such unknowns. Mr. Doggett responded that ERCOT would like to discuss with the Board and the Commission, the appropriateness of some of ERCOT's stabilization costs paid for by the administrative fee versus those paid for out of Nodal, and noted that the range could change.

Betty Day then highlighted the proposed staffing approach using Market Reform's identified capabilities. She used Retail Market Operations (Capability 2) as an example for showing how recommendations were broken down according to ERCOT business functions. Ms. Day explained that Market Reform recommendations for staffing were broken down into sub-capabilities, some of which did not require a head count, and that sub-capabilities requiring head count further identified ERCOT responsibilities via protocols, market rules, PUCT rules, and the like. Mr. Doggett identified the need for ERCOT to expand Market Reform's approach by working with the PUCT to identify its needs, as well as ERCOT's, some of which conflicted with Market Reform's recommendations. Mr. Clearly summarized ERCOT's approach by stating that ERCOT would be using a zero-based budget approach, which would be formulated by the principles defined by the proposed 2011 Budget (i.e., what activities should and should not be funded), and emphasized ERCOT's intent to keep the Board and PUCT informed and familiar with the staffing approach.

Mr. Crowder asked whether: (a) ERCOT was taking an enhanced role in market development; (b) ERCOT had found a way to reduce externally driven work; and (c) a cost estimate of assumptions driven by market reform was available. Mr. Doggett agreed to make sure that ERCOT's assumptions were captured, and noted his uncertainty as to whether the delta would be captured, but agreed to highlight such data where possible, to which Mr. Crowder noted concurrence. Ms. Day then explained that individual sub-capabilities identified assumptions, and that ERCOT was trying to capture increases and decreases.

Mr. Morgan then discussed the major cost drivers associated with IT and Facilities. He noted that hardware and software maintenance for 2010 totaled \$14.1M (\$8.89M to be paid out of the Base Operations budget, and \$5.22M to be paid out of the Nodal Administrative Fee). He further enumerated the infrastructure costs that would be shared with Zonal operations and those which were applicable only to Nodal. Additional costs such as warranty renewals, license fees, and maintenance fees, also contributed to hardware and software costs, Mr. Morgan said. He then noted that ERCOT's equipment retirements were minimal, and once ERCOT retired certain equipment, it would no longer be required to pay maintenance fees on such equipment. Mr. Morgan anticipated hardware and software maintenance for 2011 to increase by \$1.28M, bringing the projected total for 2011 to \$15.38M (\$8.691M to be paid out of Base Operations, and \$6.69M to be paid out of the Nodal Administrative Fee). He then reviewed figures for outside services vendors, and noted that the numbers for 2010 were relatively small (i.e., \$40,000) due to the set of systems ERCOT operated under Zonal, which were mostly selfsupported by ERCOT. However, he asserted that costs were anticipated to rise significantly by about \$3.6M. Mr. Morgan stressed that this cost was for dedicated support and readiness by "the best of the breed," as well as limited access to code for both Nodal go-live and into the future, but excluded vendor outside service fees.

Mr. Morgan went into further discussion concerning facility costs and the major budget categories included therewith, which would increase costs relative to operating the Bastrop facility. He noted that FTE costs were not included in the schedule. Mr. Morgan provided brief overviews of the three primary capabilities/services:

1. Network and Telecom Services – Increase of \$120,000 for communication lines between the Bastrop, Taylor, and Austin facilities

- 2. Facilities Management Increase of \$370,000 for power, water, maintenance of generators, and janitorial services to the Taylor data center and an increase of \$5.3M to the Bastrop data center for the same, with an additional \$400,000 in contract services
- 3. Physical Security Increase of \$399,000 for the Bastrop facility for a total that was directly related to new facilities operations of \$1.8M

Mr. Karnei requested additional detailed review of all said assumptions at the September 2010 F&A Committee meeting. Mr. Bermudez and Mr. Cleary then discussed the key cost drivers surrounding ERCOT's operation and how they played a part in: (a) where ERCOT invested its money, (b) what ERCOT staff was doing, (c) how ERCOT staff was doing it, and (d) the potential impacts of ceasing certain responsibilities. Mr. Bermudez asked whether at some point, based on the 2011 Budget, the costs and benefits to ERCOT's investments would be identified, in addition to that of the cost of running ERCOT going forward. Mr. Cleary answered in the affirmative. Mr. Bermudez indicated that he would like to see a holistic view of ERCOT. Mr. Karnei stated that while the Committee was reviewing details at present, it would like to review the whole picture at some point in the future.

#### Nodal Credit Risk Profile and Status (Agenda Item 6)

Per request by Chairman Karnei and Vice Chairman Espinosa, Tamila Nikazm, Vice Chair of the Credit Working Group ("CWG"), provided an update on readiness for Nodal go-live. Mr. Karnei commented that because the request to have CWG provide a recommendation on Nodal credit arose from a discussion outside the Committee, Committee members should feel free to raise any issue he/she had therewith. Further, he stated, because the Committee was being asked to determine whether it agreed with CWG's recommendation, unless a member voiced an opinion one way or the other, silence would be considered assent.

Ms. Nikazm categorized Nodal readiness into two groups: (1) whether credit calculations, based on market trial data, were prepared accurately as defined in the Nodal protocol; and (2) whether the credit risk in the Nodal market was sufficiently addressed. Concerning core credit calculations, with few exceptions, Ms. Nikazm noted that the calculations were in place and performing, and testing was ongoing. Concerning credit constraints for the day-ahead market and e-factors, she noted that testing was ongoing, and other credit constraints were still being validated. Concerning Congestion Revenue Rights ("CRR") credit, Ms. Nikazm stated that CWG had been receiving concerns from market participants involving factors involved in the calculations, but noted that ERCOT was working to clarify some of these questions, and testing was ongoing. Concerning credit risk in the Nodal market, based on data received in the market trial, Ms. Nikazm identified CWG's biggest concern as the data in market trials (i.e., substantial amounts of energy being purchased in the real-time market; substantially fewer energy trades that were seen in Zonal (with a number of unconfirmed energy trades by the trade counterparties); significantly higher congestion in Nodal market trials than what existed in the Zonal market; and extremely high prices in the Nodal trial). Another concern of the CWG was the presence of extreme market results in market trials, which Ms. Nikazm noted, could cause very severe financial consequences if such events were actually to occur. Because market participants were not seeing any normalization in market trial results, and were experiencing unexpected credit requirements resulting from the data, Ms. Nikazm stated that the evaluation of reasonableness of exposure was difficult. In conclusion, she noted that the data flowing into the credit calculation made it difficult for CWG to conclude that such exposures were reasonable.

Chairman Karnei asked whether the high prices were expected to flatten out as market trials continued. Ms. Nikazm responded that such was the expectation, but CWG would like the opportunity to test in an environment where CWG could ensure that the data falling into the calculations was providing for a reasonable amount of collateral to help mitigate the credit risk. CWG and the Market Credit Working Group met generally once or twice per week, she noted.

Commissioner Anderson asked whether: (a) the results were based on the similar problems that had been discussed the prior day, and (b) tests were producing outcomes that were unsatisfactory for testing purposes. Mr. Cleary confirmed that the data concerns were similar to those discussed, and that although the testing was not closely simulating what was expected to occur upon Nodal go-live, he did not believe the outcomes were unsatisfactory for testing purposes. He explained that functionality could be tested, and that "the quality to the solution is the issue." Continued testing and review of outcomes could provide an understanding of where the issues originated, and why they originated at all, he said. Because the tests were just implemented in August 2010, Mr. Cleary indicated that he would like to ensure that the details of the issues and their influences were understood.

Ms. Nikazm suggested that participation be mandatory at a certain level, and a more robust post-monitoring process be implemented to allow for transparency purposes. Mr. Cleary responded that ERCOT did not have a mechanism in place to require mandatory participation. Ms. Nikazm agreed with Mr. Cleary's point and stated that the CWG would continue to review for problem areas.

Cheryl Yager noted that ERCOT had provided an excel spreadsheet to Market Participants that modeled the Nodal credit calculations, which allowed the Market Participants to estimate their exposure in a pro forma manner.

Mr. Karnei requested that CWG provide another update on its review of Nodal credit risk at the September 2010 meeting, and that CWG and ERCOT continue to work together to monitor credit risks.

Cheryl Yager then provided the Committee with a brief overview of the CMM status. She reported that Credit Monitoring and Management (CMM) went live in market trials in May 2010, and e-factors in August 2010, and that testing of both were ongoing. Ms. Yager informed the Committee that ERCOT had a metric that would test the validity of credit calculations on a sampling basis, which was expected to be completed by the end of August 2010. Concerning process readiness, Ms. Yager noted that ERCOT focused primarily on market facing operating procedures and had some internal procedures in the process of being finalized. She commented that process readiness was on target. Ms. Yager further asserted that in regards to people readiness, ERCOT internal training was substantially complete, and Market Participant training had been completed. As requested at the July 2010 Board meeting, Ms. Yager noted that ERCOT was reviewing the PJM report and comparing ERCOT to other markets; a discussion concerning each would be on the agenda for the F&A Committee meeting in September 2010. She also informed the Committee that ERCOT was considering the assistance of a third party for review of Nodal credit readiness.

Mr. Crowder asked whether the information contained in pages 45-47 of the Committee materials was the criteria by which the Committee would certify credit for readiness. Ms. Yager confirmed that it was, noting that the format was consistent with that used for other components coming to the Board for approval for Nodal go-live.

Ms. Yager and Chairman Karnei then agreed to postpone discussion concerning risk factors compared to Zonal and volume escalation to the September 2010 Committee meeting.

Ms. Zlotnik asked Ms. Yager to talk briefly about the magnitude of risks in market trials data, referencing the discussion at the July 2010 Board meeting. Ms. Yager reminded the Committee that in July 2010, ERCOT prepared a slide to help the Committee understand and compare: (a) credit risk in the Zonal market; (b) an indicative steady-state Nodal market; and (c) what market participants were seeing in the market trials data. She went on to explain that ERCOT expected to see an increase in exposure and collateral of two to four times the activity in steady-state Nodal depending on a Counter-Party's ("CP") activity. However, Ms. Yager noted that ERCOT did not expect market trial results to be indicative of normal steady-state Nodal activity. She noted that the exposure seen in market trials was not expected to reflect Nodal steady-state. Ms. Zlotnik clarified that exposure using market trial data that appeared to be 45 times higher than average Zonal levels should neither be considered realistic, nor expected in a Nodal steady-state market.

#### Discussion of Market Credit Risk Standard Audit Requirement for 2010 (Agenda Item 7)

Ms. Yager reminded the Committee that ERCOT was slated for an audit of the Market Credit Risk Standard, but that such was not required to be done on an annual basis. The Committee agreed to defer the audit to 2011, following Nodal go-live. Mr. Wullenjohn commented that said audit would be included in the 2011 Internal Audit Plan.

# Follow-up to Commissioner Anderson's Question regarding Investment Risk and Diversification (Agenda Item 8)

Per Commissioner Anderson's inquiries at the July 2010 meeting, Ms. Yager provided a brief overview of ERCOT's investment risk and diversification. She explained that ERCOT invested in very conservative funds, and reviewed the underlying investments on a monthly basis. Ms. Yager also noted that the Securities and Exchange Commission strengthened their requirements on money market funds, and that ERCOT's money market funds were backed by treasuries. Further, she said, the collateral, almost all of which had very short tenure, was held by third parties. Ms. Yager informed the Committee that ERCOT confirmed with the third parties that they trued up the collateral on a daily basis, collateralized it at 102%, and maintained it with third-party custodians. Chairman Karnei asked why the vendors collateralized at 102%, to which Ms. Yager responded that the figure was used to ensure value when there was price volatility on treasuries and to ensure that adequate collateral was available for each fund.

Ms. Yager offered to provide the Committee with a consolidation report on a quarterly basis. Commissioner Anderson noted that Ms. Yager's review and report was very helpful for understanding the real risk.

#### Review of First Priority Security Interest Agreement (Agenda Item 9)

Ms. Yager directed the Committee to page 64 of its materials, and noted that the purpose for the First Priority Security Interest Agreement ("Agreement") was tied to Nodal Protocol Section 16.11.4.1 (Determination of Total Potential Exposure for a Counter-Party). Chad Seely then provided the Committee with an overview of the status of the Agreement. He noted that the Agreement had been out for stakeholder comment for a few months, and expected to receive a final round of comments in the near future. Mr. Seely also informed the Committee that the comments had not been very contentious, and that ERCOT had accepted most of them.

Mr. Seely stated that the purpose of the Agreement was to give ERCOT a first priority security interest, although he opined that very few market participants would likely be able to do so. He discussed the term "collateral" as it related to any and all accounts receivables generated under and/or in connection with a Counter-Party Agreement and all current and future revenues as described and defined in Nodal Protocols. For clarification purposes, Chairman Karnei stated that market participants would not be required to execute the Agreement, but if they did, because of the ability to net current and future market activities, it could reduce their overall collateral obligations. Alternatively, if market participants did not execute the Agreement, they would likely be required to post additional collateral. From a retail perspective, Ms. Zlotnik noted that it would be very difficult for entities in the retail sector to sign the Agreement.

Mr. Seely concluded by noting that ERCOT would seek Committee approval and recommendation to the Board of the Agreement at the September 2010 Committee meeting.

#### Committee Briefs (Agenda Item 10)

No Committee Briefs were provided.

#### Future Agenda Items (Agenda Item 11)

The following items were identified as future agenda items:

- 1. Standing Internal Audit agenda items
- 2. Review assumptions and preliminary schedules for the 2011 annual operating budget
- 3. Approval of the First Priority Security document
- 4. Annual review of Committee Charter and structure
- 5. Review results of and vote on acceptance of 2009 401(k) audit report
- 6. Standing Nodal Credit Status
- 7. Review of investment strategy
- 8. Committee briefs
- 9. Future Agenda Items

#### Other Business (Agenda Item 11)

None.

#### **Adjournment**

Mr. Karnei adjourned the meeting at approximately 9:51 a.m.

Juliana Morehead Associate Corporate Counsel 5. Review Results of and Vote on Acceptance of 2009 401(k) Audit Report (Vote) – Lea Anne Porter

- No issues noted in the audit
- 401(k) Audit report to be provided in supplemental distribution
- Please see Board agenda item 11 for decision template
- Discussion and Vote



- 6. Recommendation for Approval of First Priority Security Interest Agreement (Vote) – Cheryl Yager/Chad Seely
- Section 16.11.4.1, *Determination of Total Potential Exposure for a Counter-Party*, of the Nodal Protocols, indicates, in part, the following:
  - (1) A Counter-Party's "Total Potential Exposure" (TPE) is (i) for a Counter-Party that has granted ERCOT a first priority security interest in receivables generated under or in connection with the Counter-Party Agreement or is an EC or an Entity created under Texas Water Code (TWC) § 222.001, Creation, the algebraic sum of its current and future credit exposures, and (ii) for every other Counter-Party, the sum of its current credit exposure, if positive, and Future Credit Exposures (FCEs), if positive.
- If a Counter-Party <u>elects</u> to give ERCOT a first priority security interest in any and all accounts receivables generated under and/or in connection with the Counter-Party Agreement, then this Nodal Protocol section allows netting of the "mark to market" or forward values of Congestion Revenue Rights (CRRs) with other current credit exposure of the Counter-Party.
- In order to meet this Nodal Protocol requirement, ERCOT Legal developed a standard form version of a First Priority Security Agreement which <u>may</u> be used by Counter-Parties if they choose to give ERCOT a first priority security interest in any and all accounts receivables and therefore receive favorable credit treatment.



- 6. Recommendation for Approval of First Priority Security Interest Agreement (Vote) – Cheryl Yager/Chad Seely
  - During July/August 2010, ERCOT Legal solicited stakeholder comments on first and second working drafts of the First Priority Security Interest Agreement. A majority of stakeholder comments were accepted by ERCOT Legal and incorporated into the final version of the First Priority Security Interest Agreement.
  - ERCOT Legal prefers a standard form version of a First Priority Security Interest Agreement to be used by all Counter-Parties who elect to give ERCOT a first priority security interest in any and all accounts receivables generated under and/or in connection with the Counter-Party Agreement.
  - <Vote>



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## FIRST PRIORITY SECURITY INTEREST AGREEMENT<sup>1</sup>

Date:

Debtor: [COUNTER-PARTY ENTITY]

Debtor's Mailing Address:

Secured Party: ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC. (hereinafter "ERCOT" or "Secured Party")

Secured Party's Mailing Address: 7620 Metro Center Drive Austin, Texas 78744

Collateral (including all accessions):

Pursuant to ERCOT Nodal Protocols<sup>2</sup> Section 16.11.4.1, *Determination of Total Potential Exposure for a Counter-Party*, as the same may be revised, amended, and supplemented from time to time and together with all replacements and substitutes thereto, Debtor hereby grants to ERCOT and its assignees, transferees, successors in interest, a present and continuing first priority security interest in and a first lien (the "First Priority Security Interest") upon all of Debtor's right, title, and interest in any and all accounts receivable generated under and/or in connection with the Counter-Party Agreement<sup>3</sup> and all current and future revenues as described and defined in the ERCOT Nodal Protocols together with all of Debtor's right, title, and interest to any accounts, accounts

<sup>&</sup>lt;sup>1</sup> Hereinafter called the "Agreement".

<sup>&</sup>lt;sup>2</sup> "ERCOT Nodal Protocols" shall mean the document adopted by ERCOT, including any attachments or exhibits referenced in that document, as may be amended from time to time, that contains the scheduling, operating, planning, reliability, and settlement (including customer registration) policies, rules, guidelines, procedures, standards, and criteria of ERCOT. For the purposes of determining responsibilities and rights at a given time, the ERCOT Nodal Protocols, as amended in accordance with the change procedure(s) described in the ERCOT Nodal Protocols, in effect at the time of the performance or non-performance of an action, shall govern with respect to that action.

<sup>&</sup>lt;sup>3</sup> Under the ERCOT Nodal Protocols, the Counter-Party Agreement is also known as the Standard Form Market Participant Agreement, entered into between said Counter-Party (i.e., Debtor) and ERCOT in order to establish the terms and conditions by which ERCOT and Counter-Party will discharge their respective duties and responsibilities under the ERCOT Protocols.

receivable, credits, refunds, payments, rebates, revenues, set-off rights, and all other rights to payment of whatever kind or nature arising out of or related to the Counter-Party Agreement whether direct or indirect, absolute or contingent, due or to become due, now existing or hereafter existing, including all products and proceeds of the foregoing, and any and all renewals, extensions, replacements, modifications, additions, and substitutions of the foregoing and all rights, remedies, claims, and demands under and/or in connection with each of the foregoing (the "Collateral").

#### Obligation Secured (hereinafter the "Obligation" or "Obligations"):

The First Priority Security Interest granted herein by Debtor to Secured Party shall secure the payment and performance of all of Debtor's obligations pursuant to the ERCOT Nodal Protocols and Counter-Party Agreement and the payment and performance of any and all other liabilities and obligations of Debtor to Secured Party of every kind and nature, whether direct or indirect, absolute or contingent, due or to become due, now existing or hereafter existing, including, without limitation, all costs and expenses to enforce the obligations of the Debtor and collect all amounts owed to the Secured Party, including attorney's fees and expenses, arising under this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement.

Other debt/future advances: The First Priority Security Interest granted herein also secures all other present and future debts and liabilities of Debtor to Secured Party, including future advances and including, but not limited to, any and all other debt and any advances made pursuant to this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement.

#### A. Debtor represents and warrants the following:

1. No financing statement covering the Collateral is filed in any public office other than the financing statement in favor of Secured Party.

2. Debtor owns the Collateral and has the authority to grant this First Priority Security Interest, free from any setoff, claim, restriction, security interest, or encumbrance except liens for taxes not yet due and liens imposed by law in connection with worker's compensation, unemployment insurance and types of social security (in each case, if applicable) (hereinafter "Permitted Liens").

3. The Collateral has not been pledged to any other person or entity and the First Priority Security Interest granted herein is a legal and valid, first priority security interest in the Collateral (subject to Permitted Liens).

4. None of the Collateral is an accession to any goods, is commingled with other goods, or will become an accession or part of a product or mass with other goods except as provided in this Agreement.

5. All information about Debtor's financial condition is or will be accurate in all material respects when provided to Secured Party.

6. None of the Collateral is affixed to real estate.

7. Debtor is a \_\_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_\_ and Debtor will notify Secured Party in writing of any change to Debtor's name, state of organization, or entity status, in accordance with Section B.5 below.

8. The Debtor's place of business is \_\_\_\_\_\_ and Debtor will notify Secured Party in writing of any change to Debtor's place of business, in accordance with Section B.5 below.

9. The Debtor's execution of this Agreement is a condition precedent to, and made in consideration of, Secured Party granting Debtor credit pursuant to the ERCOT Nodal Protocols.

10. Debtor has received adequate consideration for the execution of this Agreement, the receipt of which is hereby acknowledged by virtue of the execution of this Agreement.

11. The Debtor is authorized to execute this Agreement, and the person signing this Agreement on behalf of Debtor is authorized to do so.

#### B. Debtor agrees to:

1. Defend the Collateral against all claims adverse to Secured Party's interest; keep the Collateral free from liens, except for liens in favor of Secured Party or Permitted Liens; allow ERCOT to keep all Collateral and any proceeds thereof in ERCOT's possession subject to Debtor's ownership except as otherwise provided in this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement; maintain the Collateral in good condition; and protect the Collateral against waste.

2. Reimburse Secured Party's reasonable expenses incurred in the initial filing related to this Agreement (a copy of which will be provided by Secured Party to Debtor)

3. Pay Secured Party's reasonable expenses incurred in any action to preserve, perfect, defend, and enforce this Agreement or the Collateral and to collect or enforce the Obligations. These expenses will bear interest from the date of advance until paid at the maximum lawful rate for matured, unpaid amounts and are payable on demand at the place where the Obligation is payable. These expenses and interest will become part of the Obligation and will be secured by this Agreement.

4. Take any other action and sign and deliver any other documents that Secured Party, acting in a commercially reasonable manner, considers necessary to obtain, maintain,

and perfect this First Priority Security Interest (subject to Permitted Liens).

5. Notify Secured Party promptly of any material change in the Collateral; any change in Debtor's name, address, or location; any change in Debtor's state of organization, any change in any warranty or representation in this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement; any change that may affect this First Priority Security Interest; and any event of default. Written notification regarding the Debtor's change of name, address, location, or jurisdiction shall be provided to Secured Party by Debtor at least thirty (30) days prior to the effective date of such change.

6. Maintain accurate records of the Collateral; furnish Secured Party any reasonably requested information related to the Collateral; and allow Secured Party to inspect and copy all records relating to the Collateral during Debtor's normal business hours.

7. Allow Secured Party to inspect the Collateral.

### C. Debtor agrees not to:

1. Commingle, sell, dispose, encumber, or in any way transfer (except as to Permitted Liens) any of the Collateral without the prior written consent of the Secured Party, except in the ordinary course of Debtor's business.

#### D. Default/Breach and Remedies

1. Debtor shall be in default (or breach) if, after having been given any required notice, the Debtor:

a. fails to comply with or perform any of the Debtor's obligations under this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement;

b. fails to timely pay or perform any obligation or covenant in this Agreement, the ERCOT Nodal Protocols, or the Counter-Party Agreement or any default in payment by Debtor to Secured Party per the Obligation(s) referenced above;

c. makes any false warranty, covenant, or representation to Secured Party in connection with this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement;

d. has a receiver appointed for Debtor or any of the Collateral;

e. assigns the Collateral for the benefit of creditors;

f. to the extent permitted by law, has bankruptcy or insolvency proceedings commenced against or by any of the following parties: Debtor; any partnership of which Debtor is a general partner; or any maker, drawer, acceptor, endorser, guarantor, surety,

accommodation party, or other person liable on or for any part of the Obligation;

g. the dissolution of any of the following parties: Debtor; any partnership of which Debtor is a general partner; or any maker, drawer, acceptor, endorser, guarantor, surety, accomodation party, or other person liable on or for any part of the Obligation; and

h. permits the impairment of any of the Collateral by loss, theft, damage, or destruction, unless it is promptly replaced with collateral of like kind and quality or restored to its former condition.

2. Upon default/breach and at any time thereafter, Secured Party may:

a. demand, collect, convert, redeem, settle, compromise, receipt for, realize on, sue for, setoff, net, and adjust the Collateral either in Secured Party's or Debtor's name, as Secured Party desires, or take control of any proceeds of the Collateral and apply the proceeds against the Obligation;

b. declare the unpaid principal and earned interest of the Obligations immediately due in whole or part;

c. enforce the Obligation; and/or

d. exercise any rights and remedies granted by law, this Agreement or ERCOT Nodal Protocols.

3. Foreclosure of this First Priority Security Interest by suit does not limit Secured Party's remedies under any other applicable law, including the right to sell the Collateral under the terms of this Agreement or the Uniform Commercial Code. Secured Party may exercise all remedies at the same or different times, and no remedy is a defense to any other. Secured Party's rights and remedies include all those granted by law and those specified in this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement.

4. Secured Party's delay, partial exercise, or failure to exercise any of its remedies or rights does not waive Secured Party's rights to subsequently exercise those remedies or rights. Secured Party's waiver of any default does not waive any further default by Debtor. Secured Party's waiver of any right in this Agreement or of any default is binding only if it is in writing. Secured Party may remedy any default without waiving it.

5. If the Collateral is sold after default, recitals in the bill of sale or transfer will be prima facie evidence of their truth, and all prerequisites to the sale specified by this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement and by law will be presumed satisfied.

#### E. General

1. While the Collateral and any proceeds thereof are in ERCOT's possession, ERCOT shall maintain the Collateral in good condition as provided in this Agreement, the ERCOT Nodal Protocols, and/or the Counter-Party Agreement.

2. Secured Party may at any time:

a. discharge taxes, liens or other encumbrances at any time levied or placed on the Collateral and any payment or expenses incurred by Secured Party for the same shall be immediately reimbursed by Debtor; and

b. file a financing statement or file any other document (including a copy of this Agreement), or take any other action, necessary to obtain, maintain, and/or perfect the First Priority Security Interest.

3. Notice is reasonable if it is mailed in accordance with the Counter-Party Agreement to Debtor at Debtor's Mailing Address at least ten (10) days before any public sale or ten (10) days before the time when the Collateral may be otherwise disposed of without further notice to Debtor.

4. This First Priority Security Interest will neither affect nor be affected by any other security for any of the Obligation. Neither extensions of any of the Obligation nor releases of any of the Collateral will affect the priority or validity of this First Priority Security Interest.

5. This Agreement binds, benefits, and may be enforced by the heirs, executors, administrators, successors in interest, and/or assigns of the parties, except as otherwise provided. Assignment of any part of the Obligation(s) and/or Secured Party's delivery of any part of the Collateral will fully discharge Secured Party from any further responsibility for that part of the Collateral.

6. This Agreement may be amended only by an instrument in writing signed by Secured Party and Debtor.

7. The unenforceability of any provision of this Agreement will not affect the enforceability or validity of any other provision.

8. This Agreement shall be construed according to Texas law. This Agreement is performed in Travis County, Texas. Venue for any disputes related to this Agreement shall be in the state and/or federal courts in Travis County, Texas.

9. Interest on the Obligation secured by this Agreement will not exceed the maximum amount of nonusurious interest that may be contracted for, taken, reserved, charged, or received under Texas law. Any interest in excess of that maximum amount will be credited on the principal of the Obligation or, if that has been paid, refunded. On any acceleration or required or permitted prepayment, any such excess will be canceled automatically as of the

acceleration or prepayment or, if already paid, credited on the principal of the Obligation or, if the principal of the Obligation has been paid, refunded. This provision overrides any conflicting provisions in this and all other instruments concerning the Obligation.

10. In no event may this Agreement secure payment of any debt subject to Title IV of the Texas Finance Code or create a lien otherwise prohibited by law.

11. When the context requires, singular nouns and pronouns include the plural.

12. The term *Obligation* includes all extensions and renewals of the Obligation and all amounts secured by the Obligation.

13. If Debtor and any party executing any document evidencing the Obligation are not the same person, the term *Debtor* includes the party executing the document evidencing the Obligation.

14. Debtor represents that this Agreement is given for commercial purposes.

15. This Agreement is entered into in accordance with, and subject to, the ERCOT Nodal Protocols as may be amended from time to time. To the extent there is a conflict between this Agreement and the ERCOT Nodal Protocols, the ERCOT Nodal Protocols shall control.

16. This Agreement (and each amendment, modification, and waiver in respect of it) may be executed and delivered in counterparts (including by electronic or facsimile transmission) each of which shall be deemed to be an original.

## DEBTOR:

## [COUNTER-PARTY ENTITY]

By: \_\_\_\_\_\_ Its:\_\_\_\_\_

#### **SECURED PARTY**

#### ERCOT

SUBSCRIBED AND SWORN TO before me by the above parties on this \_\_\_\_\_ day of

\_\_\_\_\_, 20\_\_\_.

Notary Public, State of Texas

- 7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: Mike Petterson
  - Recap prior budget preparation discussions
  - Summarize current budget preparations
  - Review budget activity planned for upcoming months
  - Discuss detailed budget work papers



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- 7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: Recap Prior Discussions
  - Cost is ERCOT's primary economic metric
  - ERCOT's 2011 budget is affected by a few key cost drivers relating to transition to a nodal market
  - Costs are actively managed to ensure efficiency and accommodate cost increases associated with transition to a nodal market



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- 7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: Summarize Current Status
  - PUC staff has been engaged, and their involvement is helpful and appreciated
  - Management understands and accepts responsibility to control costs
    - 2009 achieved 6 percent savings
    - 2010 forecast to realize 10 percent savings
  - Staff reductions are a significant contributing factor to the cost savings in 2009 and 2010
    - 5 percent reduction in staff over the past 12 months
    - Additional staff reductions expected in 2010-2011 as management implements steady-state staffing recommendations previously presented to the Board



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- 7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: Summarize Current Status
  - Cost consciousness coupled with recent financial performance relating to the Nodal Program enable a scenario where ERCOT would need no change in fees for 2011
    - System Administration Fee would remain at \$0.4171 per MWh
    - Nodal Surcharge would remain at \$0.3750 per MWh
    - The flat-fee scenario assumes use of a portion of the \$113 million Nodal Program Board Discretionary Fund



- 7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: Summarize Current Status
  - If use of Nodal Program Board Discretionary Funds for nodal market stabilization activity in 2011 is not acceptable, preliminary 2011 budget work papers suggest a \$0.4700 per MWh System Administration Fee may be required.



7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: 2011 Budget Schedule

Action	Date				
Finance and Audit Committee Meeting					
Discuss and Review preliminary 2011 Budget/PPL Status and Budget Assumptions	20-Jul-10				
Finance and Audit Committee Meeting					
Discuss and Review the 2011 Budget/PPL Status and Budget Assumptions	17-Aug-10				
Finance and Audit Committee Meeting					
Prepare and Present the 2011 Preliminary Budget/PPL (Courtesy Copy to all Board Members)	21-Sep-10				
Finance and Audit Committee Special	'				
Meeting and Public Input Meeting	18-Oct-10				
Discuss and Review the 2011 Budget and PPL (Courtesy Copy to all Board Members)					
Finance and Audit Committee Meeting	$\vdash$ $         -$				
Obtain 2011 Budget Recommendation					
Board of Directors Meeting	16-Nov-10				
Seek Board Approval of the 2011 Budget and PPL -Vote					



Page 27 of 113 Finance & Audit Committee Meeting 7. Review Assumptions and Preliminary Schedules for the 2011 Annual Operating Budget: Mike Petterson

# Detailed budget work papers



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## ERCOT Fiscal Year 2011 Budget

## **Revenue Requirements**

(in Thousands)

Line	(\$ Thousands)		)09 tual	]	2010 Budget	I	2010 Forecast		2011 reliminary Budget	Assumptions for 2011
1	ERCOT O&M Expense									
2	Labor	\$	51,508	\$	59,012	\$	55,411	\$	71,068	584 FTE's with 2% merit and 1% other adj with 33% benefit/tax load.
3	Equipment & Tools		799		1,227		1,147		881	
4	Outside Services		9,416		9,915		10,747		6,993	Includes fixed vendor services related to proprietary applications
5	Utility, Maintenance, & Facilities		6,966		6,773		7,036		10,126	Increase for additional square footage
6	Hardware & Software License & Maint.		9,337		9,101		8,870		16,557	Includes incremental costs for Nodal applications/hardware
7	Employee Expenses		1,031		1,552		1,370		1,021	
8	NERC Dues		2,141		2,462		8,295		14,406	
9	Other Expenses		4,511		5,211		5,256		5,791	
10	Subtotal - O&M Expense		85,710		95,253		98,132		126,842	-
11	Debt Service - Interest		2,718		5,272		2,321		3,756	
12	Debt Service - Principal		26,137		26,137		26,137		26,200	
13	Revenue Funded Projects		17,464		18,520		19,800		19,372	40% Revenue Fund of Nodal Release 1 (\$3.3M), IT Equipment Lifecycl (\$37.0M) and Other Base Projects (\$8.2 M)
14	Protocol Services		639		1,500		787		1,518	
15	Market Monitoring		2,300		2,300		2,400			Per Contract
16	Total Revenue Requirement	1	34,969		148,982		149,577		180,388	-
17	Less: Other Revenue		5,693		5,626		12,172		20,032	
18	Less: Interest Income		51		81		5		-	
19	Less: Extraordinary Item Revenue		705		12,760		18,570		5,000	Remaining Sales Tax Refund
20	2010 Carryforward						(11,700)	1	11,700	-
21	Revenue Rqmt from System Admin Fee	\$ 1	28,519	\$	130,515	\$	130,529	\$	143,656	=
22	GWh	3	08,126		312,922		312,922		310,410	
23	% GWh Growth		2.2%		-2.0%		-2.0%		-0.8%	
24	ERCOT System Administration Fee	\$	0.4171	\$	0.4171	\$	0.4171	\$	0.4628	
25	Debt Funded Projects		14,059		27,780		29,700		29,059	60% Debt Fund of Nodal Release 1 (\$3.3M), IT Equipment Lifecycle (\$37.0M) and Other Base Projects (\$8.2 M)
26	Total Base Project/Data Center/Facility Capital Spending		31,523		46,300		49,500		48,431	
27	Total ERCOT Spending Authorization	\$ 14	49,028	\$	176,762	\$	179,277	\$	209,447	

#### **ERCOT Fiscal Year 2011 Budget**

#### **Operating Expenses by Capability**

(in Thousands)

Line	(\$ Thousands)	Transmission System Operation (Capability 1)		Retail Market Operation Capability 2)	Wholesale Spot/Cash Market Operation (Capability 3)	Renewable Energy Credits Capability 4)	C	tomer Sare bility 5)	Т	formation echnology apability 6)	Other Support and Mgmt Functions (Capability 7)	(	Operating Total
1	ERCOT O&M Expense												
2	Labor for Base Operations	\$ 18,140	) \$	3,390	\$ 11,282	\$ \$ 364	\$	2,030	\$	21,573	\$ 14,289	\$	71,068
3	Equipment & Tools	22	2	7	15	0		2		320	514		881
4	Outside Services	-		815	148	-		-		4,401	1,629		6,993
5	Utility, Maintenance, & Facilities	1	l	1	0	-		-		3,685	6,439		10,126
6	Hardware & Software License & Maint.	1,039	)	38	750	-		52		14,366	312		16,557
7	Employee Expenses	293	3	39	88	14		16		271	300		1,021
8	NERC Dues	-		-	-	-		-		-	14,406		14,406
9	Other Expenses	914	1	73	174	-		24		233	4,373		5,791
10	Total - O&M Expense	\$ 20,409	) \$	4,361	\$ 12,458	\$ \$ 378	\$	2,124	\$	44,849	\$ 42,263	\$	126,842



	01			Compariso	n to Study			
Line		Capability/Group/Service	Study	ERCOT Service Total	ERCOT Group Total	Variance by Group		Comments
1	1	TRANSMISSION SYSTEM OPERATION	Study	Total	Total	by Group		Comments
2	1.1	System Planning	35.00		34.97	(0.03)	_	
3	1.1.1	Transmission Adequacy Assessment	-	10.08	-	-		
4	1.1.2	Transmission Planning	-	17.78	-	-		
5	1.1.3	Interconnection Planning	-	0.82	-	-		
6	1.1.4	Generation/Resource Adequacy Assessment	-	3.92	-	-		
7	1.1.5	Generation & Load Planning	-	2.37	-	-		
8	1.2	Transmission Connection Management	8.51		5.15	(3.36)	1	Generation Interconnection policing efforts not an ERCOT function.
9	1.2.1	Connection Analysis/Studies	-	3.05	-	-		
10	1.2.2	Connection Scheduling	-	-	-	-		
11	1.2.3	Connection Oversight & Management	-	2.10	-	-		
12	1.2.4	Connection Commissioning	-	-	-	-		
13	1.3	Grid Security Management	23.00		27.08	4.08	2	Unable to reach study recommendation - Extensive workarounds must be eliminated before staffing efficiencies can be achieved. Efficiencies achievement estimate - 1.1.2012
14	1.3.1	Transmission Reliability Assessment	-	6.91	-	-		
15	1.3.2	Security/Contingency Analysis	-	14.92	-	-		
16	1.3.3	Security Coordination	-	3.01	-	-		
17 18	1.3.4 1.3.5	System Restoration Planning	-	1.06 1.18	-	-		
18	1.3.5	Ancillary Services Requirement Determination Outage Coordination/Planning	10.00	1.18	10.08	0.08		
20	1.4.1	Transmission Outage Coordination/Planning	-	8.14	10.08	- 0.08		
20	1.4.1	Resource Outage Coordination/Planning	-	1.94	-	-		
22	1.5	Real-Time System Control	27.51	1.74	27.21	(0.30)		
23	1.5.1	Monitor and Control Transmission Network	-	10.67	-	-		
24	1.5.2	Monitor and Control Interconnectors	-	2.00	-	-		
25	1.5.3	Instruct and Monitor Facilities	-	4.02	-	-		
26	1.5.4	Frequency Control (Facilities Real-Time Control)	-	10.52	-	-		
27	1.5.5	Manage System Restoration	-	-	-	-		
28	1.6	Scheduling & Dispatch	-		-	-		Dispatching a function of real-time control today, but will not be necessary in Nodal market.
29	1.6.1	Facilities Scheduling (inc. Unit Commitment)	-	-	-	-		
30	1.6.2	Facilities Dispatch (Energy & Ancillary Services)	-	-	-	-		
31	1.6.3	Interconnection Scheduling	-	-	-	-		
32	1.7	Forecasting	5.00		5.86	0.86	1	Function of greater importance in ERCOT region than other ISOs
33	1.7.1	Load Forecasting	-	5.26	-	-		
34	1.7.2	Wind Forecasting	-	0.60	-	-		
35	1.8	Operational Testing and Performance Management	3.01		5.46	2.45	1	Increased emphasis on testing and performance management offsets
36	1.8.1	Generator Commissioning Testing	-	-	-	-		
37	1.8.2	Generator Operational Testing	-	1.13	-	-		
38	1.8.3	Generator Black Start Testing	-	0.50	-	-		
39	1.8.4	Generator Performance Assessment	-	1.40	-	-		
40	1.8.5 1.9	Load-Participation Performance Assessment	- 1.00	2.43	0.60	(0.40)		
41 42	1.9 1.9.1	Commercial Management Manage Interconnection Capacity Rights Reservation	1.00	0.60	0.60	(0.40)		
42	1.9.1	Manage Interconnection Capacity Rights Reservation Manage Interconnection Capacity Rights Trading		0.00	-	-		
43	1.9.2	Ancillary Services Procurement (Non-Market)		-	-	-		
44	1.9.3	Transmission Loss (Adjustment) Factor Determination	_	-	-	-		
46	1.9.5	Network Code/Agreement Management	-	-	-	-		
47	1.9.6	Monitor Network Code/Agreement Compliance	-	-	-	-		

International         International           49         1.10.1         Operational           50         1.10.2         Operational           51         1.11         Dispational           53         1.11.2         Policy           54         1.12         Stand           55         1.12.1         Stand           56         2         RET.           57         2.1         Retainal           61         2.1.1         Retainal           62         2.2.1         Custo           63         2.2.1         Custo           64         2.2.2         End Cond           65         2.2.3         End Cond           66         2.3.3         Load           67         2.4.3         Metera           70         2.4.1         Metera           71         2.4.3         Metera           72         2.4.5         Metera           73         2.4.5         Metera           74         2.4.5         Metera           75         2.5.5         Metera           76         2.6.6         Bulk           82         2.5.6 <t< th=""><th></th><th></th><th>Compariso</th><th>n to Study</th><th></th><th></th><th></th></t<>			Compariso	n to Study			
48         1.10         Oper           49         1.10.1         Opera           50         1.10.2         Opera           51         1.11.2         Policy           53         1.11.2         Policy           54         1.12         Stand           55         1.12.1         Stand           56         2.1         Retai           57         Z         Retai           61         2.1.1         Retai           62         2.2         Cust           63         2.2.1         Cust           64         2.2.3         End C           65         2.2.3         End C           62         2.3         Load           63         2.3.1         Load           64         2.3.3         Load           65         2.3.3         Load           62         2.3.3         Load           63         2.3.4         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.5.5         Meter			ERCOT Service	ERCOT Group	Variance		
Image         Image           49         1.10.1         Operation           50         1.10.2         Operation           51         1.11         Policy           53         1.11.2         Policy           54         1.12         Stand           55         1.11.1         Dispate           56         1.12.1         Stand           57         Intrastrictor         Stand           58         Intrastrictor         Stand           59         2         RETT           60         2.1         Retain           61         2.1.1         Retain           62         2.2.1         Custon           63         2.2.1         Custon           63         2.2.1         Custon           64         2.2.2         Ender           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           74         2.4.7         Usage           74         2.5.7         Meter     <	Capability/Group/Service	Study	Total	Total	by Group		Comments
50         1.10.2         Operation           51         1.11         Communication           53         1.11.2         Policy           54         1.12         Stance           55         1.12.1         Stance           56         Jance         Stance           57         Jance         Stance           58         Jance         Stance           59         Zara         Stance           60         2.11         Retail           61         2.1.1         Retail           62         2.2.3         End Code           63         2.2.1         Cust           64         2.2.3         End Code           65         2.2.3         End Code           63         2.3.1         Load           64         2.3.3         Load           65         2.3.3         Load           60         2.3.3         Load           61         2.1.1         Retail           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           70         2.5.1	Operational Support	11.50		14.73	3.23	1	Ad hoc reporting requirements can not be eliminated. Study assumption will never be realized.
51         1.11         Comp           52         1.11.1         Dispace           53         1.11.2         Stand           54         1.12         Stand           55         1.12.1         Stand           56	1 5 1 5	-	5.71 9.02	-	-		
52         1.11.1         Dispa           53         1.11.2         Policy           54         1.12         Stand           55         1.12         Stand           56         1.21         Stand           57         2         RET.           59         2         RET.           60         2.1         Retai           61         2.1.1         Retai           62         2.2         Cust           63         2.2.1         Cust           64         2.2.2         End G           65         2.3.1         Load           66         2.3.2         Load           68         2.3.2         Load           69         2.3.3         Load           60         2.4.2         Meter           71         2.4.3         Meter           72         2.4.5         Meter           73         2.4.6         Profil           74         2.4.4         Meter           75         2.5.5         Meter           80         2.5.5         Meter           81         2.5.6         Meter           82	Compliance Monitoring & Reporting	20.51	7.02	21.25	0.74		
531.11.2Policy541.12Stand551.12.1Stand562.1Capa572Capa56582Capa56592Capa56602.1Retai612.1.1Retai622.2Cust632.2.1Cust642.2.2End C652.2.3End C662.3Load672.3.1Load682.3.2Load692.3.3Load712.4.1Meter732.4.3Meter742.4.4Meter752.4.5Meter762.4.6Profil772.4.7Usage782.5Meter792.5.1Meter802.5.2Meter812.5.3Meter822.5.4Meter832.5.5Meter842.5.6Meter842.5.6Meter852.6Bulk862.6.1Bulk872.8Retai982.8Retai992.8.1Policy942.8.2Mark952.8.4Rues962.8.4Rues972.8.5Proce982.8.6Proce992.9Mark902.9Mark <trr< td=""><td>Dispatch Compliance</td><td>-</td><td>4.50</td><td>-</td><td>-</td><td></td><td></td></trr<>	Dispatch Compliance	-	4.50	-	-		
55         1.12.1         Stand           56	Policy & Procedure Compliance	-	16.75	-	-		
56         Capa           57         Capa           58         2         RET.           60         2.1         Retai           61         2.1.1         Retai           62         2.2         Cust           63         2.2.1         Cust           63         2.2.1         Cust           64         2.2.2         End O           65         2.2.3         End O           66         2.3.1         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           60         2.4.4         Meter           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Inter           74         2.4.6         Profil           77         2.4.7         Usage           78         2.5         Inter           80         2.5.1         Meter           81         2.5.3         Meter	Standards Development	-		1.50	1.50	3	
57         Capa           58         -           59         2         FET.           60         2.1.1         Retai           61         2.1.1         Retai           62         2.2         Cust           63         2.2.1         Custo           64         2.2.2         End 0           65         2.2.3         End 0           64         2.2.4         Custo           66         2.3         Load           67         2.4.1         Meter           71         2.4.2         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           81         2.5.3         Meter           82         2.5.4         Meter           82         2.5.6         Meter           84         2.5.6         Meter           82         2.6.3         End 0           82         2.6.3         E	Standards Development	-	1.50	-	-		
58           59         2         RET.           60         2.1         Retai           61         2.1.1         Retai           62         2.2         Cust           63         2.2.1         Cust           64         2.2.2         End C           65         2.2.3         End C           66         2.3         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           60         2.3.4         Meter           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           80         2.5.5         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.6.6         Bulk           85         2.6         Bulk           85         2.6         Bulk           82         2.6.1         Bulk							
59         2         RET.           60         2.1         Retail           61         2.1.1         Retail           62         2.2         Cust           63         2.2.1         Cust           64         2.2.2         End C           65         2.3.3         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           69         2.3.3         Load           69         2.4.1         Meter           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.5         Meter           70         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.6.4         Bulk           82         2.6.3         Bulk           82         2.6.3         Bulk	Capability 1 Totals	145.04	153.89	153.89	8.85		
60         2.1         Retai           61         2.1.1         Retai           62         2.2         Cust           63         2.2.1         Cust           64         2.2.2         End C           65         2.2.3         End C           66         2.3.1         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           60         2.3.1         Load           61         2.4.1         Meter           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           80         2.5.2         Inter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.6         Meter           84         2.5.6         Meter           85         2.6.3         End C           82         2.6.3         End C	RETAIL MARKET OPERATION						
61         2.1.1         Retail           62         2.2         Custo           63         2.2.1         Custo           64         2.2.2         End C           65         2.3.3         End C           66         2.3         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           69         2.3.4         Accu           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78         2.5         Meter           80         2.5.1         Meter           81         2.5.3         Meter           82         2.5.6         Meter           83         2.6.3         End C           84         2.5.6         Meter           85         2.6.3         End C	Retailer Registration	3.50	_	3.41	(0.09)	_	
62         2.2         Cust           63         2.2.1         Cust           64         2.2.2         End C           65         2.2.3         End C           66 <b>2.3</b> Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           69         2.3.3         Load           70 <b>2.4</b> Meter           71         2.4.1         Meter           73         2.4.3         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78 <b>2.5</b> Meter           80         2.5.1         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.6.2         Bulk           85 <b>2.6</b> Bulk           86         2.6.3         End O	Retailer Registration & Qualification	5.50	3.41	-	-		
63         2.2.1         Custo           64         2.2.2         End C           65         2.2.3         End C           64         2.2.2         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           69         2.3.1         Meter           71         2.4.1         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78         2.5.1         Meter           79         2.5.1         Inter           70         2.5.4         Meter           81         2.5.5         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.6.6         Bulk           87         2.6.2         Bulk           88         2.6.3         Rule           90         2.7.1         Switc	Customer Switching/Registry	6.52	0.11	6.52	-	_	
64         2.2.2         End C           65         2.2.3         End C           66         2.3.1         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           69         2.3.3         Load           69         2.3.3         Load           70         2.4.1         Meter           71         2.4.1         Meter           72         2.4.2         Meter           74         2.4.3         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78         2.5.7         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.6         Meter           84         2.5.6         Meter           85         2.6.3         End C           80         2.7.1         Switc           81         2.5.5         Meter	Customer Choice Information Provision (Awareness Programs)	-	-	-	-		
66         2.3         Load           67         2.3.1         Load           68         2.3.2         Load           69         2.3.3         Load           70         2.4         Accu           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           71         2.4.7         Usage           78         2.5         Meter           80         2.5.1         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Bulk           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End O           90         2.7.1         Swite           91         2.7.2         Retai <td< td=""><td>End Customer Registration</td><td>-  </td><td>1.70</td><td>-</td><td>-</td><td></td><td></td></td<>	End Customer Registration	-	1.70	-	-		
67       2.3.1       Load         68       2.3.2       Load         69       2.3.3       Load         70       2.4       Accu         71       2.4.1       Meter         72       2.4.2       Meter         73       2.4.3       Meter         74       2.4.5       Meter         75       2.4.5       Meter         76       2.4.6       Profil         77       2.4.7       Usage         78       2.5       Inter         79       2.5.1       Meter         80       2.5.2       Meter         81       2.5.3       Meter         82       2.5.4       Meter         83       2.5.5       Meter         84       2.6.6       Bulk         87       2.6.2       Bulk         88       2.6.3       Bulc         90       2.7.1       Switc         91       2.7.2       Bulk         92       2.8       Retai         93       2.8.1       Policy         94       2.8.2       Mark         95       2.8.4       Rules	End Customer Transfer	-	4.82	-	-		
68         2.3.2         Load           69         2.3.3         Load           70         2.4.1         Meter           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78 <b>2.5.7 Meter</b> 79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.6         Meter           84         2.5.6         Meter           85         2.6.1         Bulk           88         2.6.3         Hoft           90         2.7.1         Switc           91         2.7.2         Bulk           82         2.8.3         Rules           93         2.8.1         Policy           94         2.8.2         Mark	Load Profile Determination and Management	3.50		1.20	(2.30)	1	Function primarily captured in Cap. 1.7
69         2.3.3         Load           70         2.4         Accur           71         2.4.1         Meter           72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78         2.5         Meter           79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.6         Meter           84         2.5.6         Meter           85         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End O           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules	Load Profile Customer Segment Determination	-	0.50	-	-		
70         2.4         Accu           71         2.4.1         Metter           72         2.4.2         Metter           73         2.4.3         Metter           74         2.4.4         Metter           75         2.4.5         Metter           76         2.4.7         Usage           78         2.5         Metter           79         2.5.1         Metter           80         2.5.2         Metter           81         2.5.3         Metter           82         2.5.4         Metter           83         2.5.5         Metter           84         2.5.5         Metter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         BedQ           91         2.7.2         Retain           92         2.8.1         Policy           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rues           96         2.8.4         Rore	Load Profile Management	-	0.20	-	-		
71     2.4.1     Meter       72     2.4.2     Meter       73     2.4.3     Meter       74     2.4.4     Meter       75     2.4.5     Meter       76     2.4.6     Profil       77     2.4.7     Usage       78     2.5     Inter       79     2.5.1     Meter       80     2.5.2     Meter       81     2.5.3     Meter       82     2.5.4     Meter       83     2.5.5     Meter       84     2.6.6     Bulk       86     2.6.1     Bulk       87     2.6.2     Bulk       88     2.6.3     End O       90     2.7.1     Switc       91     2.7.2     Retai       92     2.8     Retai       93     2.8.1     Policy       94     2.8.2     Mark       95     2.8.3     Rules       97     2.8.5     Proce       98     2.8.6     Proce       99     2.9     Mart       91     2.9     Parce	Load Profile Parameter Calculation	-	0.50	-	(0.17)		
72         2.4.2         Meter           73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           76         2.4.7         Usage           78 <b>2.5</b> Inter           79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Meter           85         2.6         Bulk           86         2.6.1         Bulk           88         2.6.3         Buld           88         2.6.3         Refd           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.4         Rules           97         2.8.5         Proce	Accumulation Metering, Data Collection and Data Aggregation Meter Installation	1.00		0.83	(0.17)		
73         2.4.3         Meter           74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78         25         Inter           79         2.5.1         Meter           81         2.5.2         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Meter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Meter           88         2.6.3         End O           90         2.7.1         Switc           91         2.8         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Ruse           97         2.8.5         Proce           98         2.8.6         Proce	Meter Maintenance	-	-	-	-		
74         2.4.4         Meter           75         2.4.5         Meter           76         2.4.7         Usage           78         2.5         Inter           79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           84         2.5.5         Meter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         Bedde           90         2.7.1         Switc           91         2.7.2         Retain           92         2.8         Retain           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mart           90         2.9.1         Policy	Meter Registration		0.36	-	-		
75         2.4.5         Meter           76         2.4.6         Profil           77         2.4.7         Usage           78         2.5         Inter           79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.6.6         Bulk           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End O           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mart           90         2.9.1         Policy	Meter Data Collection	-	-	-	-		
76         2.4.6         Profil           77         2.4.7         Usage           78         2.5         Inter           79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.6.6         Bulk           85         2.6.1         Bulk           86         2.6.3         End           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.4         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           90         2.9.1         Policy           91         2.9.2         Mark	Meter Data Validation & Substitution	-	0.47	-	-		
78         2.5         Inter           79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.6.6         Meter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End C           90         2.7.1         Swite           91         2.7.2         Retail           92         2.8         Retail           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.4         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.9.1         Policy           9100         2.9.1         Policy           9101         2.9.2         Proce	Profiled Usage Estimation	-	-	-	-		
79         2.5.1         Meter           80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Butk           85         2.6         Butk           86         2.6.1         Butk           87         2.6.2         Butk           88         2.6.3         End C           89         2.7         Marth           90         2.7.1         Switc           91         2.7.2         Retail           92         2.8         Retail           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9.1         Policy           100         2.9.2         Parce	Usage Data Aggregation	-	-	-	-		
80         2.5.2         Meter           81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Meter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End O           90         2.7.1         Switc           91         2.7.2         Retait           92         2.8         Retait           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.4         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           90         2.9.1         Policy           91         3.9.2         Porce	Interval/Smart Metering, Data Collection and Data Aggregation	1.00		0.88	(0.12)		
81         2.5.3         Meter           82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Meter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End C           89         2.7         Mark           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           90         2.9.1         Policy           91         2.8.6         Proce           92         3.8         Policy           93         2.9         Mark	Meter Installation	-	-	-	-		
82         2.5.4         Meter           83         2.5.5         Meter           84         2.5.6         Meter           85         2.6.1         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         EndC           90         2.7.1         Switz           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           98         2.8.6         Proce           99         2.9         Mart           910         2.9.1         Policy           920         1.9         Policy           931         2.8.6         Proce	Meter Maintenance	-	-	-	-		
83         2.5.5         Meter           84         2.5.6         Meter           85         2.6.1         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End O           89         2.7.1         Switc           90         2.7.2         Retail           91         2.7.2         Retail           92         2.8         Retail           94         2.8.1         Policy           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           98         2.8.6         Proce           99         2.9         Mart           910         2.9.1         Policy           920         100         2.9.2         Pore	Meter Registration Meter Data Collection	-	0.46	-	-		
84         2.5.6         Meter           85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End C           89         2.7         Marh           90         2.7.1         Svitc           91         2.7.2         Retait           92         2.8         Retait           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mart           90         2.9.1         Mart           91         2.9.2         Park	Meter Data Collection Meter Data Validation & Substitution	-	0.42	-	-		
85         2.6         Bulk           86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End C           89         2.7         Mark           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           910         2.9.1         Policy	Meter Data Aggregation			-	-		
86         2.6.1         Bulk           87         2.6.2         Bulk           88         2.6.3         End C           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9.1         Policy           91         2.9.2         Policy           92         2.8.4         Policy           93         2.8.5         Proce           94         2.8.6         Proce           95         2.8.1         Policy           96         2.9.1         Policy           91         2.9.2         Porte           92         2.9.1         Policy           93         2.9.2         Porte	Bulk Transfer Management	0.49		0.91	0.42		
88         2.6.3         End C           89 <b>2.7 Mark</b> 90         2.7.1         Swite           91         2.7.2         Retai           92 <b>2.8 Retai</b> 93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99 <b>2.9.1 Mark</b> 100         2.9.2 <b>Proce</b>	Bulk Transfer Activation	-	0.38	-	-		
89         2.7         Mark           90         2.7.1         Switc           91         2.7.2         Retai           92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           910         2.9.1         Policy	Bulk Customer Transfer Management	-	0.34	-	-		
90         2.7.1         Swite           91         2.7.2         Retail           92         2.8         Retail           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9.1         Mart           100         2.9.1         Policy           101         2.9.2         Proce	End Customer Notification	-	0.19	-	-		
91         2.7.2         Retail           92         2.8         Retail           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mart           100         2.9.1         Policy           101         2.9.2         Proce	Market Information	2.50		2.70	0.20		
92         2.8         Retai           93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mart           100         2.9.1         Policy           101         2.9.2         Proce	Switching Analysis and Reporting	-	1.66	-	-		
93         2.8.1         Policy           94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99 <b>2.9 Mark</b> 100         2.9.1         Policy           101         2.9.2         Proce	Retail Market Notice Publication	- 6.99	1.04	6.96	(0.03)	_	
94         2.8.2         Mark           95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           100         2.9.1         Policy           101         2.9.2         Proce	Retail Market Development Policy Definition	6.99	0.24	6.96	(0.03)		
95         2.8.3         Rules           96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99         2.9         Mark           100         2.9.1         Policy           101         2.9.2         Proce	Market Design Definition	_	0.24	-	-		
96         2.8.4         Rules           97         2.8.5         Proce           98         2.8.6         Proce           99 <b>2.9 Mark</b> 100         2.9.1         Policy           101         2.9.2         Proce	Rules Definition	-	1.50	-	-		
97         2.8.5         Proce           98         2.8.6         Proce           99 <b>2.9 Mark</b> 100         2.9.1         Policy           101         2.9.2         Proce	Rules Administration	-	2.44	-	-		
99         2.9         Mark           100         2.9.1         Policy           101         2.9.2         Proce	Procedure Definition	-	0.97	-	-		
100 2.9.1 Policy 101 2.9.2 Proce	Procedure Administration	-	1.33	-	-		
101 2.9.2 Proce	Market Oversight	1.50		2.50	1.00	2	Efficiency realization estimated 7.1.2011
	Policy/Rules Compliance	-	1.45	-	-		
1021210 Disni	Process/Procedure Compliance	-	1.05	-	-	_	
	Dispute Management	3.01	2.05	3.06	0.05		
103 2.10.1 Dispu 104	Dispute Management	-	3.06	-	-		
	Capability 2 Totals	30.01	28.97	28.97	(1.04)		
105 Capa 106	Capating # round		0,77	20.77	(1.04)		

				Compariso	n to Study			
Line		Capability/Group/Service	Study	ERCOT Service Total	ERCOT Group Total	Variance by Group		Comments
107	3	WHOLESALE SPOT/CASH MARKET OPERATION	Study	Totai	Total	by Group		Comments
108	3.1	Participant Registration	2.50		6.60	4.10		
109		Participant Registration & Qualification Management	-	6.60	-	-	2	Web enabled registration not yet available but on Nodal Parking deck. Efficiency achieved in 1.1.2012.
							3	Study did not account for LARs and EIS (technical requirements/site visits)
110	3.2	Bidding, Scheduling and Pricing	15.99		16.69	0.70		
111	3.2.1	Bid/Offer Receipt and Management	-	1.21	-	-		
112	3.2.2	Real-Time Market Execution (Dispatch and Pricing)	-	5.68	-	-		
113	3.2.3	Day-Ahead Market Execution (Unit Commitment/Scheduling & Pricing)	-	9.80	-	-		
114	3.3	Wholesale Metering, Data Collection and Data Aggregation	11.50		14.18	2.68	1	Study assumed meter registration efficiencies around EPS site approvals. Value add to the market related to settlement accuracy. Market rules change would be necessary to realize efficiencies.
115	3.3.1	Meter Installation	-		-	-		
116	3.3.2	Meter Maintenance	-	-	-	-		
117	3.3.3	Meter Registration	-	6.59	-	-		
118	3.3.4	Meter Data Collection	-	2.17	-	-		
119	3.3.5	Meter Data Validation & Substitution	-	2.17	-	-		
120	3.3.6	Meter Data Aggregation	-	3.25	-	-		
121	3.4	Billing, Settlement & Credit Management	11.95		15.05	3.10	2	Rule change required relating to verifiable costs. If approved, efficiency achieved 1.1.2012.
122	3.4.1	Market Settlement	-	10.05	-	-		
123	3.4.2	Billing	-	2.90	-	-		
124	3.4.3	Payment Management	-	2.10	-	-		
125	3.5	Credit Management	6.00		6.00	-		
126	3.5.1	Credit Risk Management	-	5.00	-	-		
127	3.5.2	Treasury (Cash and Collateral) Management	-	1.00	-	-		
128	3.5.3	Financial Default Process Management	-	-	-	-		
129	3.6	Market Information	9.99		14.05	4.06		
130	3.6.1	Market Data Publication	-	9.25	-	-	2	Study recommends limiting ad hoc reporting and non- monitored automated reporting. Estimated efficiency achievement - 7.1.2011
131	3.6.2	Market Analysis	-	3.67	-	-		
132	3.6.3	Market Notice Publication	-	1.13	-	-		
133	3.7	CRR/FTR Management	6.00		6.30	0.30		
134	3.7.1	Congestion Revenue Rights Allocation	-	3.00	-	-		
135	3.7.2	Congestion Revenue Rights Auction	-	3.05	-	-		
136	3.7.3	Maintain CRR Registry	-	0.25	-	-		
137	3.7.4	Manage Secondary Trading of CRRs	-	-	-	-		
138	3.8	Wholesale Market Development	14.03		12.17	(1.86)		
139	3.8.1	Policy Definition	-	2.23	-	-		
140	3.8.2	Market Design Definition	-	1.70	-	-		
141	3.8.3	Rules Definition	-	1.50	-	-		
142	3.8.4	Rules Administration	-	4.22	-	-		
143	3.8.5	Procedure Definition	-	0.80	-	-		
144	3.8.6	Procedure Administration	-	1.72		-	_	
145	3.9	Market Oversight/Monitoring	1.99		2.36	0.37		
146	3.9.1	Policy/Rules Compliance	-	2.28	-	-		
147	3.9.2	Process/Procedure Compliance	-	0.08	-	-		
148	3.9.3	Market Surveillance	-	-	-	-		
149	3.9.4	Trade Surveillance	-	-	-	-		
150	3.10	Dispute Management	3.99	4.50	4.70	0.71	2	Dispute process rule change required for staffing efficiency. Estimated change 1.1.2012
	5.10.1	Dispute Management	-	4.70	-	-		
152		Constitute 2 Total	02.04	00.00	00.00	14.17		
153 154		Capability 3 Totals	83.94	98.09	98.09	14.15		

			Compariso	n to Study		
			ERCOT Service	ERCOT Group	Variance	
Line	Capability/Group/Service	Study	Total	Total	by Group	Comments
155 4	RENEWABLE ENERGY CREDITS					
156 <b>4.1</b>	REC Definition	0.19	0.19	0.19	-	
157 <b>4.2</b>	Facility Accreditation	0.15	0.15	0.15	-	
158 <b>4.3</b>	Determine REC Obligations and Verify Compliance	0.09	0.09	0.09	-	
159 4.4	Facility Registration	0.19	0.19	0.19	-	
160 4.5	REC Issuance and Retirement	0.37	0.37	0.37	-	
161 <b>4.6</b>	Verify REC Validity	1.47	1.47	1.47	-	
162 <b>4.7</b>	REC Title Tracking	0.22	0.22	0.22	-	
163 <b>4.8</b>	Information Publication	0.28	0.19	0.19	(0.09)	
164						
165	Capability 4 Totals	2.96	2.87	2.87	(0.09)	
166						
167 5	CUSTOMER CARE					
168 <b>5.1</b>	Training & Education Delivery	3.50	2.80	2.80	(0.71)	
169 5.2	Helpdesk Management	3.00	0.55	0.55	(2.45)	
170 5.3	Account Management	8.00	12.55	12.55	4.55	
171						
172	Capability 5 Totals	14.50	15.89	15.89	1.39	4 Increased support work for Level 1 & 2 QSEs and CRR account holders
173						

		Comparison to Study					
Line	Capability/Group/Service	Study	ERCOT Service Total	ERCOT Group Total	Variance by Group		Comments
174 6	INFORMATION TECHNOLOGY	Study	1014	Totui	oj Group		Comments
175 6.1	IT Application Services	93.00		100.76	7.76		
176 6.1.	Database Administration	-	11.28	-	-	1	Down 3.42 FTEs from Study - necessary for base support with minor betterments - changes to databases will be captured as projects
177 6.1.	2 Corporate Applications	-	7.48	-	-	1	Down 2.53 FTEs from Study- classification adjustment
178 6.1.3	3 Systems Operations Applications	-	23.44	-	-	1	Up 4.69 FTEs from Study
179 6.1.4	Wholesale Market Operations Applications	-	20.17	-	-	4 1	Up 1 FTEs from Study because of CMM self support. Disagree with support level of wholesale transaction processing
180 6.1.:	6 Retail Market Operations Applications	-	17.45	-	-	2	Up 7.45 FTEs from Study- potential staffing efficiency possible 1.1.2012 by consolidating tasks and ross training. Testing is not included as recommended by Study
181 6.1.0		-	7.35	-	-		Down .08 FTE from Study
182 6.1.7	7 Vendor Management	-	3.00	-	-		
183 6.1.3	B Release Management	-	6.14	-	-		
184 6.1.9	Other Application Services	-	4.45	-	-	3	Up .45 FTEs from Study - fewer resources for Openview; however, missed capability in data extracts and reporting.
185 6.2	IT Infrastructure Services	46.50		53.24	6.74		
186 6.2.	Network and Telecom Services	-	10.71	-	-		Down 1.29 FTEs from Study - combined field services, deskside support, deskside imaging, and asset management
187 6.2.2	2 Server Support	-	15.78	-	-		Down .15 FTE from Study
188 6.2.3	B Enterprise Architecture	-	2.50	-	-		Down .74 FTE from Study
189 6.2.4	Enterprise Storage	-	10.55	-	-	1	Up 2.21 FTEs from Study
190 6.2.:	5 IT Security	-	11.70	-	-	3	Up 4.7 FTEs from Study - Transferred access management effort from IT.
191 6.2.0	5 Other IT Infrastructure Services	-	2.00	-	-	3	Capacity performance (short term); performance tuning
192 <b>6.3</b>	IT Support	15.00		14.77	(0.23)		
193 6.3.		-	8.27	-	-		
194 6.3.2		-	6.50	-	-		
195 6.3.		-	-	-	-		
196 <b>6.4</b>	IT Strategy & Planning	6.00		6.96	0.96		
197 6.4.		-	2.25	-	-	3	Increased for software compliance management
198 6.4.2	2 IT Standards	-	1.39	-	-		
199 6.4.	B Other IT Strategy & Planning	-	3.32	-	-		
200							
201	Capability 6 Totals	160.50	175.73	175.73	15.23		
202							

			Compariso	n to Study			
e	Capability/Group/Service	Study	ERCOT Service Total	ERCOT Group Total	Variance by Group		Comments
7	OTHER SUPPORT & MANAGEMENT FUNCTIONS						
7.1	Executive Support	4.50		4.75	0.25		
7.1.1		-	3.00	-	-		
5 7.1.3		- 17.51	1.75	14.90	-		
7.2 7.2.1	Administrative Support Administrative Support	- 17.51	14.90	14.90	(2.61)		
7.3	Strategy & Business Planning	2.00	14.90	2.00	-		
7.3.1		-	2.00	2.00			
7.4	Internal Audit	6.00	2.00	5.75	(0.25)		
7.4.1		-	5.75	-	-		
7.5	Legal	10.00		13.00	3.00		
7.5.1		-	5.50	-	-		
7.5.2		-	7.50	-	-	2/3	Contract efficiency not realized until 1.1.2012
<b>7.6</b>	Finance	18.50		18.50	-		·
7.6.1	General Accounting & Finance	-	11.50	-	-		
3 7.6.2	Purchasing & Contract Administration	-	6.00	-	-		
7.6.3		-	1.00	-	-		
7.7	Human Resources	8.00		8.00	-		
7.7.1	Human Resources	-	8.00	-	-	1 2	Increase for Compensation & Benefits effort Outsourcing payroll & benefits function - efficiency be achieved by 7.1.2011.
7.8	Facilities/Security	20.00		21.30	1.30		
7.8.1	Facilities Management	-	16.00	-	-	3	Increased for Health & Safety Coordination
7.8.2		-	5.30	-	-		
7.9	Stakeholder Relations	6.00		7.15	1.15		
5 7.9.1		-	5.15	-	-	4	Increased reliability requirement for NERC, ERO, FERC, PUCT response/coordination
7.9.2		-	2.00	-	-		
8 7.10		5.00		8.34	3.34	1	Required staff for continuity
7.10.			8.34	-	5.00		
<b>7.11</b> 7.11.	Internal Controls & Risk Management	-	5.00	5.00		1	
/.11.	1 Internal Controls & Risk Management	-	5.00	-	-	2	Staffing Efficiency anticipated 7.1.2011
						4	Risk capability not included in Study
2	Conchility 7 Totals	97.51	109 60	108.69	11 10		
	Capability 7 Totals	97.51	108.69	108.09	11.18		
5							
, 5	Totals	534.46	584.13	584.13	49.67		
,	10(4)5	554.40	304.13	304.13	47.07		
Note							
	ance explanations provided based on the following four categories:						
	<ol> <li>Disagree with Study assumption(s)</li> </ol>	8					
ĺ	<ol> <li>Study assumption(s) not implemented/realized</li> </ol>	28					
	<ol> <li>Study missed Capability</li> <li>Increased scope of work since Study performed</li> </ol>	11					
3	4. Increased scope of work since Study performed Total	$\frac{3}{50}$					
**Outside Service Detail** 

		2011		
Line	Department	Preliminary Budget	<b>Description of Service</b> (s)	Category
1	EMMS Development	4,080,000	Resources required for defect fixes, performance issues, security patch management, etc. on proprietary and custom software critical to the Market.	Mandated
2	Retail Client Services & Analysis	814,560	PUCT mandated End User Switch and POLR notifications.	Mandated
3	General Counsel	600,000	Outside Legal Counsel: Outside Legal Services regarding litigation or areas requiring specialized legal knowledge and skills not possessed by in-house legal staff. Expert witness fees, court reporter fees, employment/employee benefits, information technology, intellectual property, security/compliance, tax/financing, governance, insurance/risk management, records management, and related items. The services are necessary to obtain expert advice on all legal issues confronting the company (e.g. Employee Retirement Income Security Act (ERISA), bankruptcy, antitrust, litigation, etc.).	Mandated
4	Board of Directors	554,000	Expenses associated with the ongoing support and administration of the Board of Directors <ul> <li>Independent member compensation</li> <li>Member replacement</li> <li>Business expense reimbursement</li> <li>Special meetings and retreats as necessary</li> </ul>	Mandated
5	Accounting & Financial Reporting	125,000	Annual financial statement audit: Mandatory to be compliant with Public Utility Commission of Texas (PUCT) rules. Must be performed by External auditing firm.	Mandated
6	Internal Control Management Program	86,100	SAS 70 Audit are required to be performed by an external independent certified public accounting firm.	Mandated
7	Settlements & Billing Operations	31,992	RMR Contractor to satisfy protocol requirement for audit of RMR (Zonal Protocols Section 22, Attachment F, Section 13; Nodal Protocols Section 22, Attachment B, Section 13) Cost based on historical billing.	Mandated
8	Accounting & Financial Reporting	20,000	Annual IRS form 990 review and filing: This is a required statutory audit, that has to be performed externally.	Mandated
9	Human Resources	15,000	Determine the Financial Accounting Standards Board (FASB) 106 Liability for post retiree medical benefits for ERCOT; Accounting support for determining the Financial Accounting Standards Board (FASB) 106 liability for ERCOT.	Mandated
10	Human Resources	15,000	401k Audit: Federal law requires that ERCOT include audited benefit plan financial statements with its annual Internal Revenue Service (IRS) Form 5500 filing. The benefit plan audits must be performed by an independent audit firm. Loss of the qualified tax status of the benefit plans resulting in significant liability to the company and possible ERCOT employees.	Mandated
11	Subtotal - Mandated Outside S	ervices \$ 6,341,652	-	

Outside Service Detail

		2011 Preliminary		
Line	Department	Budget	Description of Service(s)	Category
12	Technology Services Administration	321,360	Lawson Hosting - Lower cost to host externally, would require hardware and 3 support specialists to host internally	Discretionary
13	Human Resources	190,000	Immigration Assistance: These fees cover the specialized legal expertise in the immigration area as well as the filing fees associated with the hiring of non-US citizens. These fees are required to recruit for power engineers and certain Information Technology functions. The legal expertise in immigration is a very specialized area and ERCOT does not require a full-time position. Approximate 1/2 of the expense in this area is for legal services and the rest covers the actual fees.	Discretionary
14	Human Resources	60,000	Web Based e-Learning Program: Enables business organizations to maximize business performance through a combination of comprehensive e-learning content, online information resources, flexible learning technologies and support services. It's a 24x7 program with a course library of over 4,000 courses related to Business Development and IT. Program will be used to enhance competencies for job skills and reduce travel costs	Discretionary
15	Facilities Management	50,000	Courier Services required for mail collection, routing and distribution in lieu of FTE	Discretionary
16	Credit Administration	30,000	Ratings service and data feed to ERCOT's new credit program for Nodal. The use of these services is contingent on the Board of Directors approving creditworthiness standards that include ratings.	Discretionary
17	Subtotal - Discretionary Outside Services \$	651,360		
18 19	Subtotal - Base Operations Outside Services	6,993,012	·	

#### **Outside Service Detail**

		2011		
		Preliminary		
Line	Department	Budget	Description of Service(s)	Category
20	<b>Requested Outside Services Not Funded</b>			
21	Critical Infrastructure Security	300,000	EMMS Security Assessment to comply with NERC CIP 5 R4 and CIP 7 R8	Discretionary
22	Long Term Planning & Policy	200,000	Development of three-phase (PSCad or similar) models of west Texas ERCOT system to allow evaluation of sub-cycle system dynamics. Potential issues include sub synchronous interaction, sub-synchronous resonance, optimization of shunt reactive devices to support wind generation.	Discretionary
23	Mid Term Planning	175,000	Recent dynamic studies have indicated that the load models used for these studies is highly important in determining the results of those studies. Since these studies are increasingly resulting in real costs to the system (congestion, dynamic reactive devices, etc.) in the order of \$100Ms, it is important to validate the appropriateness of these models against real world response.	Discretionary
24	Internal Audit	195,000	Contract labor staff augmentation	Discretionary
25	Long Term Planning & Policy	150,000	Procurement of wind generation patterns, based on actual location of wind farms in ERCOT and actual historical weather data and assuming actual wind turbine technologies installed, for use in planning models to better understand diversity of wind patterns and likely system congestion.	Discretionary
26	Critical Infrastructure Security	150,000	Security penetration assessment of the network perimeter, email and remote access. The assessment will allow ERCOT to respond to the NERC Compliance Action Notice - 0005, Compliance Application CIP-002-3 R3	Discretionary
27	Retail Client Services & Analysis	130,000	Prepare, distribute, and collect results of market participant survey requested by Board of Directors. Perception surveys on conducted on various services offered to the market such as meeting management, website revisions, etc.	Discretionary
28	Human Resources	125,000	University Co-Op program and curriculum development: Services required to develop university curriculum, provide studies and internship programs. This service will be performed along with ERCOT staff.	Discretionary
29	Long Term Planning & Policy	100,000	Procurement of new model for analysis of Expected loss-of-load events (LOLE), assessment of target reserve margin, and expected load carrying capability of variable generation. New model would allow evaluation of the impact of transmission congestion on deliverability of generation reserves.	Discretionary
30	Physical Security	88,000	A 3-year Remote Managed Services Contract with the access control system vendor to provide patching, software upgrades, software updates, corrective procedures and planning, hardware and software specifications and procurement instructions, system network environment schematics and requirement instructions, database system layout, forms and credentials design, access level and alarm configuration. This contract would prevent system down time and possible loss of control of access to critical cyber asset areas as well as provide compliance for CIP7 R1, R3 and CIP3 R6. Currently support is being provided by a security analyst in the Critical Infrastructure Security department on an as available basis.	Discretionary
31	Human Resources	60,000	Benefits Audit(s)/Survey(s): Third party administrator to audit claims paid by benefit providers (medical, dental, vision, etc.) to make sure they are not overpaying claims. Along with benefit surveys to see if we are in line with the market. The audits/survey's do not have to be performed annual, so the estimate listed is based on a couple per year that we would rotate around.	Discretionary
32	Mid Term Planning	50,000	Dynamic studies are increasingly being used to determine system limits and determine system equipment needs. The costs of these limits and equipment is in the order of \$100Ms. It is therefore increasingly important to validate that these models	Discretionary
33	Physical Security	50,000	accurately reflect the actual performance of units on the system. External cyber vulnerability assessment of the Physical Access Control System to comply with NERC CIP Standard CIP-006 R2.2.	Discretionary
34	Total Requested Outside Services Not Fu	nded \$ 1,773,000		

#### ERCOT Fiscal Year 2011 Budget Facilities Summary by Account

											2010 Budg	get
									2011	20	vs. 11 Preliminar	y Budget
ne	Description		2009 Actual		2010 Budget		2010 Forecast	Р	2011 Preliminary Budget		\$ Variance	% Variance
	Utilities				8				g.			
	Electricity	\$	1,632,750	\$	1,670,000	\$	1,670,000	\$	2,042,000	\$	372,000	22.39
;	Water Service		-		-		-		-		-	N
	Fuel Oil		14,099		12,000		12,000		25,421		13,421	111.89
	Water/Gas/Sewer/Trash		97,242		75,000		75,000		112,894		37,894	50.5%
	Subtotal - Utilities		1,744,091		1,757,000		1,757,000		2,180,315		423,315	24.19
	Rent											
	Office Rental		936,336		864,000		998,400		882,144		18,144	2.19
)	Miscellaneous Rental		24,750		-		-		25,270		25,270	N.
1	Storage Rental		91,898		55,200		55,200		81,460		26,260	47.69
	Subtotal - Rent		1,052,985		919,200		1,053,600		988,874		69,674	7.69
3												
	<u>Felecom</u>											
5	PBX Lease for ISO		-		-		-		-		-	N
5	Telephone - Local		63,187		68,600		68,600		66,449		(2,151)	-3.19
7	Telephone - Long Distance		126,426		122,930		122,930		132,837		9,907	8.19
3	Telephone - Conf. Calls		3,651		37,850		37,850		3,147		(34,703)	-91.79
ə )	Internet Service Data/Voice Circuits		161,559		171,600		171,600		163,483		(8,117)	-4.79
1	Web Conferencing		21,671 198,303		21,600 365,000		21,600 365,000		11,063 370,363		(10,537) 5,363	-48.89
	Subtotal - Telecom		574,798		787,580		787,580		747,343		(40,237)	-5.19
3	Subtotal - Telecolli		574,798		787,380		787,580		/4/,545		(40,237)	-5.1%
1 1	WAN		2,940,547		3,130,000		2,817,303		3,075,261		(54,739)	-1.79
5												
	Building Maintenance											
7	Building Maintenance		549,729		238,000		238,000		916,603		678,603	285.19
3 Ə	Grounds Maintenance		49,300		45,000		45,000		96,995		51,995	115.59
	Custodial Service		242,582		273,000		273,000		270,378		(2,622)	-1.09
) 1	Miscellaneous Services		123,080		134,150		134,150		465,518		331,368 430,000	247.09
2	Bldg. Security Services		896,643		955,000		1,002,140		1,385,000			45.09
3			1,861,334		1,645,150		1,692,290		3,134,493		1,489,343	90.59
4 <u>1</u>	Nodal & Texas RE Allocations		(1,207,930)		(1,466,092)		(1,070,856)		-		1,466,092	-100.09
5	Fotal - Facilities	\$	6,965,825	\$	6,772,838	\$	7,036,917	\$	10,126,286	\$	3,353,448	49.59
7 3 1	Materials, Supplies, & Equipment											
, <u>1</u>	Equipment Maintenance		116,629		235,000		235,000		122,571		(112,429)	-47.89
)	Equipment Rental		88.012		68,000		68,000		84,580		16,580	24.49
	Hardware < \$1,000		81,388		237,200		157,200		148,723		(88,477)	-37.39
2	Software < \$1,000		88,436		153,100		153,100		143,704		(9,396)	-6.19
3	Misc Equip Repairs		796		2,000		2,000		406		(1,594)	-79.79
, I	Vehicle Maintenance		12,887		9,000		9,000		12,624		3,624	40.39
5	Equipment & Tools < \$1,000		240,949		200,000		200,000		200,000		(0)	0.09
5	Office Supplies		113,988		292,716		292,716		117,553		(175,163)	-59.89
,	Chemical Supplies		55,999		30,000		30,000		50,405		20,405	68.09
;	Total - Equipment	\$	799,084	\$	1,227,016	\$	1,147,016	\$	880,566	\$	(346,451)	-28.29
) ) [	Fotal Facilities & Equipment	\$	7,764,909	\$	7,999,854	\$	8,183,933	\$	11,006,852	\$	3,006,997	37.69
	i otar r'actitues & Equipment	φ	7,704,709	ę	1,777,004	ф	0,100,700	φ	11,000,032	ې	5,000,997	37.05

53 54

#### **ERCOT Fiscal Year 2011 Budget** Employee Expense by Office





									20	vs. 11 Prelimina	ry Budget
Line	Office	2007 Actual		2008 Actual	2009 Actual	2010 Budget	Pı	2011 reliminary Budget		\$	%
1	Corporate Administration	\$ 261,241	\$	343,023	\$ 180,830	\$ 285,278	\$	186,438	\$	(98,839)	-34.6%
2	Information Technology	381,189		646,463	405,913	464,000		276,369	\$	(187,631)	-40.4%
3	Operations	714,420		877,808	532,389	802,623		557,848	\$	(244,775)	-30.5%
4	Total - ERCOT	\$ 1,356,851	\$	1,867,294	\$ 1,119,132	\$ 1,551,900	\$	1,020,655	\$	(531,245)	-34.2%
5											
6	FTEs	609		669	739	739		584		(155)	
7											
8	Average per FTE	2,228		2,791	1,514	2,100		1,747		(353)	
			_								

The Employee Expense category includes costs for the following:

Business - Registration Fees Business - Meals Business - Lodging Training - Registration Fees Training - Meals Training - Lodging Professional Dues	Business - Mileage Reimbursement Business - Airfare Business - Other Travel Costs Training - Mileage Reimbursement Training - Airfare Training - Other Travel Costs College Education Reimbursement
	8
Remote System Access Cellular Phone	Wireless PC Card

#### ERCOT Fiscal Year 2011 Budget Employee Expense Detail

								2011	20	2010 Bu vs. )11 Prelimina	C
		2007	2008		2009	2010	Pı	eliminary	_	\$	%
Line		Actual	Actual		Actual	Budget		Budget		Variance	Variance
1	ERCOT			+			+				
2	Training - Registration Fees	\$ 392,028	\$ 635,109	\$	287,074	\$ 522,485	\$	246,619	\$	(275,866)	-52.8%
3	Cellular Phone	160,080	181,883		210,885	163,807		205,988		42,182	25.8%
4	Business - Mileage Reimbursement	53,843	94,410		98,747	74,329		81,881		7,552	10.2%
5	Training - Travel -Lodging	129,643	178,239		63,764	150,465		61,307		(89,158)	-59.3%
6	College Education Reimbursement	29,033	42,546		54,251	35,867		57,649		21,781	60.7%
7	Business - Travel - Lodging	104,625	129,060		62,299	102,558		54,259		(48,300)	-47.1%
8	Business- Travel - Airfare	68,051	97,198		33,466	67,828		53,072		(14,756)	-21.8%
9	Remote System Access	58,046	47,367		49,922	47,902		42,998		(4,904)	-10.2%
10	Professional Dues	31,020	37,222		35,297	33,049		35,709		2,659	8.0%
11	Wireless PC Card	23,585	47,167		39,063	37,091		33,308		(3,782)	-10.2%
12	Training - Travel -Other	20,598	27,505		13,436	23,020		26,942		3,922	17.0%
13	Business - Meals	31,643	45,063		30,444	31,948		23,214		(8,734)	(0)
14	Training - Travel - Airfare	86,460	80,735		22,767	76,475		22,684		(53,791)	-70.3%
15	Training - Mileage Reimbursement	98,428	59,257		24,464	66,813		22,612		(44,201)	-66.2%
16	Business - Travel - Other	22,687	31,742		27,328	21,235		20,061		(1,175)	-5.5%
17	Training - Meals	36,827	45,806		20,066	39,271		17,084		(22,186)	-56.5%
18	Business - Registration Fees	10,252	86,986		45,860	57,758		15,269		(42,489)	-73.6%
19	Total	\$ 1,356,851	\$ 1,867,294	\$	1,119,132	\$ 1,551,900	\$	1,020,655	\$	(531,245)	-34.2%

#### **ERCOT Fiscal Year 2011 Budget** Other Expense Detail

							2010 Buc vs. 2011 Prelimina	-
Line			2009 Actual	2010 Budget	2011 Preliminary Budget		\$ Variance	% Variance
1	ERCOT							
2	Insurance Premiums		\$ 1,742,811	\$ 1,876,837	\$	1,832,639	\$ (44,198)	NA
3	Property Tax		912,515	1,325,706		1,800,000	474,294	NA
4	Subscriptions & Publications		1,200,596	1,232,571		1,467,532	234,961	19.6%
5	Relocation Benefit		304,946	360,000		367,560	7,560	2.1%
6	Recruiting Expense		39,219	106,000		114,905	8,905	6.2%
7	Job Posting Advertising		62,912	40,000		51,050	11,050	9.8%
8	Report Printing		28,805	63,700		38,027	(25,673)	-40.3%
9	Dues		25,969	19,250		27,849	8,599	11.6%
10	Reward & Recognition		3,752	65,000		25,525	(39,475)	-39.5%
11	Sponsored Meetings		25,730	35,500		24,303	(11,197)	-10.1%
12	Express Shipping		23,005	42,300		20,761	(21,540)	-52.0%
13	Postage & Delivery		9,803	18,150		7,375	(10,775)	-60.5%
14	Corporate Events		12,721	11,750		7,147	(4,603)	-11.4%
15	Copying Services		6,694	-		5,840	5,840	NA
16	Late Fee Payment		11	6,000		-	(6,000)	-100.09
17	Write Off Adjustments		29,708	-		-	-	NA
18	Miscellaneous Expenses		3,068	7,600		-	(7,600)	-124.6%
19	Temp-to-Hire Fees		7,400	650		-	(650)	-100.0%
20	Stationery & Office Forms		1,896	-		-	_	NA
21	Tax - Sales, Excise & Use		69,627	-		-	-	NA
22		Total	\$ 4,511,187	\$ 5,211,014	\$	5,790,514	\$ 579,499	38.1%
23 24								

25 Note:

 $\frac{1}{26}$  Subscription & Publication category includes weather and wind related forecasting and modeling services.

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2011 Project Priority List

	2011						Cumulative Budget		
Line	Priority	2011 Rank	Program Area	Source	<b>Capital Projects</b>	2011 Budget Range	Range	<b>Current Status</b>	Description
1	1- Critical	1	DC	ERCOT	Data Center Buildout	\$30M-\$40M	\$35M-\$40M	Planning / Execution	Data Center Buildout Project - 8 subprojects addressing storage, servers, tape backup, telecommunication, and network gear
2	1- Critical	2	CO	ERCOT	Minor Cap - Critical	500k-1M	35M-40M	Not Started	Critical priority Minor Cap purchases
3	1- Critical	3	RO	Market	Texas SET 4.0	1M-2M	35M-40M	Not Started	TX SET project to include reconnect / disconnect, AMS, Acquisitions, Meter Tampering
4	1- Critical	4	МО	ERCOT	Information Lifecycle Mgmt – Mkt Systems, Archive, Reporting	1M-2M	40M-45M	Planning	Subproject of 90006_01 - optimizing data storage requirements for our production systems
5	1- Critical	5	ΙΟ	ERCOT	Cyber Security Project #1	500k-1M	40M-45M	Not Started	Enhance a specific area of ERCOT's cyber security capability
6	1- Critical	6	МО	ERCOT	Settlement System Upgrade	1M-2M	40M-45M	Not Started	Replace the current application code with an optimized, self-supported solution. Includes only the conversion of code no enhancements.
7	1- Critical	7	CO	ERCOT	Cyber Security Project #2	250k-500k	40M-45M	Not Started	Enhance a specific area of ERCOT's cyber security capability
8	1- Critical	8	ΙΟ	ERCOT	IT Security Infrastructure Upgrade	100k-250k	40M-45M	Not Started	Upgrade a specific component of the IT security infrastructure
9	1- Critical	9	RO	PUCT / Market	MarkeTrak Upgrade and Enhancements (PLANNING)	100k-250k	40M-45M	Not Started	Enhance MarkeTrak application for new PUCT requirements and other enhancements requested by market participants. Examples: new subtypes for Expedited Switch Rescission and Meter Tampering, improved data validation. and AMS usage parameters
10	TBD	TBD	МО	ERCOT	Data Agg Performance Improvements	250k-500k	40M-45M	Not Started	New project to address data aggregation processing performance risk Expected to start in 2010 and conclude in 2011
11	2-High	10	RO	ERCOT	Data Research and Reporting	1M-2M	45M-50M	Execution	Transition of ETS reporting from Data Archive to Enterprise Data Warehouse - Final stage of project
12	2-High	11	СО	ERCOT	Enterprise Records Management Automation (ERMA)	<50k	45M-50M	Execution	Provide a centralized record management repository for ERCOT with email integration.
13						\$45M-\$50M			

- 8. Nodal Credit Risk Profile and Status: Overview Cheryl Yager
- CMM Status (Section 16)
- Other items
- Highlights from PJM Market Credit Comparison
- **Risk Profile** (from August)



8. Nodal Credit Risk Profile and Status: Overview Cheryl Yager

### **CMM Status**



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#### 8. Nodal Credit Risk Profile and Status: CMM – Credit Overview Cheryl Yager

Re	ecommend	lation of Certificat	tion
	ERCOT		
	NATF		
	TAC		
	BOD		

Status / Other Issues:

• All open defects have been closed as of 09/03/2010.

• In conjunction with the 168-hour test, ERCOT deleted Market Trials data that was causing the core credit calculation to be unrepresentatively high

• This provides CPs that behave "normally" during the 168-hour test an opportunity to see what their credit calculation would be after "Go-Live"



#### 8. Nodal Credit Risk Profile and Status: CMM – Credit Management and Monitoring – Go Live

System Readiness	Planned Completion	Status
Credit Management Integrated in Market Trials	5/3/10	Complete
Verify CMM Credit Calculations (CO10)	9/8/2010	Complete
Process Readiness		
Credit Management Procedures	8/24/10	Complete
Nodal Protocol Transition Plan Updated for Credit Management	7/29/10	Complete
People Readiness		
ERCOT Staff Support of Market Trials	9/30/10	In Process
ERCOT Staff Trained on System and Processes	8/13/10	Complete
Market Participant Training Delivered	Ongoing	In Process



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### 8. Nodal Credit Risk Profile and Status: CMM Status Cheryl Yager

Readiness Review and Approval	Planned completion	Status
NATF Review	August - October 5	Ongoing
CWG Review	August - October 8	Ongoing
Comparison of ERCOT market to other markets (per Mkt Reform's PJM study) as requested at July BOD meeting	September 21st F&A meeting	On target
F&A Review	September 21st F&A Meeting	On target
ERCOT Management Approval	by September 28	On target
TAC Approval	October 7	On target
Review by Oliver Wyman with report to F&A on Nodal credit policy and practices	October 19	On target
F&A Review	October 19th F&A Meeting	
BOD Approval	October 19	
30 Day Market Notice	October 29	
10 Day Market Notice	November 19	
Go Live	December 1	



8. Nodal Credit Risk Profile and Status: Overview Cheryl Yager

**Other topics** 



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# • CRR Auction Credit Constraint

- CWG/MCWG review of two factors used in auction to ensure MTM values are adequate as auction runs Multiplier (M) and Adder (A)
  - Multiplier change from "1" to "0" as a correction based on understanding how the auction engine uses the parameters – general agreement
  - Adder discussion of reducing from \$1.50 no consensus yet
    - Discussion will continue at WMS
  - The Multiplier and Adder are set by TAC with Board approval (per Protocols)
  - Approval of a change will likely be requested of the BOD in October on at least a change to the Multiplier



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# DAM Credit Constraint

- Non-business day processing
  - A significant amount of credit was consumed in conjunction with the August 14-16 weekend test
    - Market trials data was a significant factor
    - Methodology used in MMS was also a factor
  - ERCOT has worked with the market to identify possible changes to methodology that would be implementable by go-live
    - TAC approved a change in methodology at their September 2<sup>nd</sup> meeting
    - TAC also requested that ACLs be updated daily on nonbusiness days
    - Both proposals are in CEO review
    - Resolution pending



### DAM Credit Constraint

- "e" factors At last month's BOD meeting, Bob Helton asked that ERCOT look at how "e" factors has impacted credit requirements in the DAM
  - The "e" factor formulas were designed to provide the most benefit to Counter-Parties that have a balanced portfolio between DAM bids and offers (both EOO and TPO)
    - Based on results in Market Trials
      - » Most CPs are at the most conservative level even with the "e" factors
        - » e1=1, e2=0 and e3=1
      - » Caveat Market Trials data is imperfect DAM not run daily, high prices, etc
    - Only around 10 CPs requested favorable treatment
    - However, even if more CPs request favorable treatment, changing from the 95<sup>th</sup> percentile to the 75<sup>th</sup> percentile of an "e" factor (over 30 days) does not significantly increase the number of CPs that receive benefit from "e" factors



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### Core credit (Section 16)

- Oliver Wyman review is underway
  - Review of Nodal credit practices and policy
  - Benchmark key elements with other markets
- In conjunction with the 168-hour test, ERCOT deleted Market Trials data that was causing the core credit calculation to be high
  - Provided CPs that were behaving "normally" during the 168-hour test an opportunity to see what their credit calculation would be after "go live"



8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison

# **Highlights from PJM Market Credit Comparison**



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- 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison
  - At the July 2010 BOD meeting, ERCOT was asked to provide highlights from the PJM Market Credit Comparison prepared by Market Reform
    - The comparison was completed based on ERCOT's Zonal market (although some Nodal information was included)
    - The comparison was published in June 2008



#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Markets and Transaction Frequency

	Cash Markets			
Market Operator	ket Operator Transacted Actual		Forward	
CAISO	Hourly	5-Minute/Hourly <sup>1</sup>	Annual, Monthly (CRR) <sup>2</sup>	
ERCOT	Daily	15-Minute	Annual, Monthly	
ISO-NE	Daily	5-Minute/Hourly	Annual, Monthly	
MISO	Daily	5-Minute/Hourly	Annual, Monthly	
NYISO	Daily	5-Minute/Hourly	Annual, Monthly	
PJM	Daily	5-Minute/Hourly	Annual, Monthly	
SPP		5-Minute/Hourly		
Elexon		30-Minute		
EMC		30-Minute		
NEMMCO		5-Minute/30-Minute		
Powernext	Daily, Intra-Day		Daily (continuous)	
SEMO		Daily <sup>3</sup>		
APX Gas UK	Daily, Intra-Day		Daily (continuous)	
NYMEX	Daily (continuous)		Daily (continuous)	
NYSE	Daily (continuous)		N/A <sup>4</sup>	

1) For CAISO, ISO-NE, MISO, PJM and SPP the real-time market transacts every five minutes, but the pricing period is hourly, with the market price based on the arithmetic average of 5-minute prices. Similarly, for NEMMCO market pricing is every 30 minutes, based on an average of 5-minute prices.

2) The current FTR market operated by CAISO only operates an annual auction. The new CRR market operates annual and monthly auctions.

3) The Irish market trades day-ahead for each half-hour the following day. Settlement is based on actual metered quantities (with prices calculated ex-post based on these quantities also).

4) The NYSE operates forward markets but these were not of interest for the purposes of this study, and therefore were not examined.



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#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Collateralization Policy

Market Operator	Collateralization Policy		
CAISO	Offers Unsecured Credit		
ERCOT	Offers Unsecured Credit		
ISO-NE	Offers Unsecured Credit		
MISO	Offers Unsecured Credit		
NYISO	Offers Unsecured Credit		
PJM	Offers Unsecured Credit		
SPP	Offers Unsecured Credit		
	ully Collateralized, though in the event of default, collateral held has		
Elexon	a reasonable probability of being insufficient.		
EMC	Fully Collateralized		
	Unsecured Credit is technically available, though in actuality criteria are sufficiently strict that no current market participants meet these		
NEMMCO	requirements (the criteria instead serving to qualify LC providers).		
Powernext	Fully Collateralized		
SEMO	Fully Collateralized		
APX Gas UK	Fully Collateralized		
NYMEX	Fully Collateralized		
NYSE	Fully Collateralized		



#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Use of Bid/Trading Limits by Market

Market Operator	Bid/Trading Limits	
	Bid validation on CRRs; submission validation on CRR transfers. No	
CAISO	validation on cash market.	
	Bid validation on Transmission Congestion Rights. No validation on	
ERCOT	cash market.	
	Bid validation for 'virtual' transactions in the day-ahead market	
	(checked at close of bidding window, rather than on submission).	
ISO-NE	Validation on FTR bids.	
	Bid validation for 'virtual' transactions in the day-ahead market.	
MISO	Validation on FTR bids.	
	Bid validation for 'virtual' transactions in the day-ahead market.	
NYISO	Validation on TCC bids; Validation on ICAP bids.	
	Bid validation for a subset of participants, for 'virtual' transactions in	
	the day-ahead market.	
	Validation on FTR bids; Validation on RPM bids/offers for planned	
PJM	resources.	
SPP	None	
Elexon	None	
EMC	None	
NEMMCO	Validation on all bid/offer submission.	
Powernext	None	
SEMO	None	
APX Gas UK	Validation on all orders, in the cash and forward markets.	
	Validation on all order (bid/offer) submission.	
NYMEX	Credit validation of all off-exchange trades submitted for clearing.	
NYSE	None	



September 21, 2010

Page 59 of 113 Finance & Audit Committee Meeting 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Credit Treatment for Transfers of Settlement Obligation

Market Operator	Basis	Validation	Cancellation on Default
ERCOT	MW	None	None
		None at present. Will validate for the	
ISO-NE	MW	Forward Capacity Market	Yes - from the day a default is declared.
MISO	MW	None	None
NYISO	MW	None	None
PJM	MW	None	None
			Yes - existing allocations can be dis-applied,
Elexon	MW, %	Only if participant is in Level 2 Default	including for past days not settled.
			Yes - from the time a suspension order comes
EMC	MW	None	into effect.
			Yes - effective from time of deregistration
NEMMCO	MW, \$	Yes - on submission	forward.
			Yes - can cancel any agreement prior to invoice
SEMO	€/£	Yes - on submission	issue.



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#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Forward Market Settlement Practices

		Mark-to-Market		
Market Operator	Y/N	Frequency and Lag	Delivery Billing	Time-to-Remedy <sup>1</sup>
			Billed on next cash market bill	
			with payment prior to delivery	
CAISO	Ν	N/A	month.	5 days
			On same schedule as next	
ERCOT	Ν	N/A	(weekly) cash market bill.	2 days
			On same schedule as next	
ISO-NE	Ν	N/A	(weekly) cash market bill.	1.5 days
			On same schedule as next	
MISO	Ν	N/A	(weekly) cash market bill.	2 days
			On same schedule (monthly) as	
NYISO	Ν	N/A	cash market.	2 days
			On same schedule (monthly) as	
PJM	Ν	N/A	cash market.	3 days
		Each day, overnight with		
Powernext	Y	payment in morning.	Each day, on day of delivery (T+0)	1 hour
			On same schedule (monthly) as	
APX Gas UK	Ν	N/A	cash market.	3 days
			Depends on commercial terms in	
		Each day, overnight with	the cash market being delivered	
NYMEX	Y	payment in morning.	into.	1 hour

1) Time-to-remedy is shown in business days.



8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Credit Cover: Frequency of Assessment and Time-to-Post

		Time-to-Post
Market Operator	Frequency of Assessment	(Business Days)
CAISO	Weekly	5
ERCOT	Daily	2
	Daily, plus intra-day adjustment for day-	
ISO-NE	ahead market activity.	1.5
MISO	Daily	2
NYISO	Daily	2
PJM	Twice Weekly	3
SPP	Daily	3
	Each settlement period, with notice to	
Elexon	participants daily.	1
EMC	Daily	5
NEMMCO	Daily	1
Powernext	Daily, and intra-day as required	<0.5 <sup>1</sup>
SEMO	Daily	2
APX Gas UK	Hourly	2
NYMEX	Daily, and intra-day as required	<0.5 <sup>1</sup>
NYSE	Daily, and intra-day as required	<0.5 <sup>1</sup>

1) Daily collateral calculations are performed overnight and must be posted in the morning. Intra-day collateral calls must be satisfied within an hour or two.



#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Time Lags Impacting Resettlement Exposure (in Business Days)

	Calculating	Between Credit	Time-to-	Time-to-
Market Operator	<b>Incurred Amts</b>	Assessment	Remedy	Transfer
				No defined
CAISO	38	7	5	timeframe
ERCOT	1	1	2	3
ISO-NE	2-3	1	1.5	1-2
				1-3, after FERC
MISO	4	1	2	approval
				No defined
NYISO	2	1	2	timeframe
PJM	3-14	3-4	3	1-3
				No defined
SPP	1	1	3	timeframe
	Settlement period	Settlement period		No defined
Elexon	(1/2 hour)	(1/2 hour)	3	timeframe
				Not defined.
				Not a SEMO
EMC	1	1	2	responsibility
NEMMCO	1	1	1	1
Powernext		1	1 hour	N/A
SEMO	1	1	2	14+
APX Gas UK	1 hour	1 hour	3	N/A
NYMEX		1	1 hour	N/A
		Each day; as		
		required during		
NYSE	1	day.	1 hour	N/A



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#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Portfolio Margining Practice

		Portfolio Determination of Credit
Market Operator	Portfolio Assessment of Exposures	Cover Requirements
CAISO	Assessed separately	Single collateral requirement
ERCOT	Assessed separately	Single collateral requirement
ISO-NE	Assessed separately	Single collateral requirement
		Single collateral posting, though with
		specific allocation for FTRs and virtual
MISO	Assessed separately	transactions.
		Single collateral posting, though with
		specific allocation for FTRs and virtual
NYISO	Assessed separately	transactions.
		Separate collateral requirement for FTR
		and RPM markets. Remainder is
PJM	Assessed separately	collateralized in aggregate.
SPP	Assessed separately	Single collateral requirement
Elexon	Not applicable - only one market	Single collateral requirement
EMC	Assessed on a portfolio basis	Single collateral requirement
NEMMCO	Assessed on a portfolio basis	Single collateral requirement
	DAM and forward markets assessed	
	separately. Portfolio margining within	
	3-day-ahead products and between	
Powernext	forward products.	Single collateral requirement
SEMO	Assessed separately	Single collateral requirement
APX Gas UK	Assessed separately	Single collateral requirement
NYMEX	Assessed on a portfolio basis	Single collateral requirement
NYSE	Assessed separately	Single collateral requirement



#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Credit Assessment Across Related Entities

Market Operator	Level Assessed			
	Assessed at participant level (though CAISO has the discretion to look at parents).			
CAISO	Maximum unsecured credit limit is assessed in aggregate with affiliates.			
	QSEs may partition themselves into subordinate QSEs and be assessed at the			
	parent level. Maximum unsecured credit limit is assessed in aggregate with			
ERCOT	affiliates.			
	Assessed at participant level, though maximum unsecured credit limit assessed in			
	aggregate with affiliates. Parent's financial strength will also be considered if a			
	parent guarantee is lodged (the extent to which a parent guarantee can be utilized			
ISO-NE	is limited by rating).			
	Assessed at participant level, though maximum unsecured credit limit assessed in			
	aggregate with affiliates. Parent's financial strength will also be considered if a			
MISO	parent guarantee is lodged.			
	Assessed at participant level. Parent's financial strength will also be considered if			
NYISO	a parent guarantee is lodged.			
	Assessed at participant level, though maximum unsecured credit limit assessed in			
	aggregate with affiliates. Parent's financial strength will also be considered if a			
PJM	parent guarantee is lodged.			
	Assessed at participant level, though maximum unsecured credit limit assessed in			
	aggregate with affiliates. Parent's financial strength will also be considered if a			
SPP	parent guarantee is lodged.			
Elexon	Assessed at participant (BSC Party) level.			
EMC	Assessed at participant level.			
NEMMCO	Assessed at participant level.			
	Assessed at the level of 'Financial Group', which includes parent/child and			
Powernext	affiliated entity relationships.			
SEMO	Assessed at participant level.			
APX Gas UK	Assessed at participant level.			
	Determined at highest level, to allow for collateral offset (excluding entities which			
NYMEX	are bankruptcy-remote from each other).			
	Assessed at participant level, although rules allow for entry sponsored by a parent			
NYSE	in certain circumstances.			



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#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Unsecured Credit Methodology and Limits

			Concentration
Market Operator	Methodology for Calculation	\$ Limit	Limit (%)
	For investment-grade rated entities, based on Tangible Net		
	Worth times % factor based on ratings.		
	Separate evaluation for publicly-owned entities – receive \$1m		
CAISO	automatically.	\$50 million	
	Must be investment grade or equivalent. Based on Minimum		
	Long-Term or Issuer Rating, minimum equity level, minimum		
	average times/interest earning ration (TIER) and debt service		
ERCOT	coverage (DSC) ratios, and minimum equity ratios.	\$100 million	
	For investment-grade rated entities, Tangible Net Worth times	\$75 million	
	% factor based on rating. All ratings are discounted by one		
	level.		
	For unrated entities, 0.5% times Tangible Net Worth.	\$25 million	
ISO-NE	For municipal entities, fixed at \$75m.	\$75 million	20%
	Tangible Net Worth times % factor based on MISO credit score.		
	For non-public entities, credit score based on 60%		
	quantitative/40% qualitative measures. For public entities, the		
	ratio is 40%/60%.		
	MISO does not require commercial ratings (but may consider		
MISO	them if available).	\$75 million	
	For investment grade rated entities, based on Tangible Net		
	Worth times % factor based on ratings.		
	Separate evaluation for municipal entities, considering other		
NYISO	factors.	\$250 million	20%
	For investment grade rated entities, based on Tangible Net	Based on PJM credit	
	Worth times % factor based on ratings.	score. Ranges from	
DINA	Separate evaluation for municipal entities, considering other	\$5 million to \$150	
PJM	factors.	million.	
	For investment grade rated entities, based on Tangible Net		
	Worth times % factor based on ratings.		
6 D D	Separate evaluation of Non-for-Profit Credit customers,	COT IN THE S	
SPP	considering other factors.	\$25 million	
	Must be rated A-1 or better to qualify for unsecured credit. In		
	actuality these criteria are such that no current participants		
	qualify, and they instead serve as the requirement for LC		
NEMMCO	providers.		



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#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Minimum Collateral Requirement

Market Operator	Minimum Collateral Requirement		
CAISO	None		
ERCOT	None		
ISO-NE	None		
MISO	\$38,000		
NYISO	None		
PJM	\$50,000		
SPP	None		
Elexon	None		
EMC	None		
	A\$100,000 until metering data		
NEMMCO	obtained; no minimum thereafter.		
Powernext	€ 50,000		
	€30,000 per supplier (i.e. LSE)		
SEMO	€5,000 per generator		
APX Gas UK	None		
	None; though a participant's clearing		
NYMEX	member may impose requirements		
	\$10,000; \$5,000 for a mutual fund or		
NYSE	insurance member.		



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#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Acceptable Collateral

Market Operator	Cash	LCs	Treasuries	Other
				Surety bonds, CDs,
				payment bond
				certificates, escrow
CAISO	Y	Y		accounts
ERCOT	Y	Y		Surety bonds
ISO-NE	Y	Y	Y	
MISO	Y	Y		
NYISO	Y	Y		Surety bonds
PJM	Y	Y		
SPP	Y	Y		
Elexon	Y	Y		
EMC	Y	Y	Y	
NEMMCO	Y	Y		
Powernext	Y	Y	Y	
SEMO	Y	Y		
APX Gas UK	Y	Y		
		Y		Shares of some money
NYMEX	Y	<50%	Y	market mutual funds
	Y			US Govt. backed agency
NYSE	>40%		Y	securities



#### 8. Nodal Credit Risk Profile and Status: Highlights from PJM Market Credit Comparison – Socialization of Residual Default

Market Operator	Residual Amounts Socialized To		
CAISO	ISO Creditors (which for the most part means generators)		
ERCOT	QSEs representing LSEs (which basically means load)		
ISO-NE	All participants		
MISO	All participants		
NYISO	All participants		
PJM	All participants		
SPP	All participants		
Elexon	All participants		
EMC	All participants, excluding the transmission licensee		
NEMMCO	Generators		
	No socialization. The LCH.Clearnet clearing structures take on risk of any residual		
Powernext	amounts.		
SEMO	Generators		
APX Gas UK	No socialization. APX Gas UK takes on the risk of any residual default.		
	All clearing members, based on capitalization, with a cap of \$30m per clearing		
NYMEX	member per default.		
NYSE	All Clearing Fund participants.		



8. Nodal Credit Risk Profile and Status: Risk Profile Cheryl Yager

**Risk Profile** 



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## 8. Nodal Credit Risk Profile and Status: Risk Profile Cheryl Yager

- At July F&A meeting, F&A members asked about
  - The level of exposure in the ERCOT market
  - The risk profile of the ERCOT market in Nodal
  - The balance sheet impact (for ERCOT and the market) of Nodal credit

# • The following slides highlight

- Some Key Credit Risks in Nodal
- Impact of an increase in ERCOT activity from the DAM



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### 8. Nodal Credit Risk Profile and Status: Risk Profile – Some Key Credit Risks in Nodal

Risk	Description	Expected Nodal Impact	
1 Probability of default for a Counter- Party (CP)	Risk that a CP will default (based on their financial strength)	Comparable to Zonal	
2 Congestion Revenue Rights (CRRS)			
a Options	Risk that CP doesn't pay for the Option	Comparable to Zonal TCRs	
b Obligations	Risk that CP doesn't pay for the instrument AND risk that an ongoing liability will be created	tbd. ERCOT holds an approximation of MTM based on recent historical prices to address this risk.	
3 Market Price			
a Impact of gas prices	Risk that changes in gas prices will impact Nodal Real Time (RT) or Day Ahead Market (DAM) prices	Comparable to Zonal	
b Impact of price volatility	Risk of prices remaining very high for an extended period of time	Comparable to Zonal for RT and tbd for DAM	
4 CP volume escalation at default	The risk that a CP (particularly one representing load), will increase its activity in the ERCOT market at the time of default	If a CP's ERCOT activity (and corresponding collateral) increases (combination of RT and DAM), it is possible that this risk will be reduced	
	Ex: Historical level of activity (basis for collateral) at 10% goes to 100% (90% escalation)	Ex: Historical level of activity (basis for collateral) at 40% goes to 100% (60% escalation)	


# 8. Nodal Credit Risk Profile and Status: Impact of an Increase in ERCOT Activity from the DAM

# For the Counter-Party

- Reduces reliance on 3<sup>rd</sup> party bilateral contracts (or Energy trades) and
- Potentially reduces collateral posted with 3<sup>rd</sup> parties
- Increases collateral posted with ERCOT

# For ERCOT

- Increases the level of collateral held by ERCOT
- Given an increase in the level of collateral, potentially reduces losses in the event of default



# 8. Nodal Credit Risk Profile and Status: Impact of an Increase in ERCOT Activity from the DAM (example)

#### **Counter-Party representing load**

	Mwh		Price	# of days Historical	# of days Forward	\$ Historical	\$ Forward	\$ Total
1 Zonal market								
2 Estimated collateral posted								
3 3rd party - Bilaterals (Note 1)	9,000	\$	50	14	14	6,300,000	6,300,000	12,600,000
4								
5 ERCOT (Note 2)								
6 Real time	1,000	\$	50	27	20	1,350,000	1,000,000	2,350,000 ERCOT
7								
8 Estimated total collateral posted by CP	10,000					7,650,000	7,300,000	14,950,000
9								
10 Estimated exposure w/ default (Note 3)	10,000	\$	60		9	1,350,000	5,400,000	6,750,000
11 Estimated loss w/ default							=	4,400,000 ERCOT
12								
13								
14 Nodal market								
15 Estimated collateral posted								
16 3rd party - Energy Trades (Note 1)	5,000	\$	50	14	14	3,500,000	3,500,000	7,000,000
17	0,000	Ψ				0,000,000	0,000,000	1,000,000
18 ERCOT								
19 Day Ahead Market (Note 4)	4,000	\$	50	5	14	1,000,000	2,800,000	3,800,000
20 Real time (Note 2)	1,000	\$	50	27	20	1,350,000	1,000,000	2,350,000
21 Subtotal - ERCOT	5,000					2,350,000	3,800,000	6,150,000 ERCOT
22								
23 Estimated total collateral posted by CP	10,000					5,850,000	7,300,000	13,150,000
<u></u>								
24								
25. Detential increases / (decreases) in everall colleter	l roquiromonto fa		CD (Zanal ta			(1 900 000)		(1.900.000) chlota 5
25 Potential increase / (decrease) in overall collatera	a requirements ic	ла	CP (Zonanic	noual)		(1,800,000)	-	(1,800,000) <note 5<="" td=""></note>
26								
27 Estimated exposure w/ default (Note 3)	10,000	\$	60		9	2,350,000	5,400,000	7,750,000
28 Estimated loss w/ default							=	1,600,000 ERCOT
29	<b></b>						-	(0.000.000)
30 Potential increase /(decrease) in net loss in ERC	OI from a CP de	taul	t (Zonal to N	odal)			=	(2,800,000) <note 6<="" td=""></note>



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# 8. Nodal Credit Risk Profile and Status: Impact of DAM Activity on Potential Losses

### NOTES

Note 1: CPs generally post collateral for exposure under Bilateral contracts (also Energy Trades). ERCOT has estimated the amount of collateral posted; however, this is indicative only.

Note 2: ERCOT collateral for BES or Real Time (RT) activity includes a "40 day" ADTE calculation. This includes approximately 20 days for unbilled activity and 20 days for forward risk. In addition, ERCOT generally has an invoice outstanding for 7 days of activity at any point in time. The approximately 47 days held for collateral are reflected here as 27 days historical and 20 days forward.

Note 3: At default, a CP representing load may incur around 9 days at 100% of load before ESI IDs are moved to the appropriate POLR (2 business days to post collateral, 2 business days to cure, 2 days weekend, 3 days to execute Mass Transition)

Note 4: ERCOT collateral for DAM activity includes a "16 day" DALE calculation. This includes approximately 2 days for unbilled activity and 14 days for forward risk. In addition, ERCOT expects to have invoices outstanding for somewhere between 3 -6 days of activity at any point in time. The total of 19 days held for collateral are reflected here as 5 days historical and 14 days forward.

Note 5: While a CP's collateral held by ERCOT for activity in the ERCOT market is expected to increase as a result of their increased activity, CPs will likely experience some level of offset as a result of a decrease in collateral posted for bilaterals. The degree of offset is not known and the net impact will vary by CP. Amounts included above are indicative only.

Note 6: Increased levels of collateral held at ERCOT as a result of overall higher levels of activity in the ERCOT market has the potential to reduce possible losses in default scenarios.



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# 8. Nodal Credit Risk Profile and Status: Summary Cheryl Yager

### **For Counter-Parties**

Increased collateral posted with ERCOT as a result of increased ERCOT activity in the DAM will likely be offset to some degree by reduced collateral posting with 3<sup>rd</sup> parties. The degree of offset is not known and the net impact will vary by CP.

# For the ERCOT market

Increased CP activity (and exposure) in the ERCOT market is expected to increase the level of collateral held by ERCOT and has the potential to decrease losses in the Nodal market



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# 9. CWG Status Update: Executive Summary Tamila Nikazm

**Open items - primary remaining issues to be resolved** 

- 1. CMM (Core) credit calculation TPE/ACL
  - Ongoing concern with extreme data in the credit calculations
    - Review in process
- 2. DAM credit constraint
  - Credit constraint 95<sup>th</sup> percentiles over the past 30 days
  - Credit consumption over Non-Business Days
    - Resolution pending
  - Ability to shadow DAM exposure calculation

# 3. CRR auction credit constraint

- Changes to two factors (adder (A) and multiplier (M)) being discussed
  - Expect to have a recommendation for Board consideration at the October BOD meeting



# 9. CWG Status Update: CMM (Core) Credit Calculation – TPE/ACL Tamila Nikazm

- Through the month, have continued to have problems with the Market Trials data flowing into the Core Credit Calculations
  - High Prices and volume in RTM impact liability in the Core Calculation
  - Significant volume in Real Time
  - High exposures result in extremely high collateral requirements
- For 168-hour test, ERCOT eliminated Market Trials data prior to operating day September 9<sup>th</sup> to provide CPs the opportunity to size "core" collateral obligations given Go-Live market conditions using the following assumptions:
  - CPs operate "normally" during the 168-hour test (utilize Energy Trades and exercise Realistic DAM bids/offers)
  - Nodal RT activity flows into the calculation beginning with operating day September 9<sup>th</sup>
    - RT activity (price & volume) equals Zonal BES activity on September 8<sup>th</sup>



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# 9. CWG Status Update: DAM Credit Constraint – 95<sup>th</sup> Percentile Over the Past 30 Days

- <u>Background</u>: In the DAM, collateral is held for potential exposure for certain items as follows:
  - Pre DAM Exposure Processing: (1) Energy Only Offers at the 95<sup>th</sup> percentile of the RT DA spread, (2) PTP Bids at the 95<sup>th</sup> percentile of the positive spread between the source and the sink RT SPP
  - <u>Non-Business Days Post DAM Exposure (See page 5 for more details)</u>: (1)
     Cleared Offers (TPO & EOO) at the 95<sup>th</sup> percentile of the positive RT DA spread,
     (2) Cleared PTP Bids at the 95<sup>th</sup> percentile of the positive spread between the source and the sink RT SPP
- <u>Reason for Concern</u>: High prices experienced in Market Trials have caused the 95<sup>th</sup> percentile difference applied to above items to be very high (e.g. more than \$1,000 per MWh)
- <u>For the 168-hour test:</u> ERCOT placed a \$20 cap on the 95<sup>th</sup> percentile exposure for the items above
  - Key assumption: In normal Nodal activity, there will be significant convergence between Day-Ahead and Real-Time Markets
- <u>Concern</u>: the 95<sup>th</sup> percentile over 30 days allows for only 1 outlier in 30 days and extrapolates between the 1<sup>st</sup> and 2<sup>nd</sup> occurrence. To the extent there is not convergence or if there are more outliers, collateral requirement could be significant.



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# 9. CWG Status Update: DAM Credit Constraint – Non-Business Day – Problem Identified

Background: DAM ran for the first time over Non-Business Days with a credit constraint on the weekend of August 14-16

Problem: A significant amount of credit was consumed; some CPs were constrained in the Monday DAM (95<sup>th</sup> percentile issue from page 4 is a piece of the problem)

<u>Reason for Problem</u>: Since Nodal Protocols do not specify a separate approach to be used for calculating cleared DAM exposure on Non-Business Days, ERCOT followed the same approach used to clear bids and offers (prior to NPRR 206), outlining its approach in a white paper, when it designed the DAM system (in which this logic runs).

### Key drivers include:

- Methodology impact ACL is not updated during the weekend for a) the cleared DAM positions and b) RTM activity and the DAM collateralization parameters hold for potential risk (e.g. not recognizing net risk)
- Data impact very high values used for the 95% price differences between RTM and DAM applied to Energy Only Offers and Three Part Offers arising from very high prices experienced
  - Results due to unusual Market Trials data
  - Not expected to be the norm after Go-Live



- 9. CWG Status Update: DAM Credit Constraint Non-Business Day Proposed Revision to Methodology
- ERCOT staff worked with CWG/MCWG to develop proposal that could be implemented prior to Go Live
  - TAC approved proposed revisions to how DAM handles Non-Business Days on Thursday September 2, 2010 as follows:
    - 1. ERCOT should reduce exposure from Three Part Offers by the product of DAM clearing price times cleared qty for each cleared transaction
    - 2. No longer increase exposure for Three Part Offers based on the difference between historic DAM and RTM prices
    - 3. Reduce exposure from each cleared Energy Only Offer by the product of DAM clearing price, cleared qty, and e2. e2 is set by ERCOT for each counterparty, and only counterparties with favorable pre-DAM treatment qualify this reduction."
    - 4. Conditioned on the market participants being able to test a DAM weekend prior to Go-Live with these changes."
- TAC also requested that Available Credit Limits be updated over Non-Business
   days
- Both proposals are at CEO review



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# 9. CWG Status Update: CRR Credit Constraint Tamila Nikazm

- CRR Auction credit constraint CWG/MCWG met on Sept 8<sup>th</sup> to discuss possible changes to the Adder (A) and Multiplier (M) factors used in the CRR auction (to provide for ongoing MTM risk)
  - Factors are set by TAC with Board approval (per Protocols)
  - There was general agreement to recommend a change in the Multiplier from "1" to "0" as a correction based on understanding how the auction engine uses the parameters
  - There was some discussion (but no recommendation from the group) about reducing the Adder from \$1.50 to something less
    - Discussion will continue at WMS
  - Something will likely come to the BOD in October on at least a change to the Multiplier
- Difficult to evaluate the reasonableness
  - No historical data yet



Page 82 of 113 Finance & Audit Committee Meeting 9. CWG Status Update: Next Steps Tamila Nikazm

Credit Work Group will:

- Work to resolve last remaining open items
- Review and recommend solutions for any new credit concerns raised in Nodal Trial
- Make recommendation to F&A as to Nodal Credit Readiness by October 2010 Meeting



Page 83 of 113 Finance & Audit Committee Meeting 10. Annual Charter Review and Committee Structure (Vote) Clifton Karnei

- ERCOT staff has reviewed the F&A Committee Charter and has included proposed edits
- F&A Charter with proposed edits is attached as a separate document for your use in conducting the annual review.
- Discussion and recommendation on Committee structure and Charter changes (Vote)



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### THE ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC. FINANCE & AUDIT COMMITTEE CHARTER

### **Purpose**

The Finance and Audit Committee (the "Committee") of the Board of Directors of ERCOT (the "Company") shall:

- 1. Oversee the development of and adherence to a Company budget;
- 2. Provide recommendations to the Board of Directors for financing Company needs, including both debt and revenue financing;
- 3. Review and make recommendations to the Board of Directors regarding investment and financial guidelines for the Company;
- 4. Review and make recommendations to the Board of Directors regarding credit standards, procedures, governance, ERCOT Protocols and other market rules which impact credit risk;
- 5. Ensure that the Company's financial statements are timely audited by qualified accountants who are independent;
- 6. Assist the Board of Directors in fulfilling its oversight responsibility with respect to the Company's maintenance of an effective internal audit function;
- 7. Establish and maintain procedures for the receipt (including anonymous submission), retention and treatment of complaints regarding accounting, internal controls, and auditing;
- 8. Perform such other duties and responsibilities enumerated in and consistent with this Charter.

The Committee's function is one of oversight, recognizing that the Company's management is responsible for preparing the Company's financial statements, and the independent auditor is responsible for auditing those statements. In adopting this Charter, the Board of Directors acknowledges that the Committee members are not employees of the Company (with the exception of ERCOT's Chief Executive Officer) and are not providing any expert or special assurance as to the Company's financial statements or any professional certification as to the external auditor's work or auditing standards. Each member of the Committee shall be entitled to rely on the integrity of staff and external auditors to provide accurate, complete financial and other information to the Committee, absent actual knowledge to the contrary, and shall also exercise their fiduciary duties as Directors, including their duties of care, loyalty, and obedience.

While the Committee has the responsibilities, duties and powers set forth in this Charter, it shall be the responsibility and duty of the Company's management and independent auditor, and not the responsibility or duty of the Committee, to plan or conduct audits, to make any determination that the Company's financial statements are complete, accurate and in accordance with generally accepted accounting principles, and to assure compliance with laws, regulations and the Company's ethics policies. It is the responsibility of the Committee to conduct investigations and resolve disagreements regarding financial reporting, if any, between management and the independent auditor.

The Committee shall provide assistance to the Board in fulfilling its oversight responsibility relating to the Company's financial statements and the financial reporting process, the systems of internal accounting and financial controls, the annual independent audit of the Company's

financial statements and the legal compliance and ethics programs as established by management and the Board. In so doing, it is the responsibility of the Committee to maintain free and open communication between the Committee and the Company's independent auditors, internal accounting personnel and management.

### **Membership**

The Committee shall be comprised of at least five Board members, at least three of which are from Market Segments and two or more of which must be Independent Board members of the Company. Each Member must be able to read and understand fundamental financial statements, including the balance sheet, income statement and cash flow statement. At least one Member shall be designated a "financial expert" as such term may be defined from time to time by the Board of Directors consistent with definitions generally accepted by the accounting industry or other regulatory authorities (the "Financial Expert"). At a minimum, the Financial Expert must have past employment experience in finance or accounting, requisite professional certification in accounting or any other comparable experience or background which ensures the individual's financial sophistication, including a past or current position as a Chief Executive Officer ("CEO"), Chief Financial Officer ("CFO") or other senior officer with financial oversight responsibilities.

The Board members shall decide from among themselves who shall participate in the Committee. The term shall be for not more than one year.

The Chair of the Committee shall be selected through a majority vote of the Committee members. The Committee Chair shall not be the CEO of the Company and shall have accounting or related financial management expertise.

Any member of the public may attend and participate in the open session of Committee meetings. For the executive session of Committee meetings, the Committee shall close the Committee meeting to the public to address sensitive matters such as confidential personnel information, contracts, lawsuits, competitively sensitive information, or other information related to the security of the regional electrical network. For such executive sessions of Committee meetings, the Committee may request that any officers or employees of the Company, or any other person, whose advice and counsel are sought by the Committee requests. In addition, for such executive sessions of the Committee meetings, the Committee meetings, the Committee meetings, the Committee sessions of the Committee meetings, the Committee sessions of the Committee meetings of the Representative sessions of the Committee meetings, the Directors' Segment Alternates or the Directors' Designated Representatives.

Board members (other than Committee members) including Board member alternates may attend and participate in all Committee meetings but may not participate in Committee voting.

### **Qualifications**

Each member of the Committee shall also meet any experience requirements as may be established from time to time by the Board of Directors. The Board of Directors shall endeavor to appoint at least one member to the Committee as the Financial Expert.

### **Authority**

In discharging its oversight role, the Committee is empowered to investigate any matter brought to its attention with full access to all books, records, facilities and personnel of the Company and the power to retain outside counsel or other experts for this purpose. All employees are directed to cooperate as requested by the Committee or any of its Members for Committee purposes. The Committee may request any officer or employee of the Company, the Company's outside counsel or the Company's independent auditor to attend a meeting of the Committee or to meet with any Member or any consultants to the Committee.

The Director of Internal Audit is the Chief Audit Executive at the Company. The Company's Chief Audit Executive shall report directly to the Committee. For administrative purposes, the Chief Audit Executive shall report to the CEO. The Committee shall approve an Annual Internal Audit Plan prepared by the Chief Audit Executive. The Chief Audit Executive shall (1) manage the execution of the Annual Internal Audit Plan, (2) conduct investigations at the direction of the Chair and the Committee, and (3) make periodic reports to the Committee at regularly scheduled Committee meetings and as otherwise directed by the Chair and the Committee.

The Committee may appoint workgroups or task forces to investigate issues defined by the Committee. Members of such workgroups or task forces need not be Directors. Such workgroups or task forces shall have no authority to bind the Committee or the Company.

### **Structure**

The presence of at least half of the members of the Committee who are duly assembled to conduct authorized business of the Committee shall constitute a quorum. At any meeting at which a quorum exists, the act of a majority of the members present at a meeting shall be the act of the Committee. For the purposes of voting, members who recuse themselves from voting on an issue shall not be counted as present for that vote.

The Chair, in consultation with the CFO, shall develop the agenda, the frequency, and length of meetings and shall have unlimited access to management and information for purposes of carrying out functions of the Committee. The Chair shall establish such other rules, as may from time to time be necessary and proper for the conduct of the Committee.

### **Duties and Responsibilities**

The following shall be the prominent recurring duties and responsibilities of the Committee in carrying out its oversight functions. The duties and responsibilities are set forth below as a guide to the Committee with the understanding that the Committee may alter or supplement them as appropriate under the circumstances to the extent permitted by applicable law, and by the Company's Articles of Incorporation and Bylaws:

### With respect to budget oversight and financing:

1. Annually, on a schedule to be established by the Board of Directors, the Committee shall review staff's proposed budget for the following year, including proposed staffing levels, proposed capital expenditures, and other proposed expenditures.

- 2. The Committee shall review the staff's recommendation of the amount and type of financing needed, both revenue and debt financing, to support the proposed budget, including the staff's proposed financial performance measures (e.g. ratios).
- 3. Following the Committee's review of the above items, the Committee shall recommend to the Board of Directors a staffing level, a proposed budget, proposed fees, and proposed financial performance measures for the following year.
- 4. As needed, the Committee shall review staff's recommendations among debt financing alternatives and recommend to the Board of Directors a debt structure or facility that meets the Company's liquidity needs.

# With respect to maintaining investment and financial guidelines for the Company, the Committee shall:

1. Establish standards by which the Company will invest funds and maintain its financial health/strength and review these standards at least annually, recommending updates to the Board of Directors as needed.

### With respect to the Company's credit policies and standards:

- 1. Establish a standard by which the Board will seek to maintain the long-term financial integrity of the ERCOT market and review this standard at least annually, recommending updates to the Board of Directors as needed.
- 2. The Committee shall review the Company's credit policies to consider:
  - a. Appropriateness of credit practices and creditworthiness standards established for market participants;
  - b. Compliance with existing creditworthiness standards by market participants;
  - c. Compliance with credit-related Protocols and market rules; and
  - d. Development of appropriate methods to evaluate and mitigate credit risk;
- 3. In establishing or reviewing the standard under Item 1 above and in conducting the review under Item 2 above the Committee shall consider the recommendations of staff and the Credit Work Group and the decisions and recommendations of the appropriate stakeholder groups, including the Technical Advisory Committee and the Market Credit Work Group.
- 4. Following each such review, the Committee may, in its discretion, recommend to the Board of Directors any proposed changes to the previously approved standard or credit policies.

### With respect to the independent auditors:

- 1. Annually, the Committee shall recommend to the Board of Directors the selection and engagement of the Company's independent auditor. The Committee shall fulfill the oversight responsibility of the Board of Directors with respect to the independent auditors' audit of the books and accounts of the Company and for the fiscal year for which it is appointed.
- 2. The Committee shall approve the provision of all auditing and non-audit services (in excess of \$5,000) by the independent auditor to the Company in advance of the provision of those services and shall also approve the fees for all non-audit services provided by the independent auditor.
- 3. Provision of non-audit services of less than or equal to \$5,000 by the independent auditor to the Company do not require pre-approval from the Committee, but shall be communicated in writing to the members of the Committee at the first meeting following the engagement for the non-audit services at issue.

- 4. In connection with the Committee's approval of non-audit services, the Committee shall consider whether the independent auditor's performance of any non-audit services is compatible with the external auditor's independence.
- 5. At least annually, the Committee shall obtain and review a report by the independent auditor describing:
  - a. the independent auditor's internal quality control procedures;
  - b. all relationships between the independent auditor and the Company, in order to assess the auditor's independence.
- 6. The Committee shall also review any report by the independent auditor describing:
  - a. significant accounting policies and practices used by the Company;
  - b. alternative treatments of financial information as required to be discussed by the independent auditors with the Committee; and
  - c. any other material written communication between the independent auditors firm and the Company's management.
- 7. Establish the Company's hiring policies for employees who are former employees of the Company's independent auditors.

### With respect to the Company's financial statements:

- 1. The Committee shall discuss the annual audited financial statements with management and the independent auditor, including the Company's disclosures.
- 2. The Committee shall review disclosures made to the Committee by the Company's CEO and CFO about any significant deficiencies in the design or operation of the internal controls or material weaknesses therein and any fraud involving management or other employees who have a significant role in the Company's internal controls.
- 3. In connection with its review of the Company's financial statements, the Committee shall review and discuss with the independent auditor the matters relating to the conduct of the audit as they may be modified or supplemented, including, but not limited to, significant judgments, significant estimates, critical accounting policies, and unadjusted differences.
- 4. Review major changes to the Company's auditing and accounting principles and practices as suggested by the independent auditor, internal auditors or management.
- 5. Review with management and the independent auditor any correspondence with regulators or governmental agencies and any employee complaints or published reports that raise material issues regarding the Company's financial statements or accounting policies.
- 6. Review with management and the independent auditor the effect of regulatory and accounting initiatives as well as off-balance sheet structures on the Company's financial statements.
- 7. Review any and all press stories that relate to the Company's accounting and disclosure, require that management or the auditor explain any negative comments and determine whether these comments necessitate a change in the accounting structure of the Company.
- 8. Based on its review and discussions with management, the Chief Audit Executive and the independent auditor, the Committee shall provide a recommendation to the Board of Directors whether the Company's financial statements should be accepted.

### With respect to periodic reviews and reports:

1. Periodically, the committee shall meet separately with senior management, the Chief Audit Executive and the independent auditors.

- 2. The Committee shall review with the independent auditor any audit problems or difficulties and management's response to them.
- 3. The Committee shall review the Company's policies with respect to risk assessment and risk management.
- 4. The Committee shall inquire of management and the independent auditors about significant risks or exposures to the Company and the Company's market and assess the steps management has taken to minimize such risks.
- 5. The Committee shall establish procedures for:
  - a. The receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters; and
  - b. The confidential, anonymous submission by the Company's employees of concerns regarding accounting or auditing matters.
- 6. The Committee shall review a summary of the Company's dealings with any financial institutions that are also market participants.
- 7. The Committee shall communicate to the Board of Directors the matters discussed at each meeting of the Committee, including any issues with respect to the quality or integrity of the Company's financial statements, the performance and independence of the Company's independent auditors or the performance of the internal audit function.
- 8. The Committee shall review and assess the adequacy of this Charter annually and recommend any proposed changes to the Board of Directors.

### With respect to Internal Audit:

- 1. The Committee shall review with management and the Chief Audit Executive the charter, activities, staffing, and organizational structure of the internal audit function.
- 2. The Committee shall have final authority to review and approve the Annual Internal Audit Plan and all major changes to the Plan.
- 3. The Committee shall review, considering the recommendations of the independent auditors and the CFO, the scope of the Internal Audit Plan and the plan of work to be done by the Company's Internal Audit Department, and the results of such work.
- 4. The Committee shall review the significant reports to management prepared by the Internal Audit Department and management's responses.
- 5. The Committee shall ensure there are no unjustified restrictions or limitations, and review and concur in the appointment, replacement, or dismissal of the Chief Audit Executive.
- 6. The Committee shall, at least once per year, review the performance of the Chief Audit Executive and concur with the annual compensation and salary adjustment.
- 7. The Committee shall review the adequacy and effectiveness of the internal audit function, including compliance with The Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*.
- 8. The Committee shall, on a regular basis, meet separately with the Chief Audit Executive in executive session to discuss any matters that the committee or Internal Audit believes should be discussed privately.

### **Meetings**

The Committee shall meet at least once during each fiscal quarter, and as many additional times as the Committee shall deem necessary or appropriate.

### **Minutes**

The Committee shall designate a secretary, who may be a Committee Member or employee of ERCOT, who shall prepare or cause to be prepared the minutes of each meeting and file such minutes with the corporate records of the Company. The secretary shall send, or cause to be sent, copies of such minutes to each of the Members.

### **Evaluation**

The Committee shall undertake an annual evaluation assessing its performance and, in light of this, consider changes in its membership, charter or procedures. The Committee shall report to the Board the results of its evaluation, including recommended charter, membership and other changes, if any.

- 11. Quarterly Committee Education on Accounting Developments Rebecca Beckham
  - Based on F&A Committee feedback through the annual selfevaluation process as well as a recommendation made by Ernst & Young, ERCOT has implemented a quarterly update of accounting developments.
  - A summary of newly proposed or implemented accounting standards is attached as a separate document, as well as further guidance on the implementation of one proposed standard.



Page 92 of 113 Finance & Audit Committee Meeting

# Finance & Audit Committee Quarterly Update: Accounting developments Third Quarter 2010

Accounting	Summary	Effect on ERCOT	Relevance to F&A
developments			Committee
SSAE No. 16- Reporting on Controls at a Service Organization	<ul> <li>SSAE No. 16 supersedes SAS No. 70, Service Organizations. While similar to SAS 70, the new standard will require changes to service organizations' reporting processes and reports. The most significant changes include:</li> <li>1) A service organization must provide a description of its system (procedures, people, software, data, and infrastructure organized to achieve a specific objective) as designed and implemented.</li> <li>2) Management of the service organization must provide a written assertion communicating the service organization management's responsibility for the description of the system.</li> <li>3) The service organization must support its assertion by identifying the risks that threaten the achievement of the control objectives and determining whether the controls would provide reasonable assurance that those risks would not prevent the control objectives from being achieved.</li> <li>There are also additional changes to the service auditor's responsibilities under the new standard.</li> </ul>	Impact level: Medium The new standard is effective for reports for periods ending on or after June 15, 2011. To meet this effective date, ERCOT will need to review control objectives, review the risk assessment process, compare the current control activities to the risks identified, and consider how management knows that the controls are consistently applied as designed. In the 2011, ERCOT management will need to be in a position to issue a management assertion report about the fairness of the presentation of the description of ERCOT's system and about the suitability of the design and the operating effectiveness of the controls.	No immediate action item is necessary as this is not effective until 2011. However, as this will impact the SAS 70 audit in 2011 as well as some market participants who rely on ERCOT's controls, the F&A Committee may want to receive progress reports from ERCOT staff, understand the risk assessment process, and review the management assertion report to ensure the controls are operating effectively in the new Nodal market.
PCAOB Proposed Auditing Standard- <i>Communications with</i> <i>Audit Committees</i>	<ul> <li>On March 29, 2010, the PCAOB released a proposed auditing standard on <i>Communications with Audit Committees</i>. This new standard expands on existing required communications and proposes certain additional required communications and audit procedures aimed at enhancing communications between the auditors and audit committees.</li> <li>The new proposed communication requirements include communications around: <ul> <li>Establishing a mutual understanding of the terms of the audit</li> <li>Overview of the audit strategy and timing</li> <li>New accounting pronouncements (or assessment of management's communication of pronouncements)</li> <li>Evaluation of the reasonableness of management's process to develop accounting estimates</li> <li>Evaluation of the company's ability to continue as a going concern</li> <li>Evaluation of the adequacy of the two-way communication between the auditor and the audit committee.</li> </ul> </li> </ul>	Impact level: Medium The PCAOB has proposed that the standard be effective for audits of fiscal years beginning after December 15, 2010. The ERCOT accounting staff will evaluate the need for enhanced communication of accounting policies, judgments, and estimates with the audit committee. A copy of the Ernst & Young summary of this topic is attached for further review, and the full PCAOB proposal can be provided upon request.	No immediate action item is necessary as this would not be effective until 2011. However, the F&A Committee should start to examine how the proposed standard may affect their oversight and governance role (heightened need for effective communication with the auditors as well as understanding of current accounting pronouncements and management's accounting estimates and judgments).

# Finance & Audit Committee Quarterly Update: Accounting developments Third Quarter 2010

Accounting	Summary	Effect on ERCOT	Relevance to F&A
developments			Committee
Exposure Draft- Contingencies (Topic 450): Disclosure of Certain Loss Contingencies	<ul> <li>On July 20, 2010, the FASB issued a proposed Accounting Standards Update, <i>Contingencies (Topic 450): Disclosure of Certain Loss Contingencies</i>. The FASB's proposal is intended to enhance the current disclosure requirements for certain loss contingencies and provide qualitative and quantitative information about loss contingencies to enable financial statement users to understand their nature, potential timing, and potential magnitude.</li> <li>To achieve this objective, the following principles would be considered in determining the appropriate disclosures:</li> <li>1) During early stages of a contingency's life cycle, information should be disclosed to help users understand the nature and potential magnitude of a loss contingency. Disclosure shall be more extensive as additional information becomes available.</li> <li>2) Disclosures about similar contingencies may be aggregated so that disclosures are understandable and not too detailed.</li> <li>Public companies would be required to disclose a tabular reconciliation of loss contingencies for which an accrual has been recorded.</li> </ul>	Impact level: Low The FASB plans to issue a final standard during the third quarter of 2010. For non-public companies, the new guidance would be effective for the first annual period beginning after December 15, 2010. For public companies, the guidance would be effective for fiscal years ending after December 15, 2010. The proposed standard would require more detailed disclosure of any loss contingencies for ERCOT. However, as of the 2009 audited financial statements, ERCOT did not have any material loss contingencies to disclose. As of August 31, 2010, ERCOT is not aware of any material loss contingencies.	Informative in nature. If any material loss contingencies develop at ERCOT, these will be discussed with the F&A Committee and included in the annual financial statement disclosures.
Exposure draft- <i>Leases</i>	<ul> <li>On August 17, 2010, the FASB and IASB released a joint proposal that will significantly change the way entities account for leases. This exposure draft, <i>Leases</i>, effectively eliminates off-balance sheet accounting for most leases. As such, all assets currently leased under operating leases would be brought onto the balance sheet, removing the distinction between capital and operating leases. Other impacts to lessee accounting include: <ul> <li>A new asset, representing the right to use the leased item, and a new liability, representing the obligation to pay rentals, would be recognized at cost (present value of the lease payments).</li> <li>The lease term would include optional renewal periods that are "more likely than not" to be exercised.</li> <li>Straight-line rent expense would be replaced by amortization and interest expense, which would result in an acceleration of expense recognition.</li> </ul> </li> </ul>	Impact level: HighThe exposure draft does not propose a specific effective date, but many anticipate the effective date to be no earlier than 2012. The proposal applies to all entities, and pre-existing leases are not expected to be grandfathered.ERCOT will need to evaluate its current operating leases, the most notable of which is the current Met Center lease.Additionally, the proposed standard would require more extensive disclosures focused on qualitative and quantitative information.	No immediate action item is necessary. As of December 31, 2009, ERCOT had future minimum lease payments of \$3 million over the next 5 years. Based on this exposure draft, these lease payments would need to be recorded to ERCOT's balance sheet and the impact would need to be considered for any debt covenants, bank arrangements, revenue requirements, etc. This new accounting treatment could also affect any future leasing decisions made by ERCOT.

# Finance & Audit Committee Quarterly Update: Accounting developments Third Quarter 2010

Accounting developments	Summary	Effect on ERCOT	Relevance to F&A Committee
Exposure Draft- Revenue Recognition (Topic 605): Revenue from Contracts with Customers	<ul> <li>On June 24, 2010, the FASB and IASB released an exposure draft, <i>Revenue Recognition,</i> to increase the consistency of revenue recognition for similar contracts and create a single joint revenue recognition standard. This proposed standard is a single, contract-based asset and liability approach in which revenue is recognized when an entity satisfies its obligations to its customers, which occurs when "control" of an asset transfers to the customer (whereas current guidance focuses on the earnings process and the transfer of "risks and rewards").</li> <li>The proposed standard applies the following five steps: <ul> <li>Identify the contract with the customer</li> <li>Identify the separate performance obligations in the contract</li> <li>Determine the transaction price</li> <li>Allocate the transaction price to the performance obligations is satisfied</li> </ul> </li> </ul>	Impact level: Medium The Boards expect to issue the final standard in 2011 with a likely effective date no earlier than 2014. Full retrospective application will be required. ERCOT will need to evaluate its current revenue streams and contracts, but this proposed standard is not expected to have a material impact on ERCOT's revenue recognition.	Informative in nature. If this proposed standard has a material impact on ERCOT's revenue recognition policy, this will be communicated to the F&A Committee to ensure all affected areas are considered.
Exposure Draft- Comprehensive Income (Topic 220): Statement of Comprehensive Income	On May 26, 2010 the FASB issued a proposed Accounting Standards Update, <i>Comprehensive Income (Topic 220): Statement of</i> <i>Comprehensive Income</i> , which would require most entities to provide a new primary financial statement (statement of comprehensive income). This new statement would replace the current income statement and would present subtotals for net income and other comprehensive income in a single continuous statement. This new presentation would not change the components of net income or other comprehensive income, and earnings-per-share would continue to be based on net income. The IASB also issued a similar proposed amendment, so these proposals are intended to improve consistency in how comprehensive income is presented under the two frameworks.	Impact level: Low The FASB plans to issue a final standard in 2011. The new statement would be required for all entities that provide a full set of financial statements, but not- for-profit entities are outside the scope of this proposed statement.	Informative in nature.

### Finance & Audit Committee Quarterly Update: Accounting developments Third Quarter 2010

Accounting developments	Summary	Effect on ERCOT	Relevance to F&A Committee
Exposure Draft- Fair Value Measurements and Disclosures (Topic 820)- Amendments for Common Fair Value Measurements and Disclosure Requirements in U.S. GAAP and IFRSs	On June 29, 2010, the FASB issued a proposed Accounting Standards Update on fair value measurements with the intent of more closely aligning the FASB and IASB's fair value measurement and disclosure guidance. The primary proposed changes center on the valuation premise and concept of highest and best use as well as additional disclosure requirements. With this new proposal, the FASB and IASB are one step closer to convergence, but there still remain two key differences between each Board's guidance (related to day one gains and losses and measuring the fair value of alternative investments).	Impact level: Low The FASB expects to issue a final standard in early 2011. ERCOT will need to evaluate the impact of this proposed standard on any fair value disclosures included in the notes to the financial statements as well as review the impact on any items measured at fair value. Currently, ERCOT uses fair value as a measurement for interest rate swaps and investments and in any necessary impairment analysis of property and equipment. ERCOT does not expect the impact to be material.	Informative in nature.
Proposed convergence- Financial Statements	The FASB and IASB published a staff draft of an exposure draft in July 2010 that proposes changes to the presentation of financial statements. The Boards' tentative conclusions reflect a new format for financial statements that focuses on cohesiveness and disaggregation of information. The proposal would require that assets, liabilities, income, and expenses be classified as business (further broken out between operating and investing activities) or financing activities. Additionally, companies would be required to provide more information about significant balance sheet accounts (including a roll-forward presentation of changes in significant line items). The Boards have tentatively concluded that cash flows should be presented using the direct method and that a reconciliation from operating income to net cash from operating activities should be presented.	Impact level: Medium A final standard is expected to be released in the fourth quarter of 2011, but it is not expected to be effective until 2014. The proposal would not apply to not-for-profit entities, but ERCOT staff will need to stay updated on these changes and determine if any changes to ERCOT's financial reporting would be warranted. If implemented, these changes could impact accounting system requirements and processes and controls.	Informative in nature.

#### Defined terms:

FASB- Financial Accounting Standards Board IASB- International Accounting Standards Board PCAOB- Public Company Accounting Oversight Board SSAE- Statement on Standards for Attestation Engagements SAS- Statement on Auditing Standards No. 2010-24 9 April 2010

# Hot Topic

Update on major accounting and auditing activities

# PCAOB proposes auditing standard on communications with audit committees

#### Contents

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#### Background

The Public Company Accounting Oversight Board (the "PCAOB" or the "Board") has proposed for comment a new auditing standard, Communications with Audit Committees<sup>1</sup> that would supersede the interim auditing standard on this topic. The interim standard was written prior to the Sarbanes-Oxley Act of 2002 at a time when management of a listed company, rather than the audit committee, was often responsible for the appointment and compensation of the auditor.

In addition to reflecting in the proposed standard the audit committee's responsibility to oversee the appointment, compensation and retention of the registered public accounting firm, the primary objectives of the new audit standard are to: (1) enhance the relevance and effectiveness of the communications between the auditor and the audit committee, and (2) emphasize the importance of effective, two-way

PCAOB Release No. 2010-001, "Proposed Auditing Standard Related to Communications with Audit **Committees and Related Amendments to Certain** PCAOB Auditing Standards," 29 March 2010. Available at http://pcaobus.org/Rules/Rulemaking/ Docket030/Release\_No\_2010-001.pdf.

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communications between the auditor and audit committee to better achieve the objective of the audit.

The proposed standard expands on the existing categories of required communications and adds new required elements to others. The Board believes the additional communications are important in the current environment, where accounting standards increasingly require management to make significant judgments and estimates as part of financial reporting and auditors rely more heavily on risk-based audit methodologies. The Board also believes the expanded communications will provide the audit committee enhanced understanding of the auditor's assessment of risks in the financial reporting process and permit the audit committee to share its insights in ways that might benefit the audit.

For example, the proposed standard places greater importance on audit committees not only understanding what accounting policies, practices, and estimates are used to prepare the financial statements, but also understanding the underlying management judgments and assumptions. The Board believes an open discussion of the company's policies, practices and the

critical accounting estimates as well as the auditor's evaluation of them may provide audit committees with knowledge of the potential variability that exists in those assumptions made and with an enhanced understanding of the risks of material misstatement.

Some audit committees will find a degree of comfort in the expanded requirements as they will provide a more detailed description of the desired interaction among audit committees and auditors from the perspective of the PCAOB and the SEC. Other audit committees may dislike the fact that additional communication requirements will be put in place through an auditing standard. The Board acknowledges in the proposed standard it is likely most effective when management communicates its policies, practices, judgments and estimates and the auditors provide their views on those matters, rather than the auditor communicating the company's policies, practices, judgments and estimates. As a result, audit committees can reasonably anticipate that management, to the extent it does not already do so, will need to develop and present additional information to the audit committee so that the audit committee and the auditors can conclude that the additional required communications have been made.

Audit committees are encouraged to share their views on the proposed standard with the PCAOB. The Board's comment period for the proposed standard runs through 28 May 2010. If adopted, the proposed standard would be effective for audits of issuers with fiscal years beginning after 15 December 2010. The remainder of this article describes the new requirements that are included in the proposed standard.

#### Summary of required communications in the proposed standard

#### General matters

- Significant issued discussed with management prior to the auditor's appointment or retention
- Establishing a mutual understanding of the terms of the audit (expanded)
- Overview of the audit strategy and timing of the audit (new)

#### Matters arising from the audit

- Accounting policies, practices and estimates (expanded)
- Auditor evaluation of the quality of the company's financial reporting (expanded)
- The auditor's responsibility for other information in documents containing audited financial statements
- Management consultations with other accountants
- Going concern matters (new)
- Corrected and uncorrected misstatements
- Departure from the standard auditor's report (new)
- Disagreements with management
- Difficulties encountered in performing the audit
- Other matters (new)

#### Communications with audit committees required by other PCAOB standards or rules

- Significant deficiencies and material weaknesses in internal control over financial reporting
- Management's representations
- Audit committee pre-approval of services
- Communication of independence matters
- Fraud and illegal acts involving senior management and fraud and illegal acts that cause a material misstatement of the financial statements
- Sensitive accounting estimates, including fair value measurements
- Communications in connection with reviews of interim financial information

# Summary of new communication requirements

While retaining substantially all of the matters requiring communication in the current auditing standards, the proposed standard adds several new matters – overview of the audit strategy and timing of the audit, going concern matters, departure from the standard auditor's report, and other matters. Additionally, for certain of the required communications, the proposed standard expands the matters to be communicated. The new and expanded required communications are further discussed below:

# Establishing a mutual understanding of the terms of the audit

In considering the audit committee's responsibility to oversee the appointment, compensation, and retention of the auditor, the proposed standard requires the auditor to establish a mutual understanding of the terms of the audit engagement with the audit committee. The nature of these communications (e.g., what is the scope of an audit and auditor responsibilities) have been retained from interim standard AU 310, Appointment of the Independent Auditor, except the proposed standard requires that the auditor establish the understanding specifically with the audit committee, not management. The proposed standard requires the auditor to document the understanding of the terms, as well as the objective of an audit and the responsibilities of the auditor and management, in the engagement letter and provide a copy of the engagement letter to the audit committee annually.

# An overview of the audit strategy and timing

The proposed standard requires the auditor to communicate an overview of the audit strategy, including:

a discussion of the significant risks identified by the auditor

- consideration and planned use of persons with specialized skill or knowledge
- planned use of the entity's internal audit function
- the roles, responsibilities, and location of firms participating in the audit
- the basis for the auditor's determination that he or she can serve as principal auditor
  - the timing of the audit

The proposed standard also includes a requirement for the auditor to communicate, in a timely manner, significant changes to the planned audit strategy or the significant risks initially identified that may occur during the audit due to the results of audit procedures or in response to external factors, such as changes in the economic environment.

#### Accounting policies and practices

As part of communicating about accounting policies and practices, the proposed standard includes a new requirement for the auditor to communicate or determine whether management has adequately communicated to the audit committee the anticipated application of new accounting or regulatory pronouncements that are not yet effective, but which may, upon adoption, have a significant effect on the entity's financial reporting. Such discussions may allow the audit committee time to properly consider the effects on future financial statements as well as ramifications on the financial reporting process. Additionally, the proposed standard requires the auditor to communicate significant accounting matters on which the auditor has consulted outside the engagement team (e.g., firm's national office or industry specialists). The Board states this information will benefit the financial reporting process by providing the audit committee with information about complex transactions that may be high risk or controversial; however, it may be argued

that such communications already occur when the auditor discusses his or her views about the quality of the company's significant accounting practices for significant unusual transactions and for controversial or emerging areas.

#### **Accounting Estimates**

As part of communicating about accounting estimates, the proposed standard requires the auditor to communicate his or her evaluation regarding the reasonableness of the process used by management to develop critical accounting estimates and the basis for the auditor's conclusions regarding the reasonableness of those estimates. In addition to communicating the auditor's views on critical accounting estimates, the proposed standard requires the auditor to communicate or determine whether management has adequately communicated to the audit committee the following additional information about critical accounting estimates:

- How management subsequently monitors critical accounting estimates
- Management's significant assumptions used in critical accounting estimates that have a high degree of subjectivity
- A discussion of any significant changes to assumptions or processes made by management to the critical accounting estimates in the year under audit, the reasons for the changes, the effects on the financial statements, and the information that supports or challenges such changes

When critical accounting estimates involve a range of possible outcomes, how the recorded estimates relate to the range and how various selections within the range would affect the company's financial statements

#### **Going concern matters**

The proposed standard requires the auditor to communicate to the audit committee certain matters, when applicable, relating to his or her evaluation of the company's ability to continue as a going concern. While the proposed standard identifies this as a new requirement, separate communication requirements related to the auditor's evaluation under AU section 341, The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern, remain unchanged.

#### Audit report modification

The proposed standard also includes a new requirement for the auditor to communicate to the audit committee his or her plans to modify the opinion in the auditor's report or to add an explanatory paragraph, so that the audit committee can review and understand the reasons for those modifications.

#### **Other Matters**

The proposed standard includes a new requirement for the auditor to communicate other matters arising from the audit that are significant to the oversight of the financial reporting process, including complaints or concerns raised regarding accounting or auditing matters not previously reported or discussed with the audit committee.

#### Adequacy of the two-way communication process

The proposed standard includes a new requirement for the auditor to evaluate whether the two-way communications between the auditor and the audit committee have been adequate to support the objective of the audit. The proposed standard indicates the auditor should base the evaluation on observations resulting from his or her interactions with the audit committee throughout the audit process.

#### Next steps

While the proposed requirements would not be effective until 2011 for calendar year-end companies, audit committees may want to start now to examine (whether as a part of their self-assessment process or separate initiative with their auditors) how the proposed standard may affect their oversight and governance role. Audit committees are encouraged to share their views on the proposed standard with the PCAOB. The deadline for comments on the proposed standard is 5:00 p.m. EST on 28 May 2010.

#### Questions for the audit committee to consider

- Does the audit committee believe that communications with the auditor could be improved? If so, has the committee assessed how to improve these communications?
- Should management or the auditor be doing more to inform the committee about critical accounting practices, estimates and judgments?
- Is the committee spending enough time to understand and evaluate the company's critical accounting policies?

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- 11. Quarterly Committee Education on Accounting Developments Rebecca Beckham
  - Communication of accounting judgments applied in Q3 2010:
    - Presentation of revenue and expense related to ERCOT's ERO billing on behalf of NERC and Texas RE: this revenue and expense should be presented gross as opposed to net, now that Texas RE is a separate entity
    - Presentation of the Texas RE divestiture on the ERCOT financial statements: the net impact of the divestiture is a reduction of "unrestricted net assets" on the Statement of Financial Position and is classified as a "distribution of net assets" on the Statement of Activity
    - Proper unitization of Nodal capital assets currently classified as "systems under development" once Nodal reaches go-live: this process does not present a material financial statement risk and will be performed by ERCOT staff in Q4 2010
    - Recognition of new grant revenue from the Department of Energy: should be based on timing of expenditures vs. actual billing and receipt of grant funds



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# **12. Committee Briefs**

# **Q&A only**



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### **ERCOT Market Credit Status**

	as of 7/31/2010					as of 8/31/2010					
	# of QSEs*	Estimated Aggregate Liability (\$)	% of EAL	Total Unsec Credit Limit / Security Posted		# of QSEs*	Estimated Aggregate Liability (\$)	% of EAL	Total Unsec Credit Limit / Security Posted		
Exposure in the ERCOT Market (owed to ERCOT)											
<u>OSEs that meet ERCOT Creditworthiness Standards</u> Ratings over BBB-	12	44,102,613	11%	177,788,772	U	9	40,707,070	9%	150,632,520	U	
<u>QSEs that do not meet ERCOT Creditworthiness Standards</u> Ratings below BBB- or not rated Cash & Letters of Credit Guarantee Agreements	49 21	163,163,643 184,777,701	42% 47%	319,760,936 447,624,868	S S	52 19	182,012,153 223,890,624	41% 50%	311,837,785 448,694,868		
Total Exposure	82	392,043,958	100%			80	446,609,847	100%			
Other QSEs in the ERCOT Market (ERCOT owes) <u>OSEs that meet ERCOT Creditworthiness Standards</u> Ratings over BBB-	6	(1,878,622)	-3%	42,399,656	U	10	(11,703,017)	-14%	75,454,199	U	
<u>OSEs that do not meet ERCOT Creditworthiness Standards</u> Ratings below BBB- or not rated Cash & Letters of Credit Guarantee Agreements	70 8	(48,527,577) (15,479,399)	-74% -24%	94,159,126 84,702,000	S S	73 9	(51,434,742) (17,991,455)	-63% -22%	103,667,393 97,202,000		
Total	84	(65,885,598)	-100%			92	(81,129,214)	-100%		l	
Total	166					172	]				

U: For QSEs that meet ERCOT's Creditworthiness Standards, amount of unsecured credit granted.

S: For QSEs that do not meet ERCOT's Creditworthiness Standards, amount of Security posted.

Note 1: Guarantee Agreements provided to meet a QSE's collateral requirements by entities that meet ERCOT's Creditworthiness Standards. Guarantee Agreements provided to meet financial statement requirements by entities that do not meet ERCOT's Creditworthiness Standards are not included on this schedule.

# 12. Committee Brief ICMP - Status of Open Audit Points Cheryl Moseley



All audit points except 2 are expected to be complete by 1/15/11.



# 12. Committee Brief: ICMP – Audits Cheryl Moseley

# **Audits Completed**

### (last 3 months)

### Internal Audits

- Q1 2010 Fraud Auditing
- Protocol 1.4 Required Audit Independence Verification
- Vendor Assessments (Targeted Review)
- Patch Management and Server Hardening
- Cash and Investments
- Q2 Fraud Auditing

# **Open Audits**

### **Internal Audits**

- Nodal Program Spending (Part 1 of 2)
- Pre-Audit Testing for 2011 Nodal SAS70 Audit
- Access Management for Financial System
- Nodal Program Reporting
   (Special Request)
- 2009 Unaffiliated Board Member Expense Reimbursement (Special Request)
- Protocol Owners (Special Request)

# **Planned Audits**

(next 3 months)

### **Internal Audits**

- Protocol 1.4 Required Audit Ethics
- Employee & Contract Worker Ethics Compliance
- Nodal Program Spending (Part 2 of 2)
- Software License Management
   (Special Request)
- Outage Coordination
- Q3 2010 Fraud Auditing

### **External Audits**

• 2010 Benefit Plan Audit (Maxwell, Locke & Ritter)

### **External Audits**

 2010 Zonal SAS70 Audit (SAS70 Solutions, Inc.)

### **External Audits**



# 12. Committee Brief: ICMP - Security Assessments Cheryl Moseley

# Consultation/Analysis Reports Completed

(last 3 months)

### **Assessments**

Internal Assessment of Cyber
 Vulnerability

# Open Consultation/ Analysis Reviews

**Assessments** 

None

# Planned Consultation/ Analysis Reviews

(next 3 months)

### **Assessments**

1 Assessment planned in Q4



ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC. RISK MANAGEMENT EVENT PROFILE MATRIX (as of September 1, 2010)								
$\bigcirc$	Strategic	Operational Excellence	Market Facilitation	Grid Reliability	Reporting	Legal and Regulatory Compliance		
	Strategy Development	Performance Monitoring	Customer Choice	Grid Operations	Review Practices	Legal & Legislative		
incorporates	jective setting adequately informed stakeholder input, ies and management expertise.	Clearly defined and actively monitored performance metrics linked to mission and goals- Performance status communicated and corrective action taken.	Market design promotes efficient choice by customers of energy providers with effective mechanisms to change incumbent market participants as desired.	Information required to operate the grid is efficiently gathered. Appropriate tools are prudently configured to efficiently operate the system.	Prudent measures are taken to insure that company disclosures are properly vetted and not misleading.	Operations are conducted in compliance with all laws and regulations. Impacts of current and proposed legislation are understood and communicated.		
	Mission and Goals jectives and performance e understood and followed.	Business Practices Business planning, processes and management standards are effective and efficient.	Nodal Implementation Project Nodal Implementation on budget on schedule, and within defined scope.	Planning Long-range planning methods enable efficient responses to system changes that are necessary to maintain reliability standards.	Disclosure Reporting and other disclosures to intended parties is timely, accurate and effective.	Internal Control Compliance Internal Control Compliance processes and management standards are effective, efficient, and provide stakeholders with required assurances of quality.		
organizati completed Project Ma	ompletion of the 2011 budget and on requirements. Efforts are being d for the transformation of the anagement Organization into the Integration Organization.		Full market trials functionality testing continues. 48-hr full system market & reliability test scheduled for 9/12-14. Discussions at NATF to finalize objectives, exit criteria and schedule for 168-hr test. Reporting support for DAM / RUC / SASM continues to be upgraded.	Demand for planning studies continues to grow. ERCOT has received two awards totaling \$3.5 million to produce long-term resource and transmission planning studies in 2011. Hiring is completed. In the scoping phase of the studies. Project completion 2013.		Efforts underway to streamline and increase the effectiveness of ERCOT's internal contro program and integrate it with the company's Enterprise Risk Management program.		
less cost and	Reputation eptions by stakeholders lead to I greater flexibility resulting in terprise value.	Workforce Organization design, managerial and technical skills, bench strength and reward systems aligned with corporate goals.	Maintain credit risk exposure for overall market within acceptable limits.	Market Participants construct and make available adequate bulk electric grid resources.	Communication Internal & external communications are timely and effective.	Industry Standards Business and operational activities in compliance with all applicable regulatory, financial & accounting requirements, standards, & directives		
refocusing continuing budget, 3	ddressing reputation issues by 1) g communication efforts, 2) to complete Nodal on time and on ) preparing a well thought out 2011, and 4) increasing vility.	Implementation of Skillsoft to provide web based e-learning programs has begun, with the goal to have training available to employees by November. Talent Management identification has been completed. Ready to move forward with succession planning and training initiatives once the new organization is put in place.	Credit risk reflected by the PFE model has been fairly consistent over the past year. Color remains yellow pending the review of risk factors (e.g. counterparty probabilities of default, impact of new markets and instruments, collateral levels, price volatility) in the Nodal market requested by F&A.			Still waiting for the final 2009 NERC audit report for the Critical Infrastructure Protection (CIP) portion. For 2010 NERC Audit, ERCOT was found to be fully compliant on the 693 (O/P) standards. CIP status is not determined at this point		
	Fiscal Management equires competent, prudent and provision of services.	Information systems, supporting facilities and data are effectively managed and are reliable.	Administration, Settlement & Billing Market rules fairly applied to all participants. Accounting is timely and accurately reflects electricity production and delivery.	Operational Responsibility Market participant conduct their operations in a manner which facilitates consistent grid reliability.	Adequacy and Integrity Robust processes exist to support management assertions embodied within financial reports.	Evidence, testimony and other supporting materials are compelling and successful.		
positive b million (in	currently forecasting a year-end udget variance around \$11.0 cluding a \$3.4 million one-time from The Reserve).	Systems stable. Sufficient system and computer room capacity exist for Nodal 'go- live'. Austin data center capacity near maximum and may not be able to accommodate additional unforeseen expansion prior to switchover to Bastrop. Capacity requirements are being closely monitored.		There are still uncertainties involved regarding operational impacts of existing and continually increasing amount of intermittent renewable generation on the system. RTWG brought a draft of the Texas Renewables Integration Plan (TRIP) to TAC in August that will provide additional guidance on what those uncertainties are and how to address them.				

# 12. Committee Brief: PMO David Troxtell

# **ERCOT Enterprise Projects Summary Report**



September 21, 2010

Finance & Audit Committee Meeting

- 12. Committee Brief: ERCOT's Contingent Workforce Management Program
  - In December 2007, the Board approved outsourcing of ERCOT's contingent workforce management to Allegis Group Services.
    - Three year contract executed (2008-2010)

# • The goals of the outsourcing program have been realized.

- Active cost management
- Compliance and risk management
- Process improvement and automation
- Workforce quality and fulfillment
- Performance management
- Management has begun the process of renewing the contract with Allegis Group Services.



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ERCOT
Summary of Investments
August 31, 2010
(\$ in 000s)

Investment Account	Investment Type	Operating	Market	Deposit/ Restricted	. <u> </u>	Total	% Investments
Bank of America	Treasury and Repo		\$ 5	\$ 23,000	\$	23,005	15%
BlackRock	Treasury and Repo		3	23,542		23,545	15%
Federated 068	Treasury and Repo	5	88	10,882		10,975	7%
Federated 0125	Treasury only		15	19,001		19,016	12%
Invesco	Treasury and Repo		8	24,014		24,022	16%
JPMorgan	Treasury and Repo	8,817	15,910	4,110		28,837	19%
Wells Fargo	Treasury and Repo		8	23,871		23,878	16%
	Subtotal	\$ 8,822	\$ 16,036	\$ 128,420	\$	153,278	100%
Other cash net of outstanding checks					\$	572	
Total cash and cash equi	ivalents				\$	153,849	

Note:

We are in the process of opening additional accounts in anticipation of increased cash activity for Nodal operations.

# 13. Future Agenda Items: October 2010 Mike Petterson

- Standing Internal Audit agenda items
- Review assumptions and preliminary schedules for the 2011 annual operating budget
- CWG recommendation on market credit readiness for Nodal go-live
- Standing Nodal credit status, including ERCOT recommendation on Nodal go-live for market credit
- Oliver Wyman report on Nodal credit policy and practices
- Review of Investment Corporate Standard
- Appoint the independent auditors for upcoming year
- Approval of independent auditor fees for upcoming year
- Review scope of annual financial audit
- Review of external auditor quality control procedures and independence
- Committee briefs
- Future agenda items



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# 13. Future Agenda Items: F&A 2010 Yearly Schedule Mike Petterson

### **Quarter 1**

 $\sqrt{}$  •Elect officers and confirm financial qualifications

 $\sqrt[]{}$  •Vote on CWG Chair/Vice Chair

### Quarter 2

 $\sqrt{\mathbf{e}}$ Report results of annual independent audit to the Board

 $\sqrt{\mathbf{e}}$  Review the procedures for handling Reporting violations

- $\sqrt{\bullet}$  Review results of annual audit, together with significant accounting policies (including required communications)
- $\sqrt{\cdot}$ Review operating plan and budget assumptions
- $\sqrt{\cdot}$ Review and approve Internal Audit Department Charter
- $\sqrt{-Conduct}$  annual review of insurance coverage(s)
- $\sqrt{\cdot}$ Review the Company's dealings with any financial institutions that are also market participants
- $\sqrt{\cdot}$ Review the Market Credit Risk Corporate Standard

### Quarter 3

- •Appoint the independent auditors for upcoming year
- ·Approval of independent auditor fees for upcoming year
- •Review of committee charter
- •Assessment of compliance, the internal control environment and systems of internal controls
- •Report by CWG Chair on ERCOT credit policy

### Quarter 4

- •Approve audit committee meeting planner for the upcoming year, confirm mutual expectations with management and the auditors
- •Review and approval of Financial & Investment Corporate Standards
- •Review and approval of annual operating budget
- ·Approve scope of internal auditing plan for upcoming year
- •Assessment of the adequacy and effectiveness of the Internal Audit staff
- Perform Finance & Audit committee Self Assessment
- •Review requirements for membership in CWG
- •Review and approve CWG charter
- •Review the Company's dealings with any financial institutions that are also market participants
- •Review scope of annual financial audit
- Review of external auditor quality control procedures and independence

### **Recurring Items**

- •Review minutes of previous meeting
- •Report monthly matters to the Board (chair)
- •Review EthicsPoint activity
- •Review significant audit findings and status relative to annual audit plan
- •Review investment results quarterly



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# 14. Other Business Mike Petterson



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