# ERCOT

**The Human Resources & Governance (HR&G) Committee is expected to consider HR&G Committee Agenda Item 4.3:** *Recommendation regarding Proposed 2016 ERCOT Key Performance Indicators (KPIs)* **at its meeting on December 7, 2015.**

**The Board of Directors is expected to hear the HR&G Committee's recommendation on this matter as part of the HR&G Committee Report at the Board meeting on December 8, 2015.**

**Attached are the Board materials in relation to these agenda items.**

**ERCOT**

**Date:** December 1, 2015
**To:** Board of Directors
**From:** H.B. "Trip" Doggett, President and Chief Executive Officer
**Subject:** 2016 ERCOT Key Performance Indicators (KPIs)

**Issue for the ERCOT Board of Directors**

**ERCOT Board of Directors Meeting Date:** December 8, 2015
**Item No.:** 11.1

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| **Issue:**<br>Whether the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) should approve the 2016 ERCOT KPIs as recommended by ERCOT staff. |
| **Background/History:**<br>The ERCOT leadership team annually develops specific key performance indicators and corresponding target metrics to drive performance of the organization. The indicators, along with their specific measurements are outlined in the 2016 KPIs. The KPIs are reviewed on a quarterly basis and are used to measure the successful performance of the organization. It is important that the leadership team and the ERCOT Board of Directors (Board) are aligned on the specific goals and focus of ERCOT for 2016.<br><br>The Human Resource and Governance (HR&G) Committee is expected to consider whether to recommend that the Board approve the 2016 KPIs as presented at its meeting on December 7, 2015. A copy of the proposed 2016 KPI Matrix is attached hereto as Attachment A. |
| **Key Factors Influencing Issue:**<br>The 2016 KPIs correlate to ERCOT's strategic direction of the Board and provide performance measures to the Board and ERCOT leadership and staff. |
| **Conclusion/Recommendation:**<br>The ERCOT leadership team recommends that the HR&G Committee recommend approval and that the ERCOT Board approve the 2016 KPIs as presented. |

# ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.
## BOARD OF DIRECTORS RESOLUTION

WHEREAS, after due consideration of the alternatives, the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) deems it desirable and in the best interest of ERCOT to accept the recommendations of ERCOT staff and the Human Resources and Governance Committee to approve the 2016 ERCOT Key Performance Indicators (KPIs) attached hereto as Attachment A; and

THEREFORE, BE IT RESOLVED, that the 2016 ERCOT KPIs, attached hereto as Attachment A, are hereby authorized and approved.

## CORPORATE SECRETARY'S CERTIFICATE

I, Vickie G. Leady, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its December 8, 2015 meeting, the ERCOT Board passed a motion approving the above Resolution by _____.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of December, 2015.


_____
Vickie G. Leady
Assistant Corporate Secretary

| KPI Identifier | Executive | Capability | KPI Description | Target | Stretch | Comments |
|---|---|---|---|---|---|---|
| RG 1 | Rickerson, Woody | Grid Security Management / Real Time System Control / Scheduling & Dispatch | Control Performance Standard 1 (CPS1) frequency control performance (rolling 12 month CPS1 score). | > 140 | > 150 | |
| RG 2 | Rickerson, Woody | Grid Security Management / Real Time System Control / Scheduling & Dispatch | Interconnection Reliability Operating Limit (IROL) exceedance limitations. | None longer than 20 minutes | None longer than 10 minutes | |
| RG 3 | Rickerson, Woody | Outage Coordination / Planning | Outage Coordination performance: requests approved or denied within timeline and with mitigation plans developed if required. | 97% | 99% | |
| RG 4 | Rickerson, Woody | Forecasting | Operations Load Forecast performance - Mean Average Percent Error (MAPE): monthly average day ahead load forecasts used for DRUC MAPE. | All less than 4.0% | All less than 3.5% | |
| RG 5 | Rickerson, Woody | Forecasting | Wind forecast performance - MAPE based on installed wind capacity: monthly average day ahead wind forecasts used for DRUC MAPE. | All less than 15% | All less than 10% | |
| RG 6 | Day, Betty | ~~Compliance Monitoring & Reporting~~ | ~~Achieve full compliance with NERC/FERC planning and operating standards, OPS, Protocols.~~ | ~~No more than 1 high severity and no more than 3 total exceptions from NERC Standards as found in a NERC Compliance Audit excluding current registration mitigation plan regarding TOP.~~ | ~~No exceptions from NERC Standards as found in a NERC Compliance Audit.~~ | Replace - see additions below |
| RG 7 | Day, Betty | ~~Compliance Monitoring & Reporting~~ | ~~Assure property, personnel, and cyber assets are protected (cyber and physical) in accordance with NERC CIP Standards and SSAE16 Controls.~~ | ~~No more than 1 high severity and no more than 3 total alleged violations from NERC Standards as found in a NERC or TRE initiated CIP CMEP in 2015.~~ ~~SSAE16 - No more than 1 exception in logical or physical security controls and an unqualified opinion in logical or physical security controls.~~ | ~~No alleged violations from NERC Standards as found in a NERC or TRE initiated CIP CMEP in 2015.~~ | Replace - see additions below |
| RG 8 | Dreyer, Jerry | ~~IT Application Services~~ | ~~Energy Management System Aggregate Availability~~ | ~~99%~~ | ~~99.5%~~ | Replace - see additions below |
| RG 9 | Dreyer, Jerry | IT Application Services | Security Constrained Economic Dispatch (SCED) Availability | 99.9% | 99.95% | |

| KPI Identifier | Executive | Capability | KPI Description | Target | Stretch | Comments |
|---|---|---|---|---|---|---|
| RG 10 | Dreyer, Jerry | IT Application Services | Security Constrained Economic Dispatch (SCED): number of unplanned outages greater than 30 consecutive minutes (per quarter) | zero | n/a | |
| RG 11 | Dreyer, Jerry | ~~IT Application Services~~ | ~~Load Frequency Control (LFC) Availability~~ | ~~99.9%~~ | ~~99.95%~~ | Replace - see additions below |
| RG 12 | Dreyer, Jerry | ~~IT Application Services~~ | ~~Load Frequency Control (LFC): number of unplanned outages greater than 30 consecutive minutes (per quarter)~~ | ~~zero~~ | ~~n/a~~ | Replace - see additions below |
| RG 13 | Dreyer, Jerry | IT Application Services | Outage Scheduler Availability | 99% | 99.5% | |
| RG 14 | Dreyer, Jerry | IT Application Services | Network Model Management System (NMMS) Availability. | 99% | 99.5% | |
| RG_i 15 | Dreyer, Jerry | IT Application Services | HRUC executed every hour: percent of complete HRUC's per month, including ones missed due to database loads and site failover. | 99% | 99.5% | |
| RG_i 16 | Dreyer, Jerry | IT Application Services | No loss of VSAT/TSAT application functionality for 30 continuous minutes or longer, excluding invalid solutions due to State Estimator dependencies and planned site failovers. | 3 per Quarter | 1 per Quarter | |
| RG_i 17 | Rickerson, Woody | System Planning | Regional Planning project Review Studies completed on time without substantive error. | 95% complete on time or no more than 1 late if less than 20 projects. | 99% complete on time. | |
| RG_i 18 | Rickerson, Woody | Transmission Connection Management | Generation Interconnection Request (GIR) screening studies completed on time without errors. | 95% completed on time or no more than 1 late if less than 20 GIRs | 100% completed on time | |
| RG_i 19 | Rickerson, Woody | ~~Outage Coordination / Planning~~ | ~~Network model update accuracy~~ | ~~No more than 3 emergency database loads due to staff error~~ | ~~No emergency database loads due to staff error~~ | ERCOT's capabilities of incrementally updating the production CIM model has increased since the start of Nodal mitigating the risk associated with performing emergency database loads. As the last emergency database load was in 2012, ERCOT recommends deleting RG_i19. |
| RG_i 20 | Rickerson, Woody | Compliance Monitoring & Reporting | Required Planning Report performance | No more than two reports required by PUCT Rule, DOE project, NERC or State law filed late or with error. | 100% of reports required by PUCT Rule, DOE project, NERC or State law completed on time without errors. | |

| KPI Identifier | Executive | Capability | KPI Description | Target | Stretch | Comments |
|---|---|---|---|---|---|---|
| EM 1 | Ogelman, Kenan | Bidding, Scheduling & Pricing | DAM quality of solution as measured with price corrections: percent of hourly prices requiring DAM price correction. | 1-3 % of time | < 1 % of time | |
| EM 2 | Ogelman, Kenan | Bidding, Scheduling & Pricing | SCED solution is solved and posted: percent of 15-minute Settlement Interval prices where price corrections are performed. | 0.5% -- 1% | < 0.5% | |
| EM 3 | Ogelman, Kenan | Settlement & Billing | Achieve timely settlements, per Protocol defined timelines. | 99% | 100% | |
| EM 4 | Ogelman, Kenan | Settlement & Billing | Perform accurate settlements as measured by the percent of Operating Day and operating month settlement that does not require a correction as a result of an error in the settlement and billing systems or processes. | 98% | 99.9% | |
| EM 5 | Ogelman, Kenan | Market Credit | Credit reports are correct and posted in a timely manner. | 98% | 100% | |
| EM 6 | Gage, Theresa | Market Information | Wholesale extracts available per Protocol timelines | 98% | 99% | |
| EM 7 | Dreyer, Jerry | IT Application Services | Congestion Revenue Rights (CRR) Availability | 99% | 99.5% | |
| EM 8 | Dreyer, Jerry | IT Application Services | Market Management System Aggregate Availability | 99% | 99.5% | |
| EM_i 9 | Ogelman, Kenan | Bidding, Scheduling & Pricing | Percent of days with successful DAM execution solution completed and posted successfully. | 100% | n/a | |
| EM_i 10 | Ogelman, Kenan | Bidding, Scheduling & Pricing | DAM executions completed in acceptable timeframe: percent of days with posting solution before 1600. | 98% | 100% | |
| EM_i 11 | Ogelman, Kenan | Bidding, Scheduling & Pricing | Number of minimum Ancillary Services Requirements posted after the 20th of each month. | ≤ 2 | 0 | As a fraction response is not possible, revise target to less than or equal to 2 instead of less than 2. |

| KPI Identifier | Executive | Capability | KPI Description | Target | Stretch | Comments |
|---|---|---|---|---|---|---|
| EM_i 12 | Ogelman, Kenan | Wholesale Metering, Data Collection & Data Aggregation | AMS interval data is loaded into ERCOT systems by final settlement from the MRE in accordance with Protocols for data loading. | 99% | 99.75% | |
| EM_i 13 | Ogelman, Kenan | Wholesale Metering, Data Collection & Data Aggregation | IDR meter data is loaded into ERCOT systems by true-up settlement from the MRE in accordance with Protocols for settlement. | 99% | 99.75% | |
| EM_i 14 | Ogelman, Kenan | Wholesale Metering, Data Collection & Data Aggregation | EPS meter data is accurate and complete as measured by the percent of data that doesn't change after an initial settlement | 99% | 99.9% | |
| EM_i 15 | Ogelman, Kenan | CRR Management | CRR auctions are performed according to Nodal Protocols Requirements (7.5.1). CRR auctions results are validated and posted as required by the CRR Activity Calendar | All Monthly Auctions and LTASs are posted on time per the CRR Activity Calendar | All Monthly Auctions are posted on time and all LTASs are posted one week earlier than required by the CRR Activity Calendar | |
| EM_i 16 | Gage, Theresa | Dispute Management | Process disputes within protocol timelines | 98% | 100% | |
| EM_i 17 | Gage, Theresa | Client Services | Establish and Maintain ~~Targeted~~ Account Plans and execute per guidelines and schedule. | 98% | 100% | "Targeted" was used when account plans where focused on client support of wholesale market transactions, prior to combining Wholesale and Retail Client Services. ERCOT recommends revising KPI description. |
| EM_i 18 | Gage, Theresa | Account Management | Achieve "Very Satisfied" or "Satisfied" ratings on annual survey of Account Management services | 90% satisfied or highly satisfied | 95% satisfied or highly satisfied | |
| OARC 1 | Ogelman, Kenan | ~~Determine REC Obligations & Verify Compliance~~ | ~~Fulfill the protocol obligations for RPS mandate calculations and reporting on time and accurately~~ | ~~99%~~ | ~~100%~~ | OARC1 addresses overall Protocol compliance for Renewable Portfolio Standard program. As ERCOT there is an overall Protocol compliance measure, ERCOT suggests deletion of this KPI. |
| OARC 2 | Ogelman, Kenan | Customer Switching / Registry | Conduct retail transaction processing per Protocol timelines | 98% | 99% | |

| KPI Identifier | Executive | Capability | KPI Description | Target | Stretch | Comments |
|---|---|---|---|---|---|---|
| OARC 3 | Ogelman, Kenan | Customer Switching / Registry | End use customer switch notifications processed per PUCT rules | 99% | 100% | |
| OARC 4 | Gage, Theresa | Market Information | Retail extracts available per Protocol timelines | 98% | 99% | |
| OARC 5 | Dreyer, Jerry | IT Application Services | Retail Processing Availability - Bus. Hours | 99.5% | 99.7% | |
| OARC 6 | Dreyer, Jerry | IT Application Services | Market Information System (MIS) Availability | 99% | 99.5% | |
| OARC_i 7 | Dreyer, Jerry | IT Application Services | Retail Processing Availability - Non Bus. Hours | 99% | 99.5% | |
| OARC_i 8 | Dreyer, Jerry | IT Application Services | Retail API Availability | 99% | 99.5% | |
| OARC_i 9 | Dreyer, Jerry | IT Application Services | MarkeTrak Availability | 99% | 99.5% | |
| OARC_i 10 | Ogelman, Kenan | Dispute Management | Manage retail transaction issues and disputes within defined timelines | 96% | 98% | |
| OSM 1 | Petterson, Michael | Finance | Manage spending to be equal to or less than the board-approved expenditure budget for 2015. | Between 0 -- 5% favorable variance | n/a | |
| OSM 2 | Day, Betty | ~~Security~~ | ~~Maintain ERCOT ISO's security posture against cyber and physical security threats as defined in the Cyber Security Incident Response Plan.~~ | ~~No more than one Stage 2 or Stage 3 cyber or physical security incidents.~~ | ~~Zero Stage 2 or Stage 3 cyber or physical security incidents.~~ | Replace - see additions below |
| OSM_i 3 | Dreyer, Jerry | IT Application Services | Operate data centers providing availability consistent with data center designed objectives. | 99.98% | 100% | |
| OSM_i 4 | Magness, Bill | Internal Audit | Execute the Internal Audit Plan as approved by the Finance and Audit Committee, and complete the plan by end of year. | 100% by year end | 106% by year end | |
| OSM_i 5 | Gage, Theresa | Corporate Communications | ERCOT Energy Emergency Alert Communications -- Corporate Communications provides follow-up communications and media/public notifications per Crisis Communications Procedure. | 100% | n/a | |
| New KPI | Day, Betty | Compliance Monitoring & Reporting | Achieve compliance with NERC/FERC Standards | No significant violations found in a NERC Compliance Audit | N/A | New addition; replace previous aggregate compliance measure RG6. |
| New KPI | Day, Betty | Compliance Monitoring & Reporting | Achieve compliance with ERCOT Protocols | No significant violations of ERCOT Protocols | N/A | New addition; replace previous aggregate compliance measure RG6. |

| KPI Identifier | Executive | Capability | KPI Description | Target | Stretch | Comments |
|---|---|---|---|---|---|---|
| New KPI | Day, Betty | Compliance Monitoring & Reporting | Achieve compliance with SSAE16 controls | No exceptions found in an SSAE16 audit | N/A | New addition; replace previous aggregate compliance measure RG7. |
| New KPI | Day, Betty | Security | Maintain ERCOT ISO's security posture against cyber security threats as defined in the Security Incident Response Plan | Zero externally reportable cyber security incidents | N/A | New addition; replace previous security measure OSM2. |
| New KPI | Day, Betty | Security | Maintain ERCOT ISO's security posture against physical security threats as defined in the Security Incident Response Plan | Zero externally reportable physical security incidents | N/A | New addition; replace previous security measure OSM2. |
| New KPI | Dreyer, Jerry | IT Application Services | Energy Management System Tier 1 Aggregate Availability | All Tier 1 systems meet or exceed defined SLAs * | N/A | New addition; replaces previous EMS aggregate measure RG8. |
| New KPI | Dreyer, Jerry | IT Application Services | Energy Management System Tier 2 Aggregate Availability | Achieve 99% availability for 10 of 11 Tier 2 systems ** | Achieve 99% availability for all Tier 2 systems | New addition; replaces previous EMS aggregate measure RG8. |

**\* EMS Tier 1 includes:**

-- State Estimator – 99.5% system availability (not including planned maintenance) and no outages greater than thirty consecutive minutes;

-- Real-time Contingency Analysis (RTCM)/Transmission Constraint Management (TCM) – 99.5% system availability (not including planned maintenance) and no outages greater than thirty consecutive minutes;

-- Load Frequency Control (LFC) – 99.9% system availability (not including planned maintenance) and no outages greater than ten consecutive minutes;

-- Resource Limit Calculator (RLC) – 99.9% system availability (not including planned maintenance) and no outages greater than ten consecutive minutes; and

-- Grid Alarm Processor - 99.9% system availability (not including planned maintenance) and no outages greater than ten consecutive minutes.


**\*\* EMS Tier 2 includes:**

-- Forced Outage Protection

-- Grid Network Security Analysis

-- Grid Dynamic Ratings

-- Grid Topology Consistency Analyzer

-- Ancillary Capacity Monitor

-- Wind Forecast

-- Savecase Archiving

-- State Estimator Statistics

-- Real-time Network Analysis

-- Short-term Load Forecast

-- Mid-term Load Forecast