



**The Human Resources and Governance (HR&G) Committee is expected to consider HR&G Committee Agenda Item 5.2:**

**Recommendation regarding  
Proposed 2019 ERCOT KPIs**

**at its meeting on December 10, 2018.**

**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 11, 2018.**

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



## **Item 5.2: Recommendation Regarding Proposed 2019 ERCOT KPIs**

*Betty Day*

Vice President, Governance Risk & Compliance

Human Resources and Governance Committee  
Meeting

ERCOT Public

December 10, 2018

# 2019 KPI Proposed Revisions

1. Add solar forecast performance metric similar to operations Load and wind forecast metrics.
2. Eliminate NERC compliance KPI due to timing conflicts/ confidentiality concerns and replace with routine Board report.
3. Add internal metric on ERCOT Operator training satisfaction.
4. Update metric on solving/posting the SCED solution to give a more holistic measure of price corrections.
5. Revise settlement KPI to consider accuracy by invoice versus Operating Day to provide a more precise performance measure.
6. Eliminate internal posting metric for Ancillary Service Requirements as timing is defined in Protocols and Other Binding Document requirements.
7. Clarify intent of internal audit metric.

# Historical Number of KPIs

Year	Total KPIs	Reported to Board	Tracked Internally
2011	77	77	0
2012	70	70	0
2013	67	67	0
2014	61	30	31
2015	53	30	23
2016	52	30	22
2017	51	29	22
2018	51	29	22
2019	51	29	22

With proposed changes, the number of 2019 KPIs tracked would remain at 51 (29 Board reported and 22 internal).

# 2019 KPI Recommendation – Reliable Grid

KPI Identifier	Executive	Capability	KPI Description	Target	Stretch
RG 1	Rickerson	Grid Security Management	Control Performance Standard 1 (CPS1) frequency control performance (rolling 12 month CPS1 score)	> 140	> 150
RG 2	Rickerson	Grid Security Management	Interconnection Reliability Operating Limit exceedance limitations	None longer than 20 minutes	None longer than 10 minutes
RG 3	Rickerson	Outage Coordination / Planning	Outage Coordination performance: requests approved or denied within timeline and with mitigation plans developed if required	97%	99%
RG 4	Rickerson	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	Forecasting	Wind forecast performance: MAPE based on installed wind capacity: monthly average day ahead wind forecasts used for DRUC MAPE	All less than 10%	All less than 8%
<u>RG 6</u>	<u>Rickerson</u>	<u>Forecasting</u>	<u>Solar forecast performance - MAPE based on installed solar capacity: monthly average day ahead solar forecasts used for DRUC MAPE.</u>	<u>All less than 15%</u>	<u>All less than 10%</u>
<del>RG-6</del>	<del>Day</del>	<del>Compliance Monitoring &amp; Reporting</del>	<del>Achieve compliance with NERC/FERC Standards</del>	<del>No significant violations found in a NERC Compliance Engagement</del>	<del>N/A</del>
RG 7	N/A	N/A	RG7 intentionally left blank	N/A	N/A
RG 8	Day	Compliance Monitoring & Reporting	Achieve compliance with SOC controls	No exceptions found in an SOC audit	N/A
RG 9	Dreyer	IT Application Services	Energy Management System Tier 1 Aggregate Availability	All Tier 1 systems meet or exceed defined SLAs	N/A
RG 10	Dreyer	IT Application Services	Energy Management System Tier 2 Aggregate Availability	Achieve 99.9% availability for 10 of 11 Tier 2 systems	Achieve 99.9% availability for all Tier 2 systems
RG 11	Dreyer	IT Application Services	Security Constrained Economic Dispatch (SCED) Availability	99.95%	100%
RG 12	Dreyer	IT Application Services	SCED: number of unplanned outages greater than 30 consecutive minutes (per quarter)	Zero	N/A
RG 13	Dreyer	IT Application Services	Outage Scheduler Availability	99%	99.5%
RG 14	Dreyer	IT Application Services	Network Model Management System (NMMS) Availability	99%	99.5%

# 2019 KPI Recommendation – Reliable Grid (Internal)

KPI Identifier	Executive	Capability	KPI Description	Target	Stretch
RG_i 15	Dreyer	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	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	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	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	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.
<u>RG_i 20</u>	<u>Rickerson</u>	<u>Operations Training</u>	<u>Achieve "Very Satisfied" or "Satisfied" ratings on ERCOT Operator training surveys</u>	<u>90% satisfied or highly satisfied</u>	<u>95% satisfied or highly satisfied</u>

# 2019 KPI Recommendation – Efficient Markets

KPI Identifier	Executive	Capability	KPI Description	Target	Stretch
EM 1	Ogelman	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	Bidding, Scheduling & Pricing	SCED solution is solved and posted: percent of 15-minute Settlement Interval prices where price corrections are performed. <u>This measure includes corrections from routine work (e.g., database loads and site failover).</u>	0.5% – 1% 0.25% - 1%	<0.5% <0.25%
EM 3	Ogelman	Settlement & Billing	Achieve timely settlements, per Protocol defined timelines	99%	100%
EM 4	Ogelman	Settlement & Billing	Perform accurate settlements as measured by the percent of <del>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—statements/invoices that do not require a correction as a result of an error in the settlement and billing systems or processes</del>	98%	99.9%
EM 5	Ogelman	Market Credit	Credit reports are correct and posted in a timely manner	98%	100%
EM 6	Gage	Market Information	Wholesale extracts available per Protocol timelines	98%	99%
EM 7	Dreyer	IT Application Services	Congestion Revenue Rights (CRR) Availability	99%	99.5%
EM 8	Dreyer	IT Application Services	Market Management System Aggregate Availability	99%	99.5%

# 2019 KPI Recommendation – Efficient Markets (Internal)

KPI Identifier	Executive	Capability	KPI Description	Target	Stretch
EM_i 9	Ogelman	Bidding, Scheduling & Pricing	Percent of days with successful DAM execution solution completed and posted successfully	100%	N/A
EM_i 10	Ogelman	Bidding, Scheduling & Pricing	DAM executions completed in acceptable timeframe: percent of days with posting solution before 1600	98%	100%
EM_i 11	Rickerson	Bidding, Scheduling & Pricing	Ancillary Services Requirements posted for the year	Posted by December 20th of the previous year for the current year	N/A
EM_i 12	Ogelman	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	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	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	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	N/A
EM_i 16	Gage	Dispute Management	Process disputes in time for resolution by the next available settlement statement per Protocol timelines or Client Services resolution targets	98%	100%
EM_i 17	Gage	Client Services	Complete Market Participant outreach (site visits, WebEx, telephone or email) according to Client Services annual outreach plan	98%	100%
EM_i 18	Gage	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



# 2019 KPI Recommendation – Open Access & Retail Choice (Board & Internal)

KPI Identifier	Executive	Capability	KPI Description	Target	Stretch
OARC 1	Ogelman	Customer Switching / Registry	Conduct retail transaction processing per Protocol timelines	98%	99%
OARC 2	Ogelman	Customer Switching / Registry	End use customer switch notifications processed per PUCT rules	99%	100%
OARC 3	Gage	Market Information	Retail extracts available per Protocol timelines	98%	99%
OARC 4	Dreyer	IT Application Services	Retail Processing Availability - Bus. Hours	99.9%	99.95%
OARC 5	Dreyer	IT Application Services	Market Information System (MIS) Availability	99%	99.5%
OARC_i 6	Dreyer	IT Application Services	Retail Processing Availability - Non bus. Hours	99%	99.5%
OARC_i 7	Dreyer	IT Application Services	Retail API Availability	99%	99.5%
OARC_i 8	Dreyer	IT Application Services	MarkeTrak Availability	99%	99.5%
OARC_i 9	Ogelman	Dispute Management	Manage retail transaction issues and disputes within defined timelines	96%	98%

# 2019 KPI Recommendation – Other Support & Management Functions (Board & Internal)

KPI Identifier	Executive	Capability	KPI Description	Target	Stretch
OSM 1	Petterson	Finance	Manage spending to be equal to or less than the board-approved expenditure budget	Between 0 - 5% favorable variance	N/A
OSM 2	Day	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
OSM 3	Day	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
OSM_i 4	Dreyer	IT Application Services	Operate data centers providing availability consistent with data center designed objectives	99.98%	100%
OSM_i 5	Magness	Internal Audit	Execute the Internal Audit Plan as approved by the Finance and Audit Committee having all audit projects <u>either completed or</u> in process by end of year	100% in process by year end	N/A
OSM_i 6	Gage	Corporate Communications	ERCOT Energy Emergency Alert Communications: Corporate Communications provides follow-up communications and media/public notifications per Crisis Communications Procedure	100%	N/A



**Date:** December 4, 2018  
**To:** Board of Directors  
**From:** Bill Magness, President and Chief Executive Officer  
**Subject:** 2019 ERCOT Key Performance Indicators (KPIs)

**Issue for the ERCOT Board of Directors**

**ERCOT Board of Directors Meeting Date:** December 11, 2018

**Item No.:** 11.1

**Issue:**

Whether the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) should approve the 2019 ERCOT KPIs as recommended by ERCOT staff.

**Background/History:**

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 2019 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 2019.

The Human Resource and Governance (HR&G) Committee will be considering whether to recommend that the Board approve the 2019 KPIs as presented at its meeting on December 10, 2018. A copy of the proposed 2019 KPI recommendation is attached hereto as Attachment A.

**Key Factors Influencing Issue:**

The 2019 KPIs correlate to ERCOT's strategic direction of the Board and provide performance measures to the Board and ERCOT leadership and staff.

**Conclusion/Recommendation:**

The ERCOT leadership team respectfully recommends that the HR&G Committee recommend approval and that the ERCOT Board approve the 2019 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 2019 ERCOT Key Performance Indicators (KPIs) attached hereto as Attachment A.

THEREFORE, BE IT RESOLVED, that the 2019 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 11, 2018 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, 2018.

\_\_\_\_\_  
Vickie G. Leady  
Assistant Corporate Secretary

**Attachment A: 2019 Key Performance Indicator (KPI) Recommendation**

KPI Identi	Executive	Capability	KPI Description	Target	Stretch
RG 1	Rickerson, Woody	Grid Security Management	Control Performance Standard 1 (CPS1) frequency control performance (rolling 12 month CPS1 score).	> 140	> 150
RG 2	Rickerson, Woody	Grid Security Management	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 10%	All less than 8%
RG 6	Rickerson, Woody	Forecasting	<u>Solar forecast performance - MAPE based on installed solar capacity: monthly average day ahead solar forecasts used for DRUC MAPE.</u>	<u>All less than 15%</u>	<u>All less than 10%</u>
RG-6	Day, Betty	Compliance Monitoring & Reporting	Achieve compliance with NERC/FERC Standards	No significant violations found in a NERC Compliance Engagement	N/A
RG 7 - Removed		N/A	N/A	N/A	N/A
RG 8	Day, Betty	Compliance Monitoring & Reporting	Achieve compliance with SOC controls	No exceptions found in an SOC audit	N/A
RG 9	Dreyer, Jerry	IT Application Services	Energy Management System Tier 1 Aggregate Availability	All Tier 1 systems meet or exceed defined SLAs (99.90%)	N/A
RG 10	Dreyer, Jerry	IT Application Services	Energy Management System Tier 2 Aggregate Availability	Achieve 99.9% availability for 10 of 11 Tier 2 systems	Achieve 99.9% availability for all Tier 2 systems
RG 11	Dreyer, Jerry	IT Application Services	Security Constrained Economic Dispatch (SCED) Availability	99.95%	100%
RG 12	Dreyer, Jerry	IT Application Services	SCED: number of unplanned outages greater than 30 consecutive minutes (per quarter)	Zero	N/A
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%

KPI Identi	Executive	Capability	KPI Description	Target	Stretch
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	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.
RG_i 20	Rickerson, Woody	Operations Training	<u>Achieve "Very Satisfied" or "Satisfied" ratings on ERCOT Operator training surveys</u>	<u>90% satisfied or highly satisfied</u>	<u>95% satisfied or highly satisfied</u>
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. <u>This measure includes corrections from routine work (e.g., database loads and site failover).</u>	<u>0.5%—1% 0.25% - 1%</u>	<u>&lt;0.5% &lt;0.25%</u>
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 <del>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.</del> <u>statements/invoices that do not require a correction as a result of an error in the settlement and billing systems or processes.</u>	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

KPI Identi	Executive	Capability	KPI Description	Target	Stretch
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	Rickerson, Woody	Bidding, Scheduling & Pricing	Ancillary Services Requirements posted for the year	Posted by December 20th of the previous year for the current year	N/A
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	N/A
EM_i 16	Gage, Theresa	Dispute Management	Process disputes in time for resolution by the next available settlement statement per Protocol timelines or Client Services resolution targets	98%	100%
EM_i 17	Gage, Theresa	Client Services	Complete Market Participant outreach (site visits, web-ex, telephone or e-mail) according to Client Services annual outreach plan	98%	100%
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	Customer Switching / Registry	Conduct retail transaction processing per Protocol timelines	98%	99%
OARC 2	Ogelman, Kenan	Customer Switching / Registry	End use customer switch notifications processed per PUCT rules	99%	100%
OARC 3	Gage, Theresa	Market Information	Retail extracts available per Protocol timelines	98%	99%
OARC 4	Dreyer, Jerry	IT Application Services	Retail Processing Availability - Bus. Hours	99.9%	99.95%
OARC 5	Dreyer, Jerry	IT Application Services	Market Information System (MIS) Availability	99%	99.5%
OARC_i 6	Dreyer, Jerry	IT Application Services	Retail Processing Availability - Non bus. Hours	99%	99.5%
OARC_i 7	Dreyer, Jerry	IT Application Services	Retail API Availability	99%	99.5%
OARC_i 8	Dreyer, Jerry	IT Application Services	MarkeTrak Availability	99%	99.5%
OARC_i 9	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	Between 0 - 5% favorable variance	N/A

KPI Identi	Executive	Capability	KPI Description	Target	Stretch
OSM_2	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
OSM_3	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
OSM_i_5	Magness, Bill	Internal Audit	Execute the Internal Audit Plan as approved by the Finance and Audit Committee, having all audit projects <u>either completed or</u> in process by end of year.	100% in process by year end	N/A
OSM_i_6	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
OSM_i_4	Dreyer, Jerry	IT Application Services	Operate data centers providing availability consistent with data center designed objectives.	99.98%	100%