

## Sub-metrics Contributing to the Operational Excellence Day (OED) Calculations

<b>Engineering</b>	
<b>State Estimator</b>	
Max aggregate score = 3	
SE Convergence	Percentage of time SE converges; calculated based on number of 1 minute periods in a 24 hour period (max number of attempted solutions = 1,440). Any continuous 30 minute or greater outage of SE constitutes a 0 for the day. < 99.75%, 0; 99.75% - 99.9%, 1; 99.9% - 99.98%, 2; > 99.98%, 3
SE Branch MW Solutions	Percentage of lines and transformers that solve within designated residual target (<=10 MW residual when SE flow <= 500MW; <= 2% of SCADA MW flow when SE flow > 500 MW) < 88%, 0; 88% - 92%, 1; 92% - 96%, 2; >= 96%, 3
SE Bus Voltage Solutions	Percentage of bus voltages that solve within designated residual target (<7kV for 500kV buses, <4kV for 230/345kV buses) < 95%, 0; 95% - 97.5%, 1; 97.5% - 99.0%, 2; >= 99.0%, 3
<b>Next Day Study</b>	
Max aggregate score = 3	
Inputs/Case Setup	Compare area load and generation in RTNET with STNET; measure difference as % of RTNET load and generation; average error > 8.02%, 0; >=7.15-8.02%, 1; 6.28-7.15%, 2; <= 6.28%, 3
Study Process and Issue Resolution	Number of issues identified in real-time caused by schedule outage. Input data applied correctly (1), sufficient mitigation plan developed (1), issue and plan communicated to operators (1).
<b>Real-time Contingency Analysis (RTCA)</b>	
Max aggregate score = 3	
Availability	RTCA Availability means that we have a converged base case solution. Availability in terms of percentage of completed solutions as compared to number of five minute periods in a day (288). Any continuous 30 minute or greater outage of RTCA constitutes a 0 for the day. < 99.90%, 0; 99.90% - 99.95%, 1; 99.95% - 99.98%, 2; >= 99.98%, 3
Results Accuracy	RTCA results (Branch, Node Pair, Interface and Unsolved) are accurate and actionable as determined by the number of SharePoint tickets created for potentially inaccurate RTCA results; verified by after the fact review of RTCA results. 0 issues =3; 1-2 issues=2; 3 issues=1; >3 issues=0. Started calculating July 1st, 2017.

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<b>Operations</b>		
<b>RCSO Communication</b>		Maximize RCSO performance on communications grade assigned to all Operating Instructions
3-Part Communication		3-Part communication followed (Yes = 1, No = 0)
Matching Log Entry		Matching log entry (Yes = 1, No = 0)
Time Identification		Time identification provided by RCSO (Yes = 1, No = 0)
Professionalism		Professional communication (Yes = 1, No = 0)
<b>RCSO Actions to SOL Exceedance</b>		Maximize proactive RCSO engagement to mitigate IROL and Stability limit exceedances within the Peak RC Area
Recognition		Recognize event within 10 minutes (Yes = 1, No = 0)
		Matching Log (Yes = 1, No = 0)
Evaluation		Entity Communication (Yes = 1, No = 0)
		Verify conditions (Yes = 1, No = 0)
		Evaluate mitigation (Yes = 1, No = 0)
Mitigation		Exceedance mitigated within the $T_M$ (Yes = 1, No = 0)
<b>RCSO Actions to RTCA Contingency</b>		Maximize proactive RCSO engagement for Non IROL RTCA contingencies violations
	Acknowledge	Acknowledging new violations within 11 minutes (Yes = 1, No = 0)
	Validate	Validate within 30 minutes (Yes = 1, No = 0)
	Clear	Clear contingency within 2 hours (Yes = 1, No = 0)

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<b>Information Technology</b>	
<b>BES Critical Cyber Systems</b>	Availability (< 99.00%, 0; 99.5% - 99.75%, 1; 99.75% - 99.98%, 2; 99.98% - 100%, 3;100%,4)
EMS, SCADA, ICCP	
VSA (Real Time)	
VSA (Study)	
OsiSoft PI	
Avtec	
<b>Non BES and Internet Apps</b>	Availability (<=99%,0;99%-99.25%,0.5,99.25%-99.5%,1;99.5%-100%,1.5;100%,2)
RMT	
EIDE	
COS	
RCWB	
HAA (Service Apps)	
NWPP (Service Apps)	
Other Tools	