

Transmission Outage Scheduling Performance and Improvement

Prepared for the ERCOT WMS

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Executive Summary

- **Advanced notification of planned outage submissions is an important element for a well functioning CRR market**
- **Many outages in ERCOT are not considered in the CRR model build process due to the timing of outage submission**
- **A comparison of outage submission timing in ERCOT and PJM showed that the overall performance in PJM was superior**
- **Addressing the performance gap with a 90-day submission requirement (Proposal 3d) would help increase market efficiency in ERCOT**



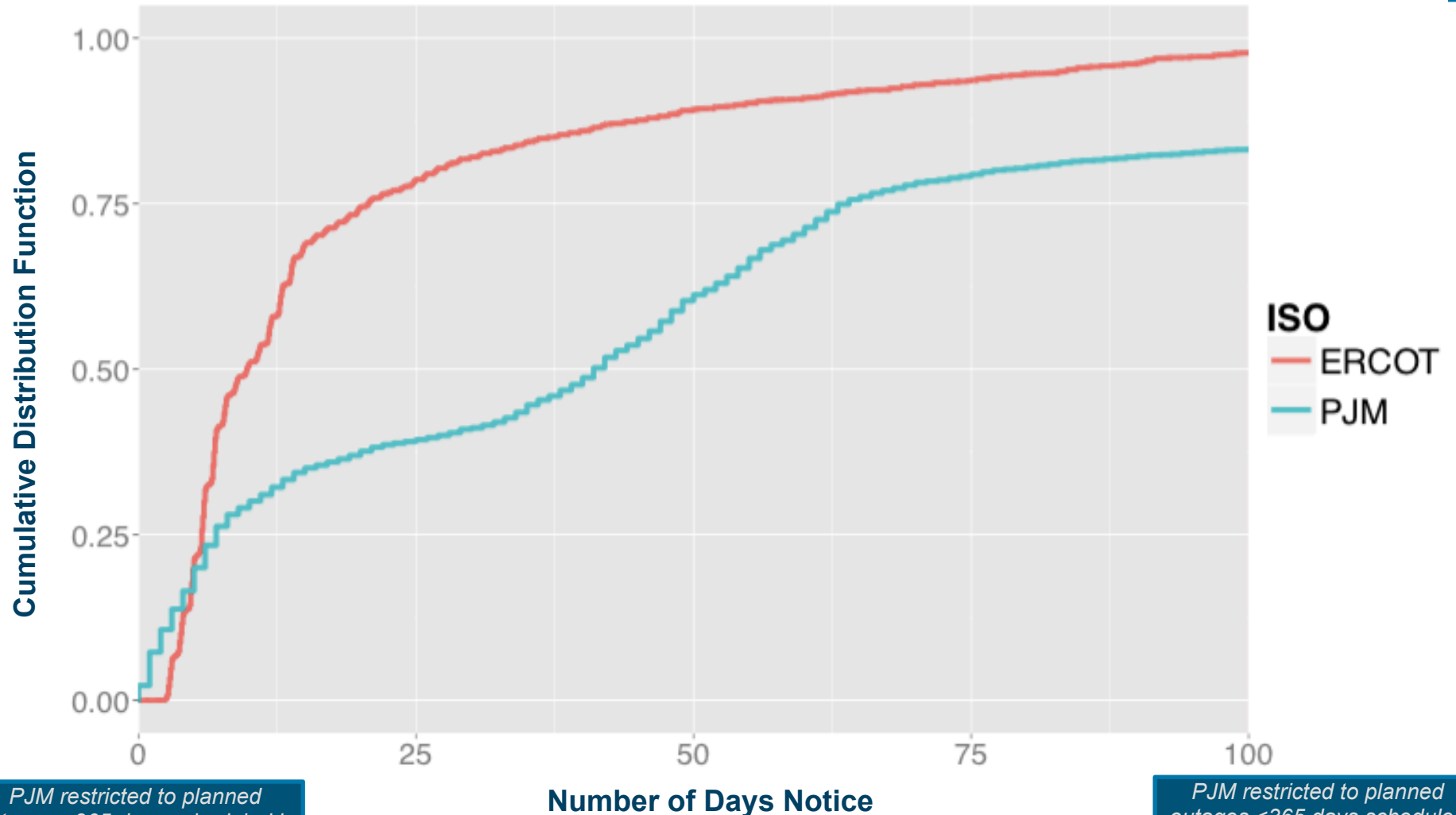
Very few outages are considered in CRR model build 'snapshot' and notification significantly varies between ERCOT TSPs

ERCOT restricted to completed planned outages for period 2013-06-01 to 2014-08-14 and $\geq 69KV$

Outage Scheduling by TSP

– Time Between Scheduling and Initial Start Time –

ERCOT restricted to companies with $>1,000$ completed planned outages for period 2013-06-01 to 2014-08-14



PJM restricted to planned outages <365 days scheduled in the last 3 PYs on lines $\geq 69KV$

PJM restricted to planned outages <365 days scheduled with >300 planned outages



PJM's outage submission rules recognize the needs of the market and promote greater certainty

Comparison of ERCOT and PJM

– Outage Submission Rules Framework–

ERCOT

- **Advanced Notification**

- All outages can be submitted three days prior to their start date
- ERCOT has process for late arriving outages
- No additional requirement to submit outages far in advance

PJM

- **Advanced notification**

- Outage Submission based on the duration of the outage
 - Outage > 5 days; before the 1st of the month six months prior to the starting month of the outage. Additional restriction exist for outages >30 days for the next planning cycle.
 - Outage <= 5 days; before the 1st of the month prior to the starting month of the outages.
- Late outages may be cancelled if it causes congestion requiring off-cost operations.
- PJM procedures states: “For transmission outages exceeding five days, the TO shall use reasonable efforts to submit the planned outage schedule via eDART one year in advance”



Addressing the performance gap with a 90-day submission requirement (Proposal 3d) would increase market efficiency

Benefits of Improved Rules and Metrics

- Improved outage scheduling rules would increase market efficiency
- More outages included in the CRR model build process
- Improved modeling has positive impacts on the convergence of the sequential markets
- Addresses a significant root cause of market shortfalls