

ORDC Updates

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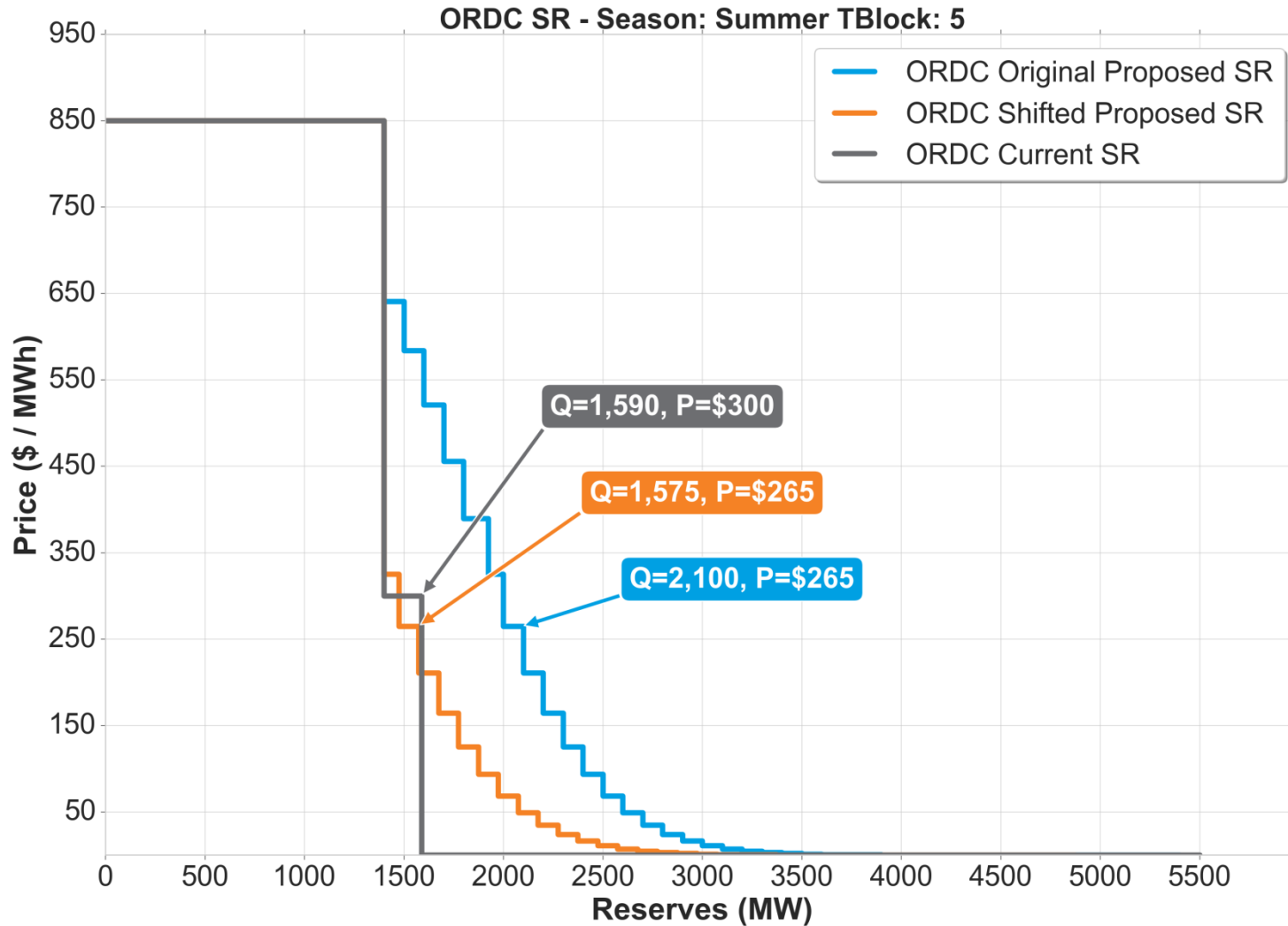
- Based on stakeholder's feedback regarding the width of the proposed ORDCs, PJM reviewed the assumptions used to develop the curves
 - This internal review process resulted in analyzing the impact that Regulation resources should have on the ORDCs

- The Regulation Requirement (shown below) is used to deal with the uncertainties mentioned in the previous slides.

Season	Dates	Non-Ramp Hours	Ramp Hours	Effective MW Requirement
Winter	Dec 1 – Feb 29	HE1 – HE4, HE10 – HE16	HE5 – HE9, HE17 – HE24	Non-Ramp = 525MW Ramp = 800MW
Spring	Mar 1 – May 31	HE1 – HE5, HE9 – HE17	HE6 – HE8, HE18 – HE24	Non-Ramp = 525MW Ramp = 800MW
Summer	Jun 1 – Aug 31	HE1 – HE5, HE15 – HE18	HE6 – HE14, HE19 – HE24	Non-Ramp = 525MW Ramp = 800MW
Fall	Sep 1 – Nov 30	HE1 – HE5, HE9 – HE17	HE6 – HE8, HE18 – HE24	Non-Ramp = 525MW Ramp = 800MW

- Therefore, the ORDC should account for these Regulation MWs

- The ORDCs can be shifted to the left by the regulation requirement (by a MW amount per the table in previous slide)
- However, the shift would only apply to reserve levels greater than the MRR
 - Therefore, after the shift, for reserve levels less than or equal to the MRR, the price will still be \$850 / MWh



In the Original Proposed ORDC, the price associated with 2,100 MW of SR is \$265 / MWh.

In the Shifted Proposed ORDC, a price of \$265 / MWh is associated with 1,575 MW of SR

This price is very much in line with the Current ORDC, which has a price of \$300 / MWh associated with 1,590 MW of SR

- SR and PR curves (Original Proposed, Shifted Proposed, and Current) have been posted for all 24 season, time-of-day blocks.
- Spreadsheets with the data used to derive the shifted ORDCs have also been posted

Appendix

Uncertainties modeled in the ORDC

- **Included**
 - Load Forecast
 - Wind Forecast
 - Solar Forecast
 - Forced Outages
- **Not included**
 - Net Interchange Forecast

Using a 30-min look-ahead
uncertainty interval

- The historical Load Forecast Error data is combined with the historical Wind/Solar Forecast Error every 5 minutes to derive the Net Load Forecast Error. The resulting set of values constitutes the empirical Net Load Forecast Error distribution. The normality assumption is NOT imposed on the distribution.
- The aggregate Forced Outages distribution is then added (via convolution) to the above Net Load Forecast Error distribution to derive the Total Forecast Error distribution which is then used to calculate the PBMRRs for the ORDCs.