Estimated ORDCs and Reserves Levels

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PJM Estimated ORDCs

- The ORDC estimation method presented by PJM in May was a straightforward adaptation of the method used by ERCOT.
- The ORDC means that PJM will buy more than current synchronized reserve levels and pay higher prices for synchronized reserves.
- Used within the energy and reserve joint optimization, the MMU expects the estimated ORDCs would lead PJM to carry more online capacity than it has historically.
- The implication is not only a change to price formation, but also a change to operations.
Estimated ORDCs and Historic Reserves

- The following graphs plot the PJM ORDC estimates provided at the May EPFSTF meeting.
- The MMU added historic synchronized reserve levels:
  - 2015 through 2017
  - By season and time block
  - Five minute pricing solution synchronized reserve levels
  - Minimum, Maximum
  - Mean, Median
- The actual historic reserve requirement may vary from the MRR (minimum reserve requirement) in the plotted curve.
Illustration of Supply and Demand
ORDC Spring T Block 3 (0700-1000)

- **Median RTO Sync Reserves (2015-2017)**
- **Synchronized Reserve Supply Curve**
- **Rampable Capacity with Zero Opportunity Cost (Tier 1)**
- **PJM will bring additional capacity online to equate supply and demand.**
ORDC Fall T Block 2 (0300-0600)

- Reserve Price ($/MW)
- Reserve Quantity (MW)

- ORDC
- MRR (MW)
- Average RTO Sync Reserves (2015-2017)
ORDC Fall T Block 6 (1900-2200)

Reserve Price ($/MW) vs Reserve Quantity (MW)

- ORDC
- MRR (MW)
- Average RTO Sync Reserves (2015-2017)
ORDC Summer T Block 4 (1100-1400)

- Reserve Price ($/MW)
- Reserve Quantity (MW)

- ORDC
- MRR (MW)
- Average RTO Sync Reserves (2015-2017)
ORDC Summer T Block 5 (1500 -1800)

Reserve Price ($/MW)

Reserve Quantity (MW)

- ORDC
- MRR (MW)
- Average RTO Sync Reserves (2015-2017)
ORDC Winter T Block 1 (2300-0200)

- ORDC
- MRR (MW)
- Average RTO Sync Reserves (2015-2017)
ORDC Winter T Block 4 (1100-1400)

Reserve Price ($/MW) vs Reserve Quantity (MW)

- ORDC
- MRR (MW)
- Average RTO Sync Reserves (2015-2017)
ORDC Winter T Block 5 (1500-1800)

- Reserve Price ($/MW)
- Reserve Quantity (MW)

- Average RTO Sync Reserves (2015-2017)
ORDC Winter T Block 6 (1900-2200)

- Reserve Price ($/MW)
- Reserve Quantity (MW)

ORDC

MRR (MW)

Average RTO Sync Reserves (2015-2017)


Median RTO Sync Reserves (2015-2017)