Comments on PJM's ORDC Proposal

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November 1, 2018

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views expressed are my own and not necessarily those of any client.

Fundamental concept underlying ORDCs

Points along an ORDC should represent value of incremental reserves aka marginal reliability value (= what we should be willing to pay):

Value of service to firm customers (Value of Lost Load, "VOLL") *times* Likelihood of shedding firm load (Loss of Load Probability, "LOLP")

William Hogan et al; PJM also states this (early in stakeholder process)

VOLL for outages due to reserve shortage (typically rotating): estimates range from $3,000 to $10,000/MWh or higher (will use $6,000/MWh for purposes here, but a much higher value does not change any of my observations)

Points of Agreement?

1. Reserves in excess of MRR are worth more than $0/MWh (current price)

2. When reserves are very short and firm load drop (or the equivalent) is occurring (or imminent), the price should rise toward VOLL

3. The ORDC should slope based on changing LOLP (disagreements about specific assumptions, which affect the slope of the curve)

4. $850/MWh is the marginal reliability value of reserves at *some* level of reserves (at what exact reserve level is not known, there is no such analysis)

5. When system operators have reasons to desire additional reserves, they should be allowed to shift the ORDC (and document why)

6. An "augmented ORDC" with prices in excess of VOLL x LOLP along the curve (as in ERCOT), is not justified in PJM (we have a capacity market)
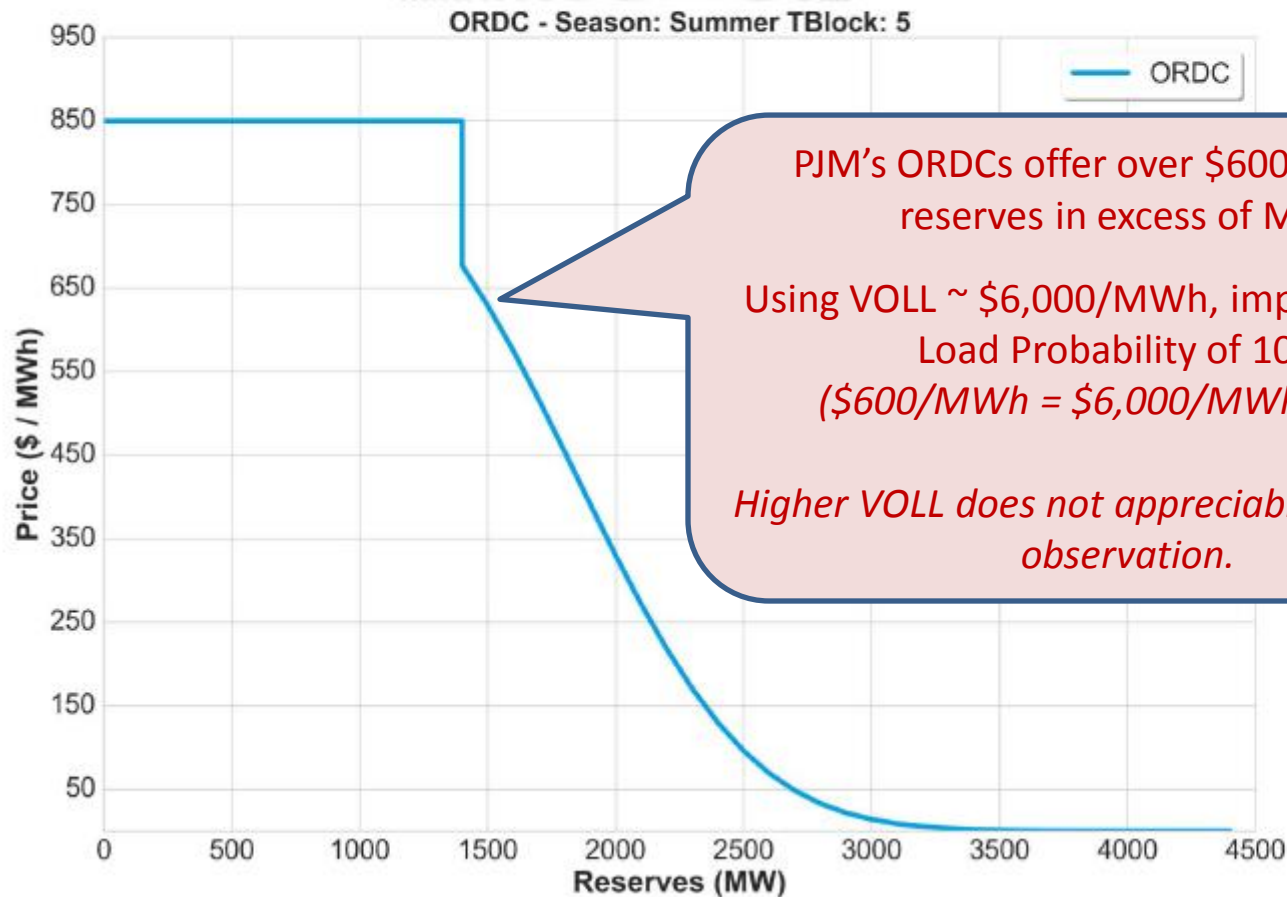
PJM's ORDCs Are Not Linked to Marginal Reliability Value

PJM's proposed ORDCs are not linked to any measure of marginal reliability value or value to consumers at a specific reserve level (based on VOLL x LOLP, or some other analysis related to customer value). That is, there is no established "anchor point" [reserve quantity, reserve value] around which a well-founded ORDC can be built.

PJM's curves: Inputs are MRR; PBMRR; $850/MWh

PJM's proposed ORDCs assign prices to reserves in excess of "MRR" that are likely one or two orders of magnitude in excess of marginal reliability value (next slide).

ORDC Summer TBlock 5 (1500-1800)

Conclusion, suggested approach to a compromise?

PJM's ORDC is essentially built on the concept that consumers should be willing to pay $600/MWh for reserves at the 1500 MW level because those incremental reserves reduce the likelihood of reserves falling to 1400 MW (MRR) in 30 minutes, where consumers might have to pay as much as $850/MWh to hold reserves at, not below, MRR.

Allowing prices to rise to $850/MWh at MRR is FERC-approved but has not been established as related to marginal reliability value.

A reasonable compromise curve could set prices for reserves just beyond MRR at levels that are reasonably based on ball-park estimates of LOLP x VOLL and would be one or two orders of magnitude lower than PJM's curves.