Regulation Price Formation
“The Lottery”

September 27, 2016
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Mosaic Power

The Lottery

Regulation market clears the lowest price, or lowest cost resource in the stack.

Capacity + Performance + Projected LOC

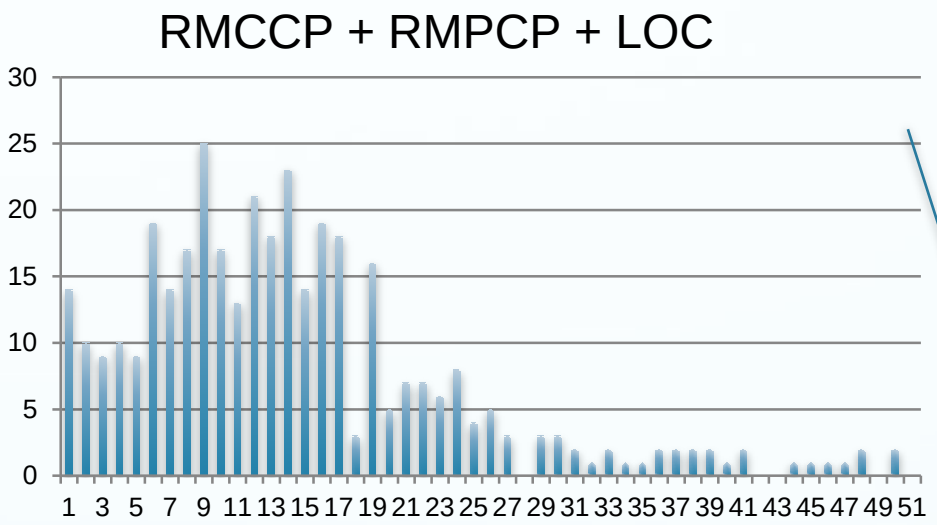
But pays on the highest actual cost of any cleared resource

Capacity + Performance + Actual Marginal LOC

The spread is the dominant factor in price formation

August Settled Prices*

15 hours less than $1
Median: $11
Average: $19



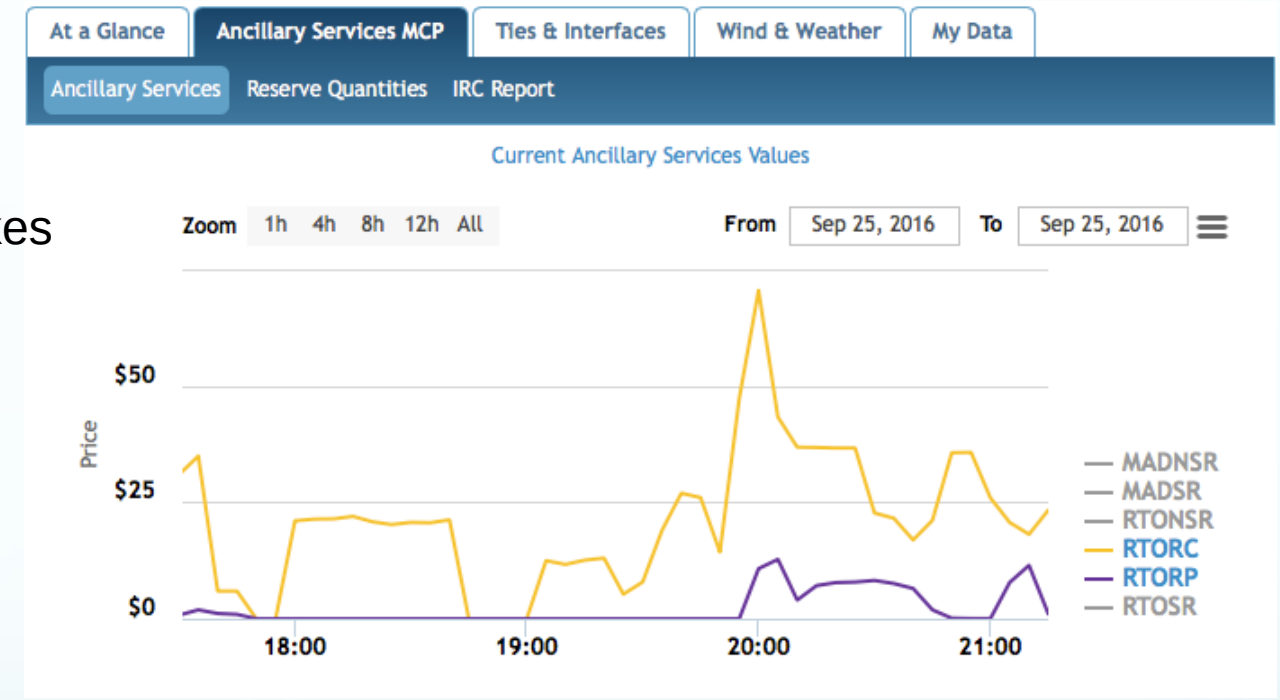
Rational strategy is to bid low enough to clear
Then wait for inevitable transmission constraints

* Note: analysis based on a subset of hours for August

LMP Spikes Form Prices

Short-term LMP spikes drive LOC spikes.

LOC pikes drive average revenue



Ordinary Hour

Marginal Clearing Price $.01

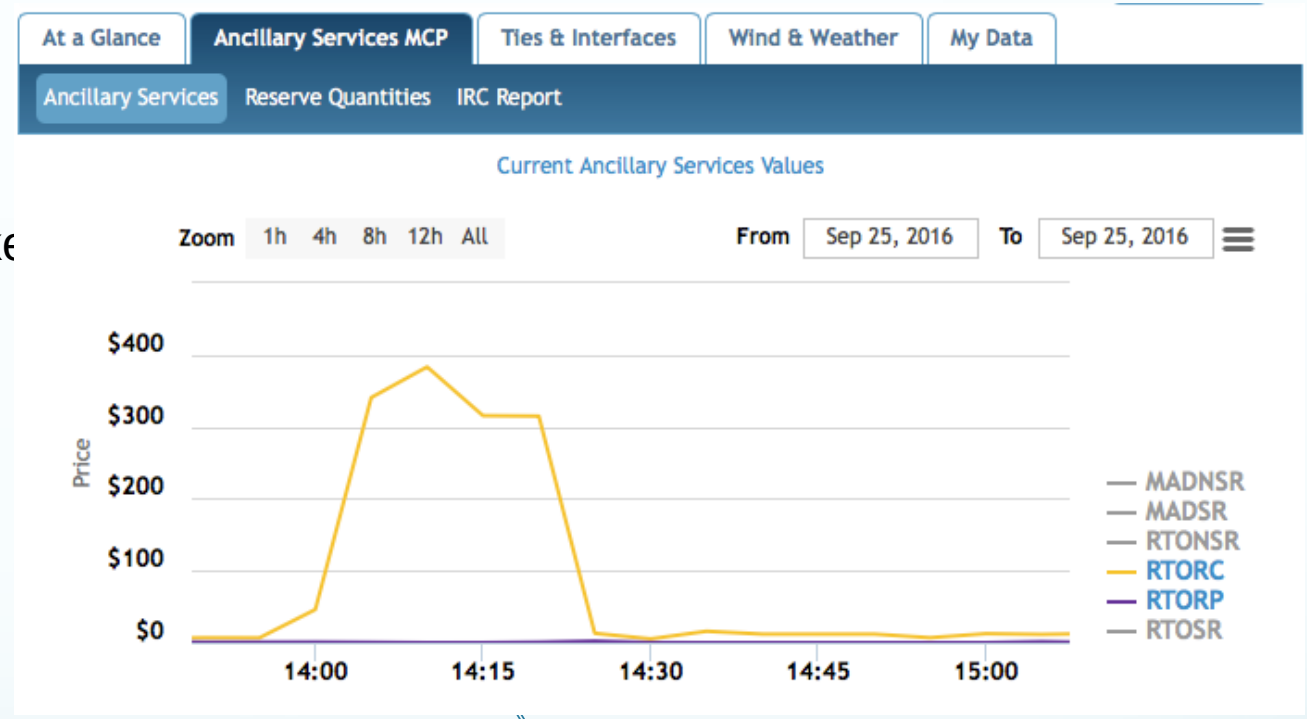
Hourly Settled Price $15.22

Median Price: $20.85

LMP Spikes Form Prices

Short-term LMP spike
drive LOC spikes.

LOC spikes drive
average revenue



Jackpot Hour

Marginal Clearing Price < $5.44

Hourly Settled Price $123.40

Median Price: $15.53

Bid Low

Highly variable predicted LOC requires low capacity and performance bids to clear regularly

When PJM predicted LOC is zero, clearing prices are usually very low, often $.01 or $0

Resources subject to LOC have no *practical* way to ensure a reasonable minimum clearing bid and still regularly participate in the market

Rational Pricing Mechanics Needed

- Cleared prices and settled prices should be in the same ballpark
- A bid near the median settled price should clear regularly, today it will not
- Settled prices should not be based on unforecasted transmission constraints
- Settled prices should send some kind of useful market signal for new investment