

Simulation Results: Cold Snap Performance

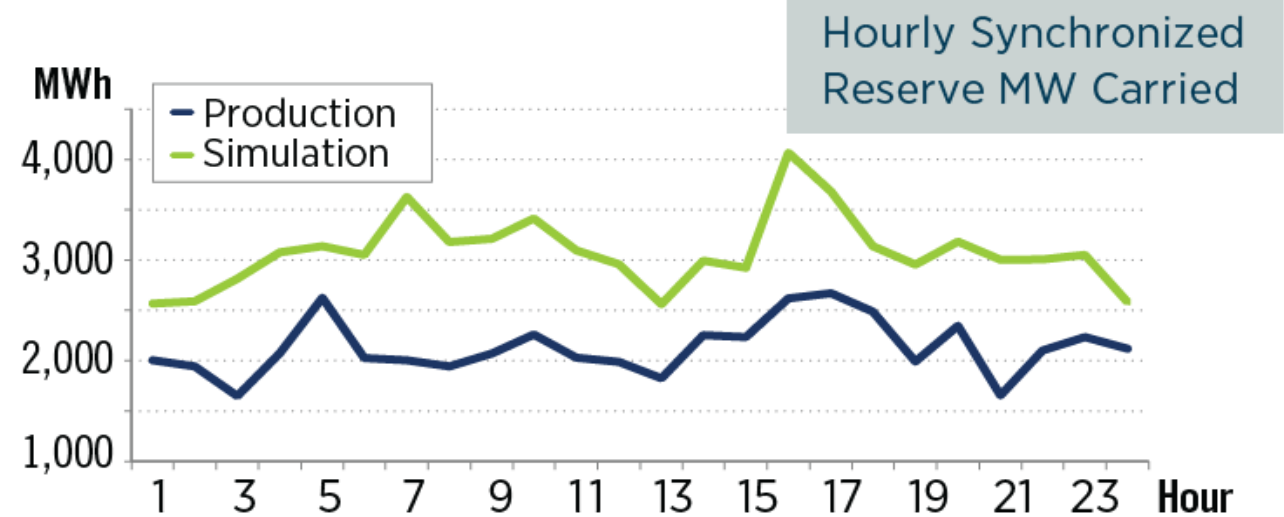
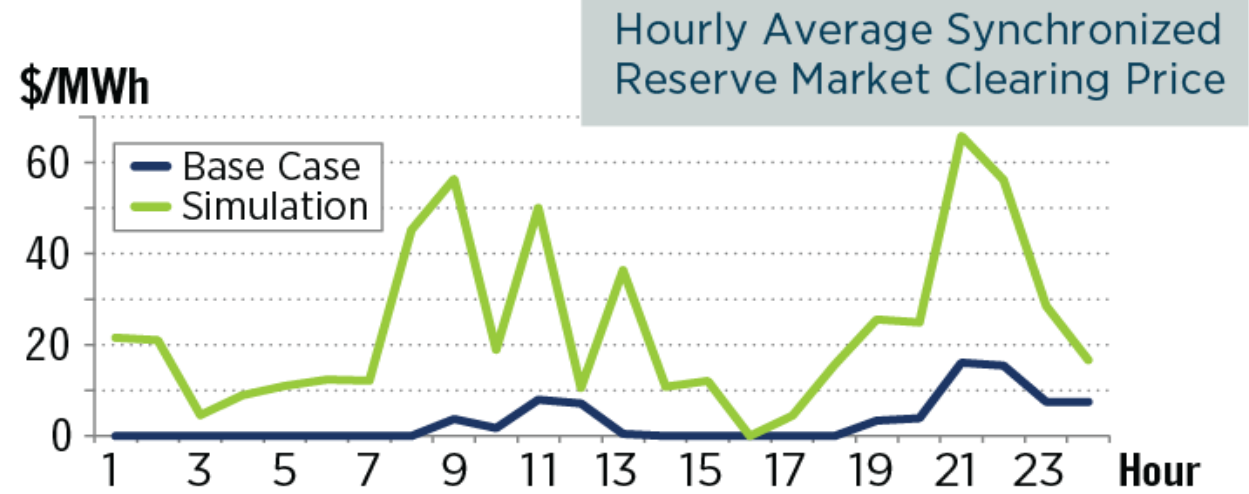
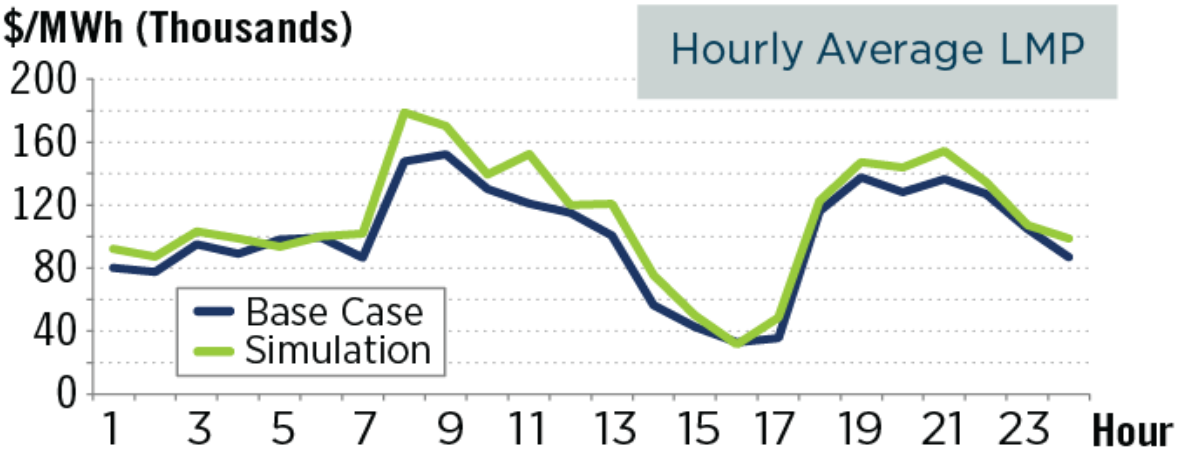
Energy Price Formation Senior Task Force
January 11, 2018

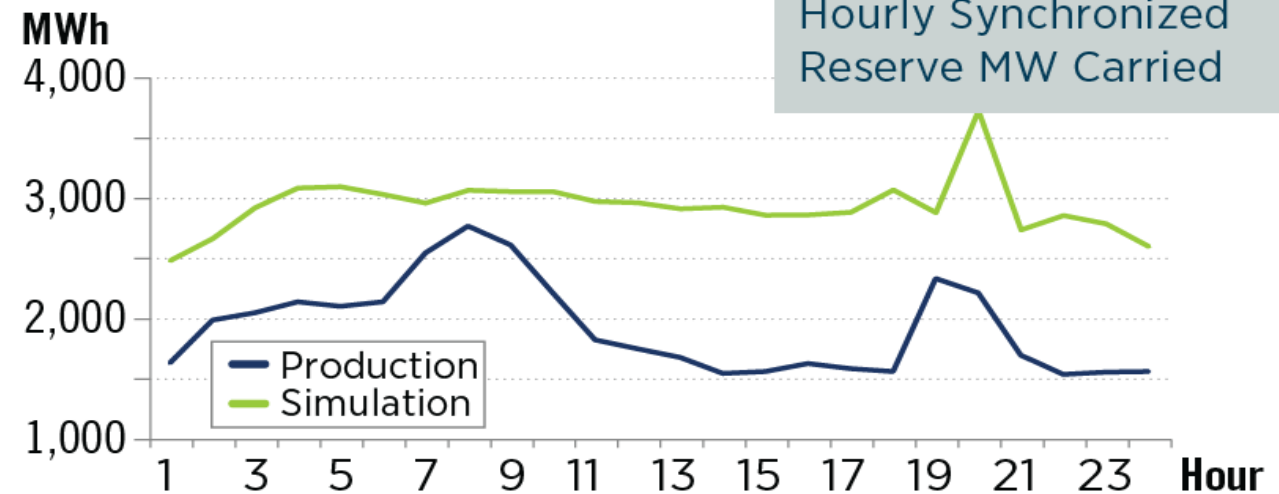
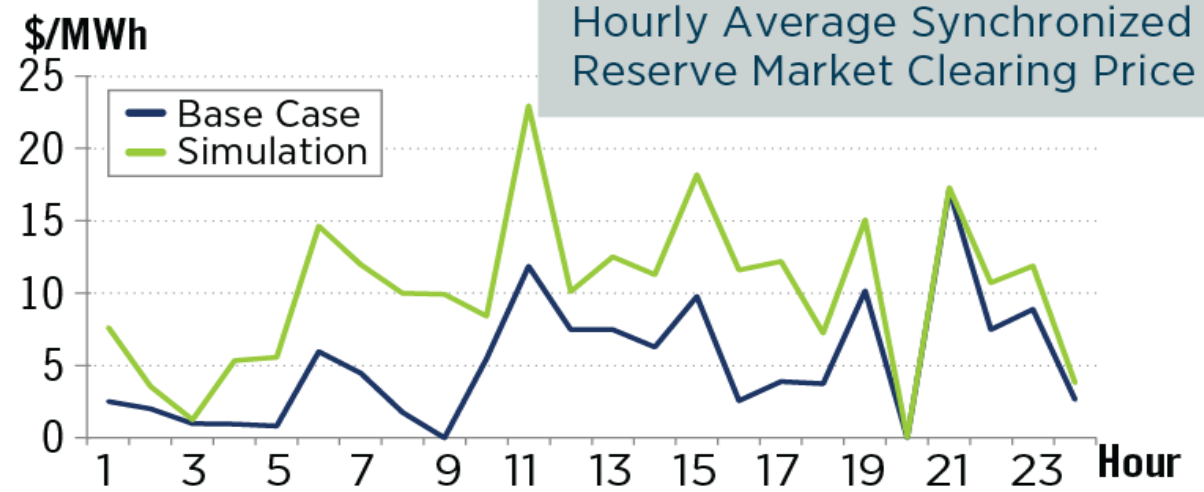
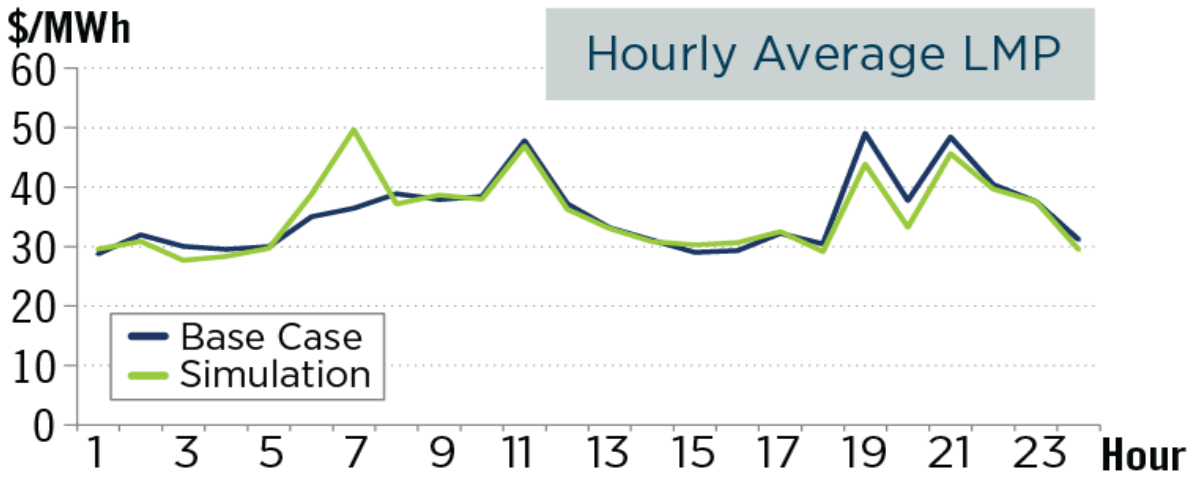
- The data contained in the graphs is from the simulation data released by PJM in December 2018.
- All of this information is public and contained within the results published for this simulation under the meeting materials for the December 14, 2018 EPFSTF meeting.

<https://pjm.com/-/media/committees-groups/task-forces/epfstf/20181214/20181214-item-05-simulation-results-data-price-formation-proposal.ashx>

		Base Case	Simulation Case
Real-Time Reserve Market	30-Minute	✘ Not Modeled	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Modeled with ORDC </div> + \$ 500/MWh Penalty Factor
	10-Minute	= Status Quo	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Modeled with ORDC </div> + \$2,000/MWh Penalty Factor
Reserve Offer Prices	10-Minute	↑ As submitted	Set @ \$ 0.00/MWh
	30-Minute	Not Applicable	Set @ \$ 0.00/MWh
Locational Reserve Requirements	10-Minute	✘ Not Modeled	✘ Not Modeled
Resource Commitment		! Recommitment of fast start units only	↻ Full recommitment of all resources
Energy Market Offers		↑ As submitted	↑ As submitted

¹¹ The Mid-Atlantic and Dominion reserve sub-zone requirements were disabled for the purpose of this simulation to simplify the analysis. The Mid-Atlantic and Dominion reserve sub-zone bound in less than 3% of all hours in 2017 and therefore its impact was not considered significant.





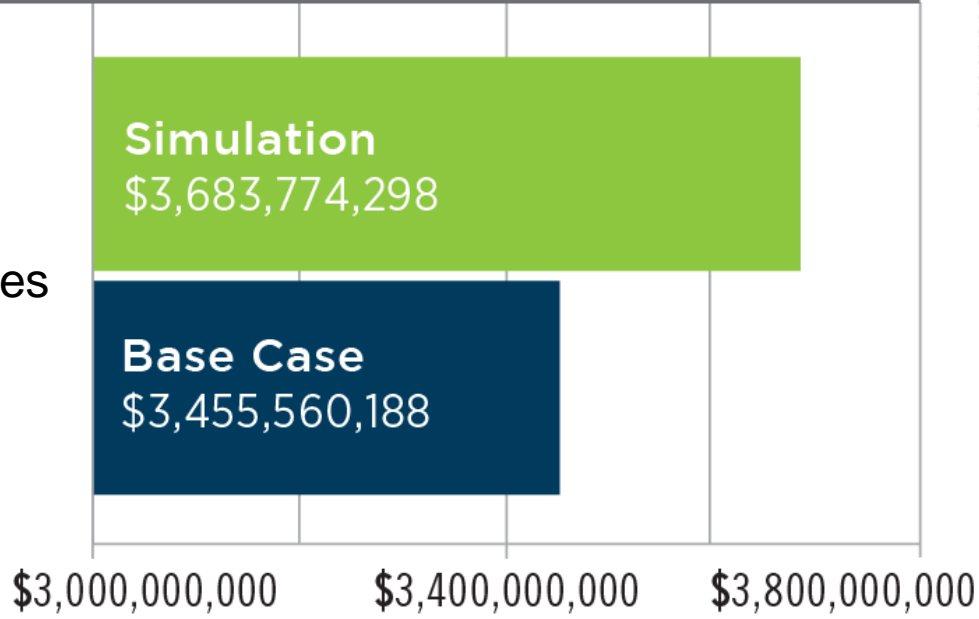


PJM Proposal Performance During 2017/2018 Cold Snap

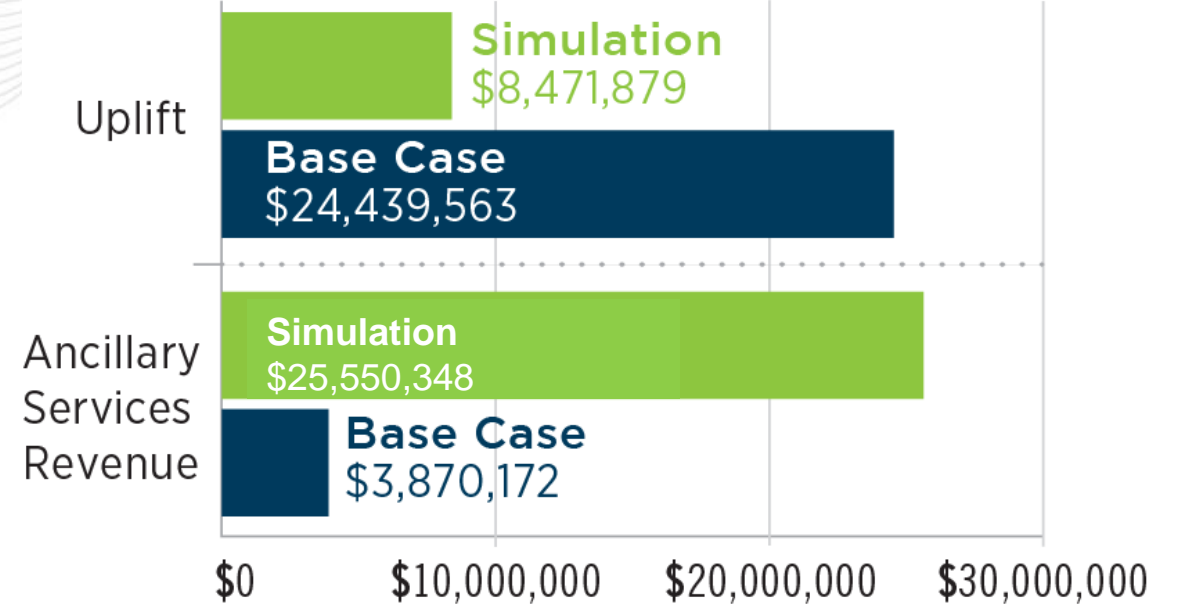
December 27, 2017 – January 8, 2018

2017/2018 Cold Snap Comparison: Energy

Energy Revenues



2017/2018 Cold Snap Comparison: Reserves and Uplift



Better Performance During the Cold Snap

	Total Change	Change During Cold Snap	Percent of Total
Energy Revenues (\$ millions)	1,805	228	13%
Reserve Revenues (\$ millions)	193	22	11%
Uplift (\$ millions)	(66)	(16)	(24%)

