

Energy Storage Resource Capacity Market Capability Solution Options

Andrew Levitt, Sr. Bus. Solution Architect

Applied Innovation

January 30, 2020

Market Implementation Committee: Special Session on Capacity Market Capability of Energy Storage Resources

www.pjm.com | Public PJM©2020



ESR Capacity Market Capability Solution Options

	"10 Hour Rule" (Status Quo)	"4 Hour Rule"	Effective Load Carrying Capability (ELCC)
Capacity Interconnection Rights	The power output a resource can provide for 10 continuous hours	The power output a resource can provide for 4 continuous hours	Dependent on effective load carrying capability analysis, which tends to decrease as deployment of limited duration resources increases
Capacity Example	100 MW, 400 MWh battery can provide 40 MW for 10 continuous hours → 40 MW	100 MW, 400 MWh battery can provide 100 MW for 4 continuous hours → 100 MW	ELCC analysis shows that a 100 MW, 400 MWh energy storage resource has an 80% ELCC, → 80 MW

www.pjm.com | Public 2 PJM©2020



ESR Capacity Market Capability Solution Options

- 10 hour rule (status quo)
- 4 hour rule (1x stakeholder proposal)
- Effective Load Carrying Capability (2x stakeholder proposals)
 - "ELCC" is an established tool that evaluates reliability in each hour of a simulated year and compares a resource mix scenario with limited resources against one with unlimited resources.
 - The result shows how much reliability value a limited resource has relative to a perfect unlimited resource.

www.pjm.com | Public PJM©2020