



2022 Quadrennial Review

Rebecca Carroll, Sr. Director
Melissa Pulong, Lead Analyst

Markets & Reliability Committee
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At least every four years, PJM must review:

Shape of Variable Resource Requirement (VRR) Curve

- Establishes level of capacity needed to meet reliability needs
- Establishes maximum price PJM is willing to pay for a given quantity of capacity

Calculation of the Cost of New Entry (CONE)

Determines the price signal needed to incentivize a new capacity resource

Methodology for determining Energy & Ancillary Services (E&AS) revenue offset

Estimates revenues that reference resource will collect through Energy & Ancillary Service Markets

PJM has hired an independent consultant, Brattle, to perform this analysis



Stakeholder Process Work Plan

2021/2022 Quadrennial Review Work Plan	MIC SPECIAL SESSIONS: QUADRENNIAL REVIEW																
	MTG 1 8/6/21 Special MIC	MTG 2 8/17/21 Special MIC	MTG 3 8/27/21 Special MIC	MTG 4 10/8/21 Special MIC	MTG 5 12/8/21 Special MIC	MTG 6 2/11/22 Special MIC	MTG 7 3/25/22 Special MIC	MTG 8 4/22/22 Special MIC	MTG 9 5/11/22 MIC	MTG 10 5/20/22 Special MIC	MTG 11 6/8/22 MIC	MTG 12 6/21/22 Special MIC	MTG 13 7/13/22 MIC	MTG 14 7/18/22 Special MIC	MTG 15 7/27/22 MRC	MTG 16 8/24/22 MRC*	MTG 17 8/24/22 MC Call*
Education & Stakeholder Feedback	X	X	X	X	X	X											
Review of IMM Recommendations						X	X	X		X							
Review of Stakeholder Recommendations						X											
Review of draft Brattle Recommendations							X										
Stakeholder Feedback on Final Quadrennial Report								X									
PJM to review preliminary recommendations									X								
CBIR Process – identify interests & develop options										X	X						
CBIR Process – develop packages											X	X		X			
First Read															X		
Vote													X			X	X

	Status Quo	Package A	Package B	Package C	Package D
Reference Tech	Combustion Turbine (CT)	1x1 Combined Cycle (CC)	Same as Package A	Same as Package A	Status Quo Tech with 2022 Updated Brattle Specifications
Fuel Supply Assumption	Dual Fuel	Firm Transportation	Same as Package A	Same as Package A	Same as Package A
Maintenance & Operating Costs	Major Maintenance + Operating Cost in Energy Market	Status Quo	Operating Cost in Energy & Maintenance in Capacity	Same as Package A	Same as Package A

	Status Quo	Package A	Package B	Package C	Package D
Simulation Method for calculating Net Energy Revenues	Peak Hour Dispatch	Optimized Dispatch	Same as Package A	Same as Package A	Status Quo
Net E&AS Revenue Offset Input Data Time Horizon	Historical-Looking Inputs	Forward-Looking Inputs	Same as Package A*	Status Quo	Same as Package C

*See matrix for differences in input assumptions

	Status Quo	Package A	Package B	Package C	Package D
Point A	quantity = IRM - 1.2%, price = greater (Gross CONE or 1.5*Net CONE)	quantity = IRM - 1.1%* price = greater (Gross CONE or 1.75*Net CONE)	quantity = IRM - 1.2%, price = greater (Gross CONE or 1.5*Net CONE)	Same as Package A	Same as Package A, but CT for CONE Calc
Point B	quantity = IRM + 1.9%, price = 0.75*Net CONE	quantity = IRM + 1.7%* price = 0.75*Net CONE	quantity = IRM + 0.95%, price = 0.75*Net CONE	Status Quo	Same as Package A, but CT for CONE Calc
Point C	quantity = IRM + 7.8%, price = 0	quantity = IRM + 5.2%* price = 0	quantity = IRM + 3.9%, price = 0	Status Quo	Same as Package A, but CT for CONE Calc

*Package A quantities expressed in IRM equivalent for ease of comparison to status quo. See matrix for Reliability Requirement calculation.

Package A

- Price cap increase at Point A
- Slight shift to the left for quantities at Points A&B with greater left shift at Point C (“foot” of the curve)

Package B

Left shift of quantities half-way between status quo and vertical curve

Package C

- Same price cap increase at Point A as Package A
- Same quantity increase as Package A at Point A while maintaining status quo for Points B&C

Package D

Same curve as Package A, but with a CT as the reference resource

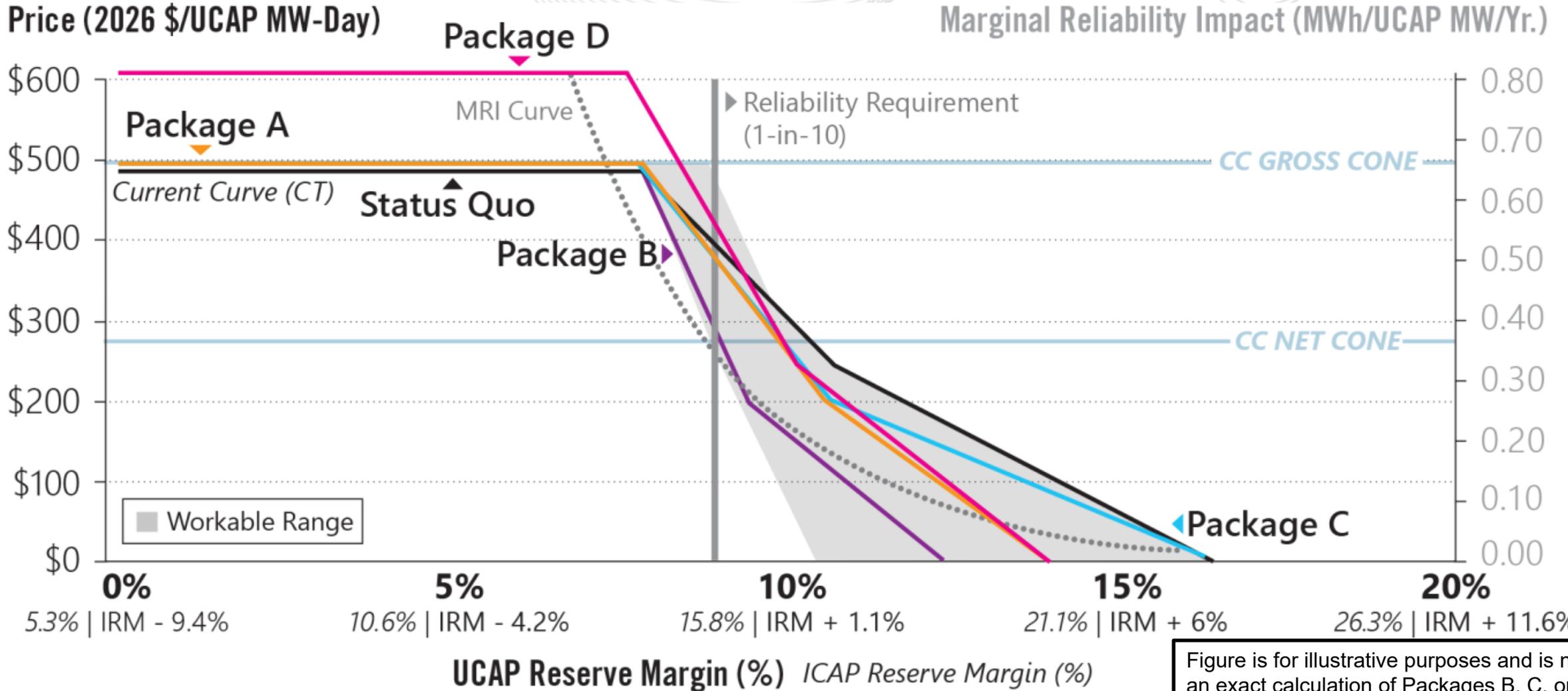


Figure is for illustrative purposes and is not an exact calculation of Packages B, C, or D



Facilitator:
Rebecca Carroll,
Rebecca.Carroll@pjm.com

Secretary:
Nikki Militello,
Nikki.Militello@pjm.com

SME/Presenter:
Melissa Piong,
Melissa.Piong@pjm.com

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Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

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