



# PJM Proposal – Some Details

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- **Stage 1:** Clear resources as offered to establish the MW commitments.
- **Stage 2:** Replace the offer prices of resources with actionable subsidies by reference prices and re-clear to establish auction clearing price.
- Settle the MW commitments from Stage 1 with clearing price from Stage 2.
  - States may decide to credit subsidized resources with Stage 1 clearing price instead of Stage 2 clearing price.
  - Key Issues: Definition of Actionable Subsidy; Reference Price.

## Re-pricing action take if...

- The resource would not have received a MOPR exemption under the current criteria
- The subsidy is not issued by the federal government
- The subsidy focuses on supply-side participation in the capacity market (including DR and EE offered as capacity supply)
- The subsidized MW exceed 1000 MW UCAP in a class
  - coal, nuclear, natural gas, DR/EE, & renewables
- The subsidy level exceeds 1% of the actual or expected revenues of the resource

- **Incremental Auction Procurement Methodology**

- No action if the subsidized unforced capacity of resource class is less than the smaller of 500 MW or 1% of the Reliability Requirement in RTO and LDAs.

- **Impact to Clearing Prices:**

- price impact is greater if the subsidized resources are confined to a constrained LDA sub-region as opposed to distributed evenly throughout larger region of the RTO.
- 100 MW impact of \$0.26/MW-day for larger unconstrained region versus \$4.34/MW-day for constrained LDA (from slide 13 of “PJM Analysis” presented at August 2, 2017 CCPPSTF meeting).

- Subsidy can take the form of
  - \$/MW-day
  - \$/MWh
  - Lump sum
  - Other?
  
- $\% \text{ of Revenues} = \text{Annual Subsidy Value} / (\text{Capacity Revenues} + \text{Net E\&AS Revenues})$



# Illustration of Subsidy Exceeding 1% of Market Revenues

	Capacity Revenue*	Net Energy Revenue**	Total Revenue	1% of Total Revenue	Subsidy Examples***	Subsidy Exceeds 1% of Total Revenue?
New Solar	\$200	\$350	\$550	\$5.50	\$2490; \$66	Yes
New Wind	\$200	\$1,181	\$1,381	\$13.81	\$277; \$39	Yes
Existing Nuclear	\$200	\$458	\$658	\$6.58	\$265	Yes
Existing Nuclear	\$200	\$374	\$574	\$5.74	\$265	Yes
Existing Nuclear	\$200	\$682	\$882	\$8.82	\$265	Yes
All data converted to \$/MW-day UCAP basis using typical UCAP to nominal capacity ratio.						
* Assumed a high capacity price.						
** Net energy revenues are from 2016 State of the Market report, Sec. 7. PJM value, and a low and a high zonal values are shown for nuclear. Solar and wind Net Energy Revenues are high as solar value is based on 2.6 MW nominal capacity and wind value based on 6.7 MW required for 1 MW UCAP value.						
*** Subsidy from KWA #3 Quantification-CCPPSTF Matrix; Used NJ and OH RPS and IL ZEC programs.						

- If the subsidy value is known, Reference Price will be determined as Offer Price + Subsidy Value, both expressed as \$/MW-day.
  - Capacity suppliers will be required to inform PJM of subsidies that may trigger repricing.
- If the subsidy is unknown, Reference Price will be  $\text{Net CONE} * B$  for the LDA in which the resource is modeled.
- For example,  $\text{Net CONE} * B = \$215/\text{MW-day}$  for RTO for 2020/2021 BRA.