



**CCPPSTF**  
**Design Component Alternative Proposal**

August 2, 2017

## “Stage 2” Design Component Alternative

- The PJM Capacity Pricing Proposal utilizes a two stage process for clearing the capacity market
  - Stage 1: Determines the specific capacity resources that clear the market
  - Stage 2: Establishes an adjusted clearing price for the cleared resources to offset price distortions caused by subsidized resources
- The following design component proposal impacts Stage 2 of PJM Capacity Repricing Proposal

## Varying Viewpoints on Subsidies

- Participant's views with regard to subsidies generally fall into one of two camps:
- **Camp 1:** View subsidies as “credits” for providing generation attributes that are not part of PJM's established set of products.
  - Owners of the subsidized resources should be allowed to provide these expanded products (typically environmentally related), and then compete in the RPM market for the right to supply the commoditized capacity product
- **Camp 2:** View subsidies more as “financial support” because these payments crowd-out other more economic investments.
  - Need to make administrative adjustments to the offer stack to eliminate the capacity clearing price distortions

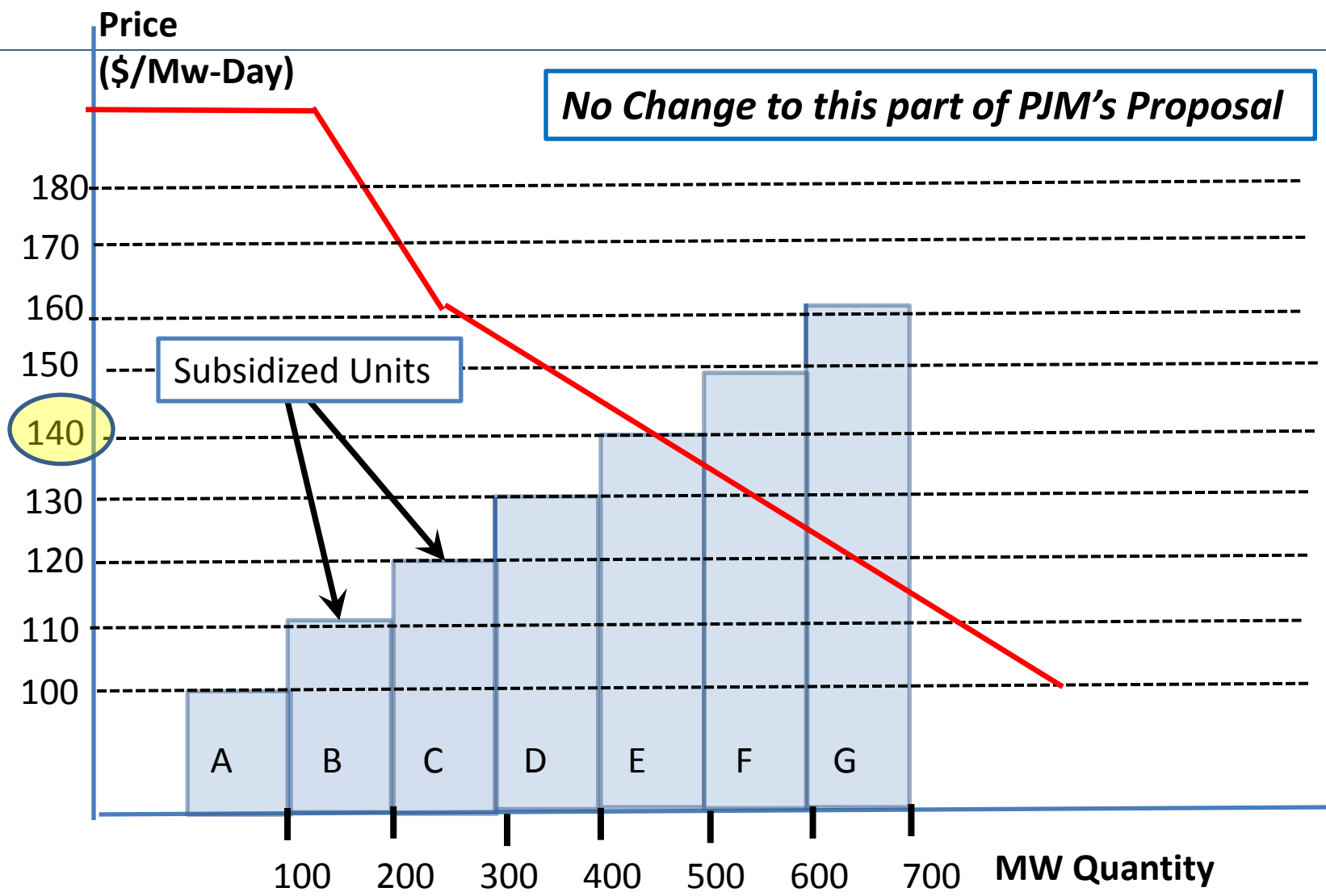
## Fallacy with PJM “Proposed” Stage 2 Design

- For those participants that align themselves with “Camp 2”, the aim of the Stage 2 process should be to determine theoretical capacity *clearing* price if subsidies never existed in the market
- Pictorial presentations to date suggest that in the Stage 2 calculations, the supply stack is simply adjusted by replacing subsidized unit’s offer price with its technology based unit specific cost
- ***Fallacy with that approach is the subsidies were part of the owners’ resource investment decisions, and therefore it is irrational to assume these same resource investments decisions would have been made absent the subsidies***

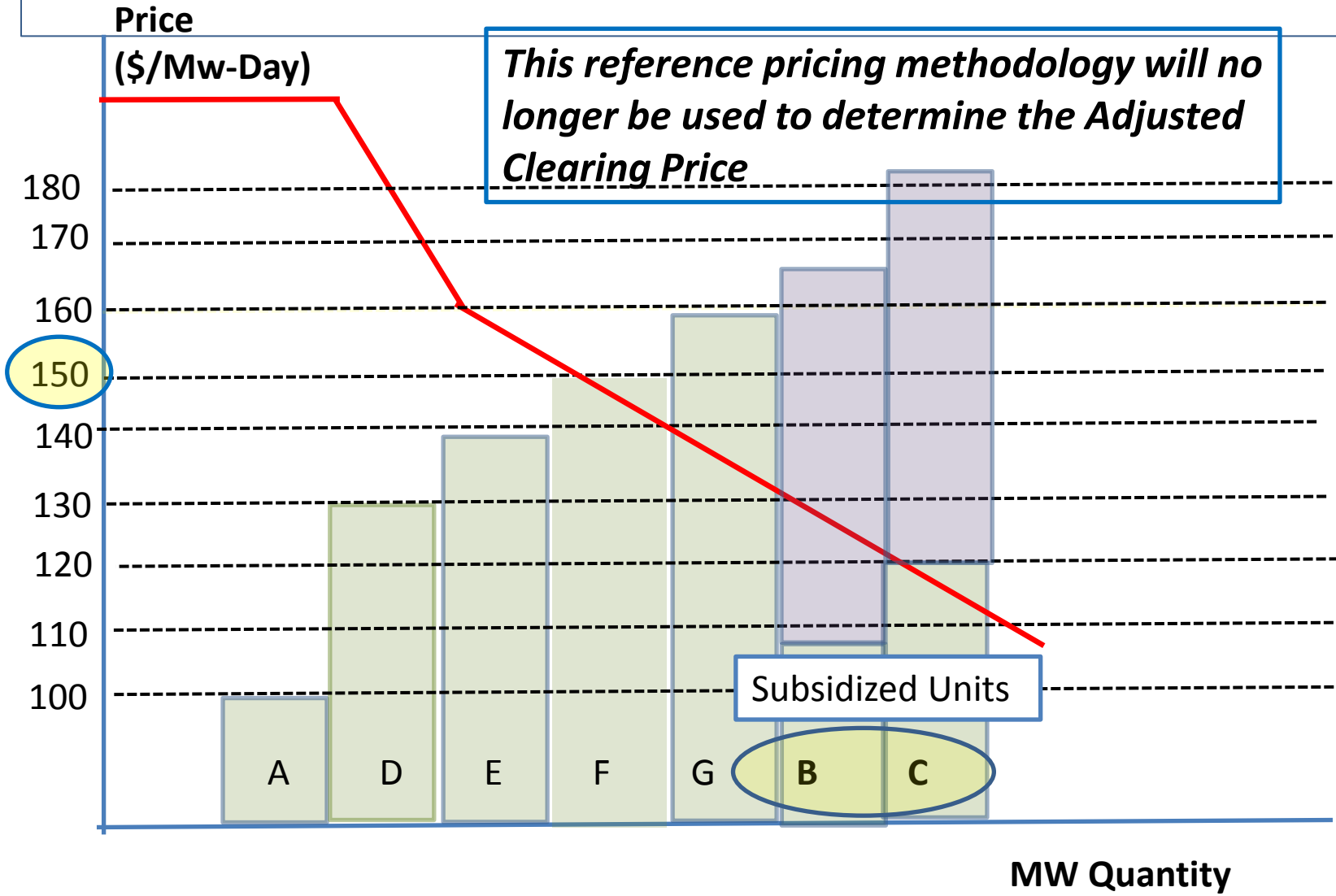
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- If you are going to assume away the subsidies, then you also need to assume away the investments that followed those subsidies and replace them with comparable competitive resources
- **Question** -- *How to recreate the supply stack that would have existed in a “non-subsidized world” for the purposes of creating an adjusted capacity clearing price*
- This participants view is the best surrogate for the recreated supply offer stack is the existing competitive resource stack.

# PJM "Stage 1" – Determination of Cleared Offers



# PJM's Existing Stage 2 Methodology



# “Stage 2” Reconfigured Supply Curve Offers

## Proposal

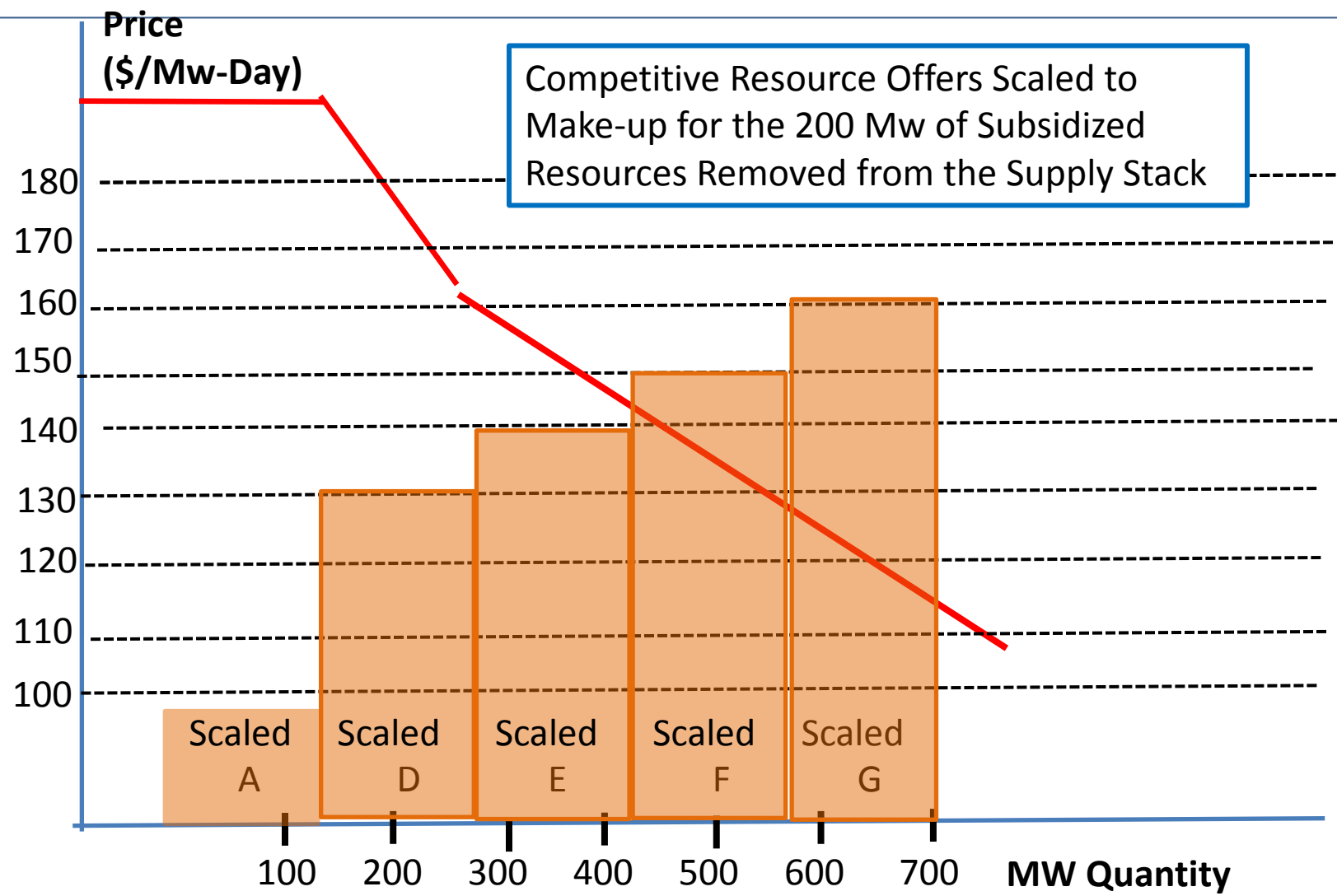
**For Stage 2 process, existing competitive supply offers are scaled to reflect the amount of subsidized offers that are removed from the supply curve.**

Original Offer Stack				Reconfigured Offers	
Resource	Size (MW)	Offer Price (\$/MW-day)	Subsidized	Size (MW)	Offer Price (\$/MW-day)
A	100	100	No	140	100
B	100	110	Yes		
C	100	120	Yes		
D	100	130	No	140	130
E	100	140	No	140	140
F	100	150	No	140	150
G	100	160	No	140	160
Total	700			700	

$$\text{Extrapolation \%} = \frac{\text{Subsidized Resource (Mws)}}{\text{Competitive Resources (Mws)}} = \frac{200}{500} = 40\%$$



# Proposed Methodology for Stage 2 Repricing



## Reference Pricing -- Design Component Alternative

- Failure to recognize likely supply stack changes puts the generation/load equation “out-of-balance” by pushing the subsidized resources offers to the top of the offer curve, thereby resulting in clearing price adjustments that “overshoot” the mark.

***This proposal adjusts for the bias that exists in other repricing algorithm that penalizes load by utilizing a supply stack that would never have existed in a “subsidy free world”***