

# Capacity Market Reforms

Markets & Reliability Committee  
Special Session: PJM Response  
to FERC on Capacity Market  
Reforms Meeting  
August 2, 2018

Joe Bowring

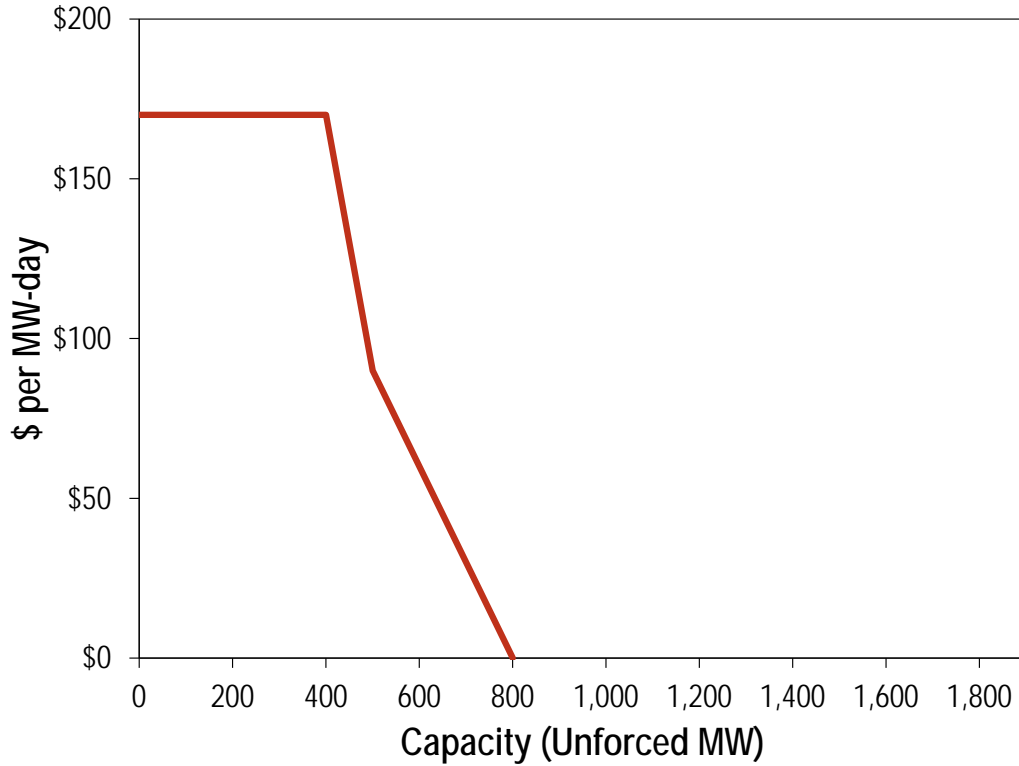


Monitoring Analytics

# Overview

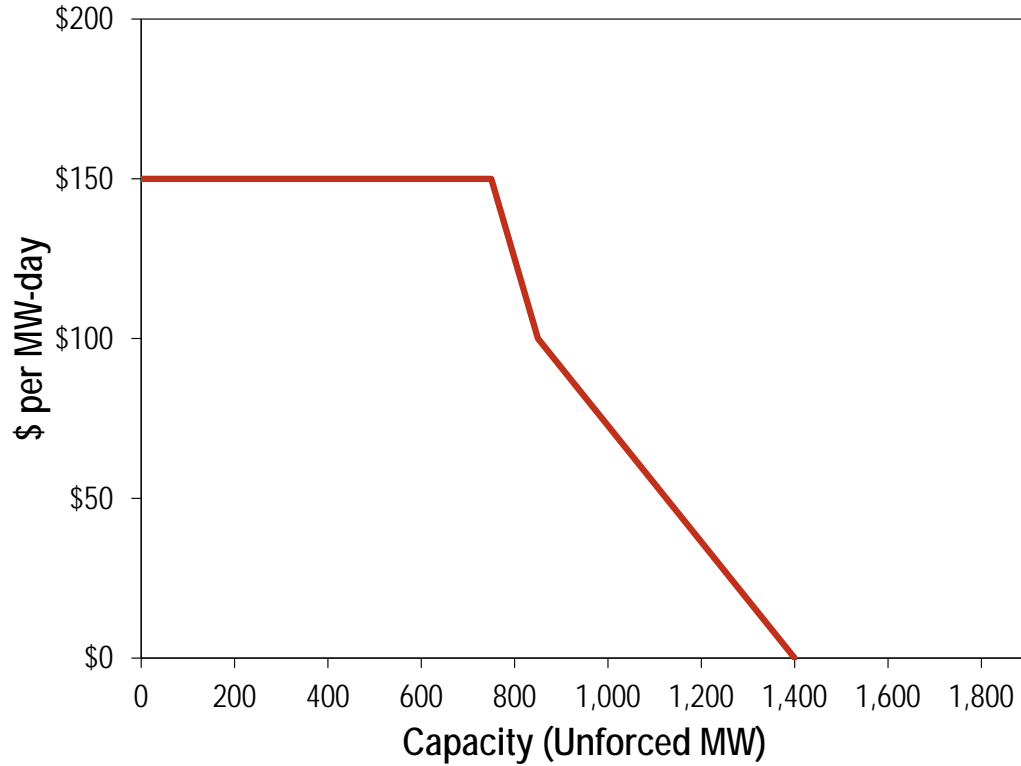
- **Unit specific FRR results in price suppression if the subsidized resource would not clear in the auction without FRR**
- **Unit specific FRR results in price increases and decreases if the subsidized resource would clear in the auction without FRR**
- **Simple example with two LDAs**
- **Load will pay more in the longer term due to the resulting inefficient fleet of resources**
- **Clearing prices will not provide efficient entry and exit signals**

# Examples: Child LDA



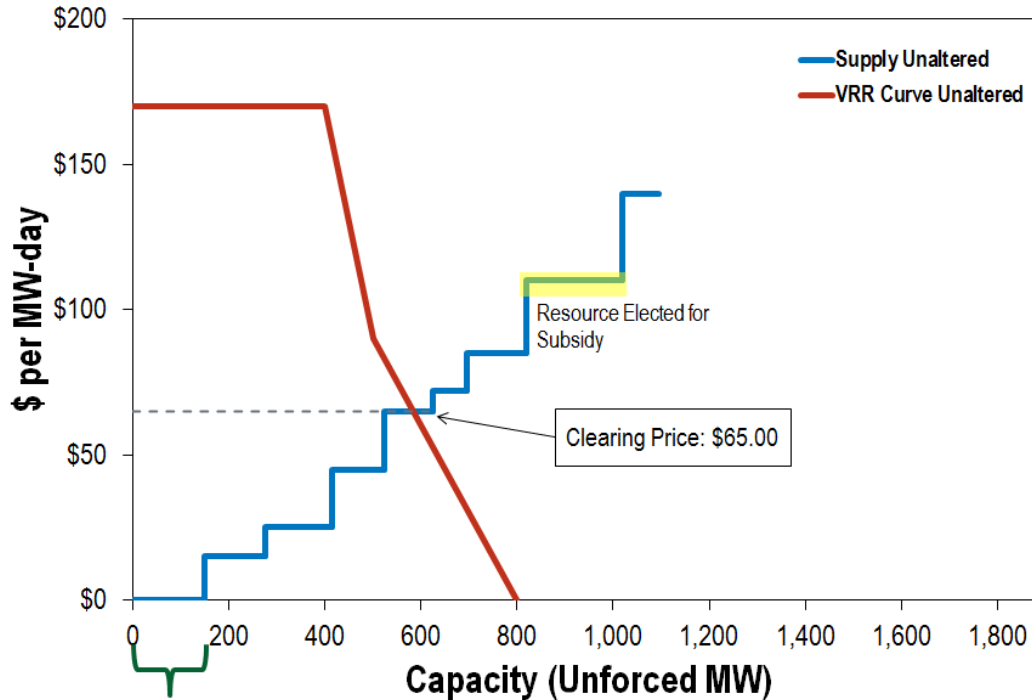
	Capacity (Unforced MW)	Offer (\$/MW-day)
Res C1	125.0	15.00
Res C2	140.0	25.00
Res C3	110.0	45.00
Res C4	100.0	65.00
Res C5	70.0	72.00
Res C6	125.0	85.00
Res C7	200.0	110.00
Res C8	75.0	140.00

# Examples: Parent LDA



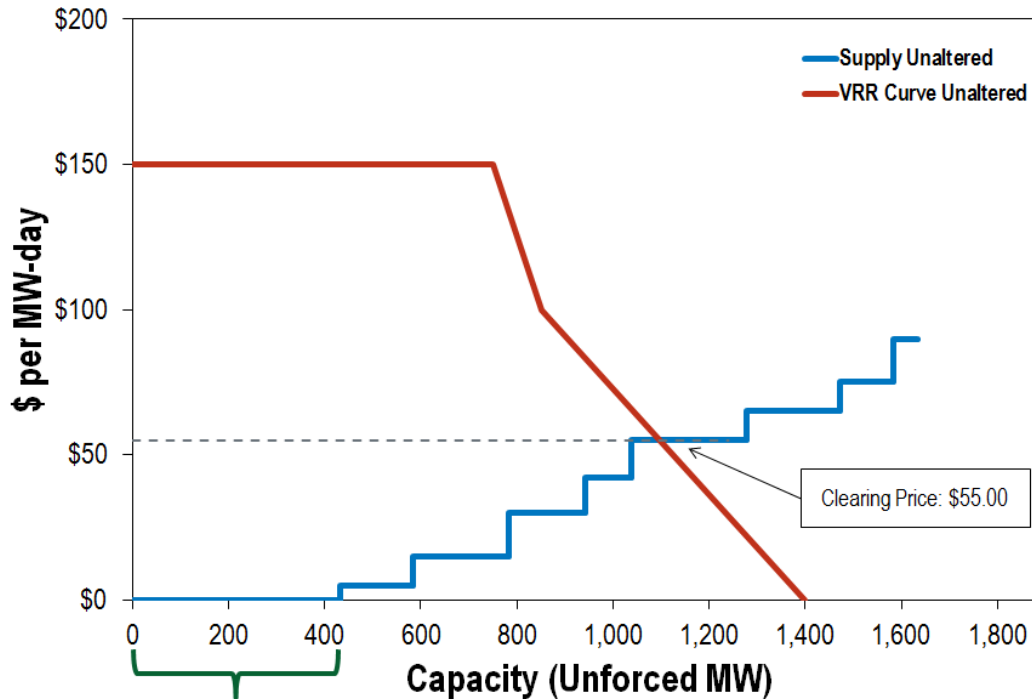
	Capacity (Unforced MW)	Offer (\$/MW-day)
Res P1	150.0	5.00
Res P2	200.0	15.00
Res P3	160.0	30.00
Res P4	95.0	42.00
Res P5	240.0	55.00
Res P6	195.0	65.00
Res P7	110.0	75.00
Res P8	50.0	90.00

# Example 1: Capacity Auction Clearing Child LDA



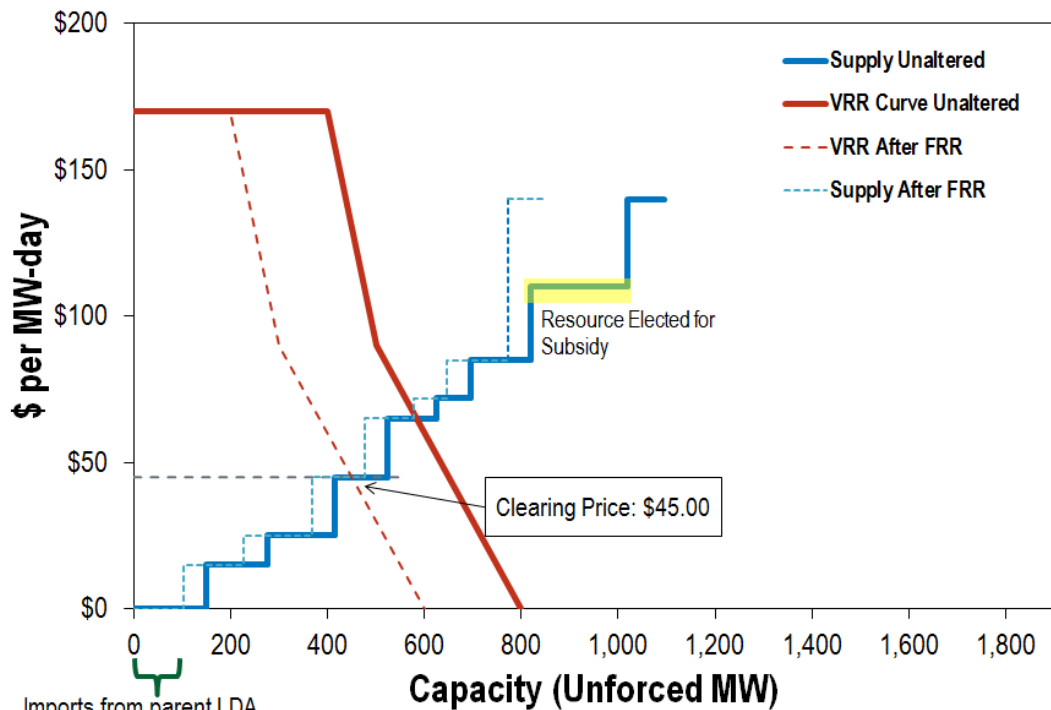
Imports from parent LDA  
(150 MW out of available 150 MW CETL)

# Example 1: Capacity Auction Clearing Parent LDA



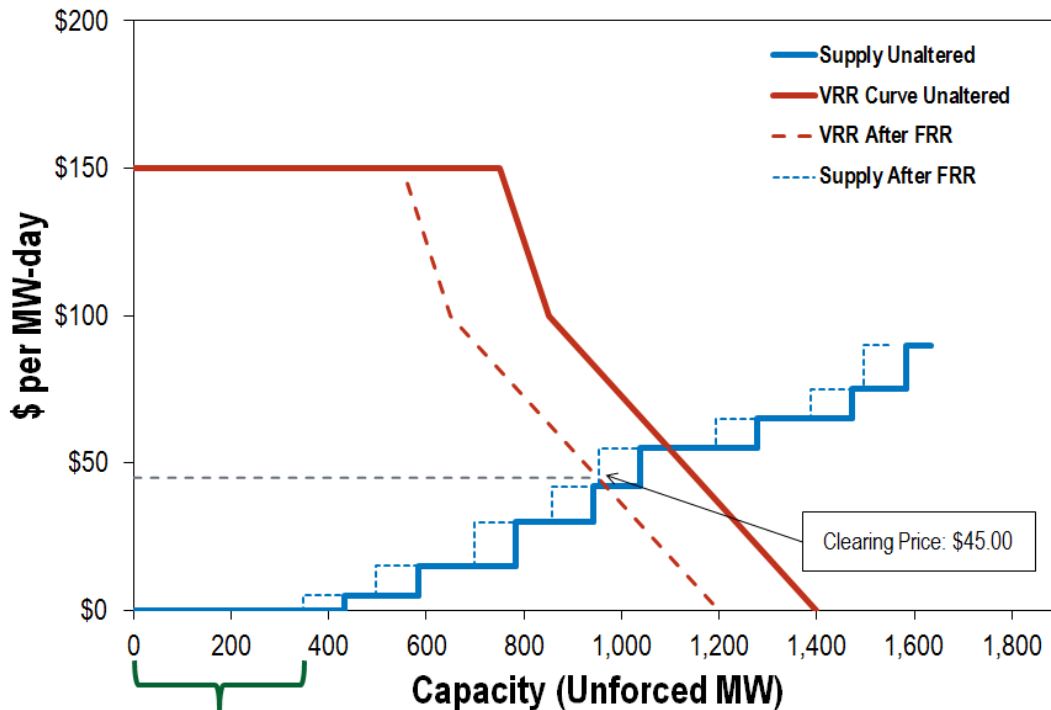
Child LDA's cleared VRR, net of imports (433 MW)

# Example 1: Capacity Auction Clearing with FRR Child LDA



Imports from parent LDA  
(102.6 MW out of available 150 MW CETL)

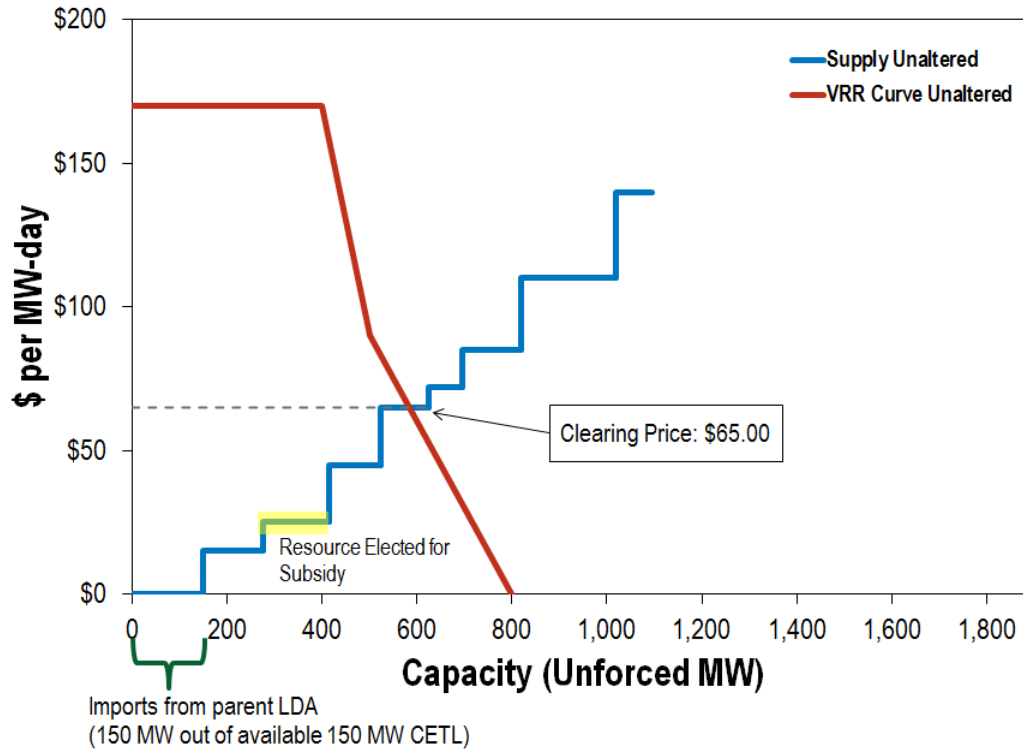
# Example 1: Capacity Auction Clearing with FRR Parent LDA



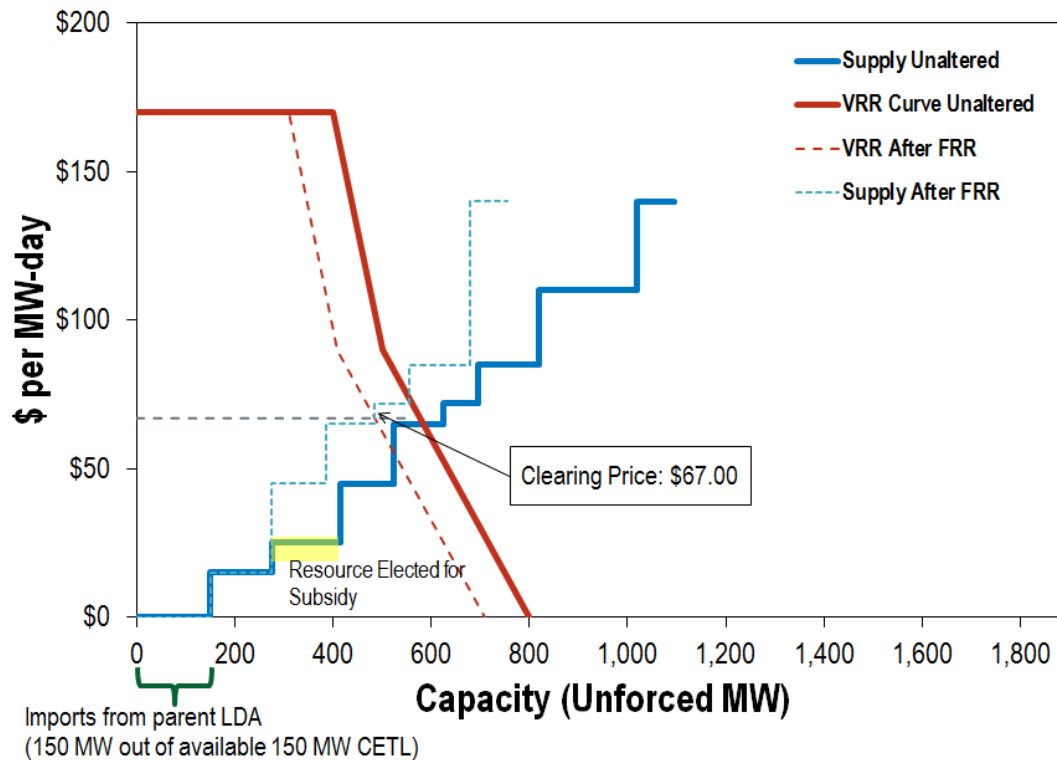
Child LDA's cleared VRR, net of imports (347.4 MW)



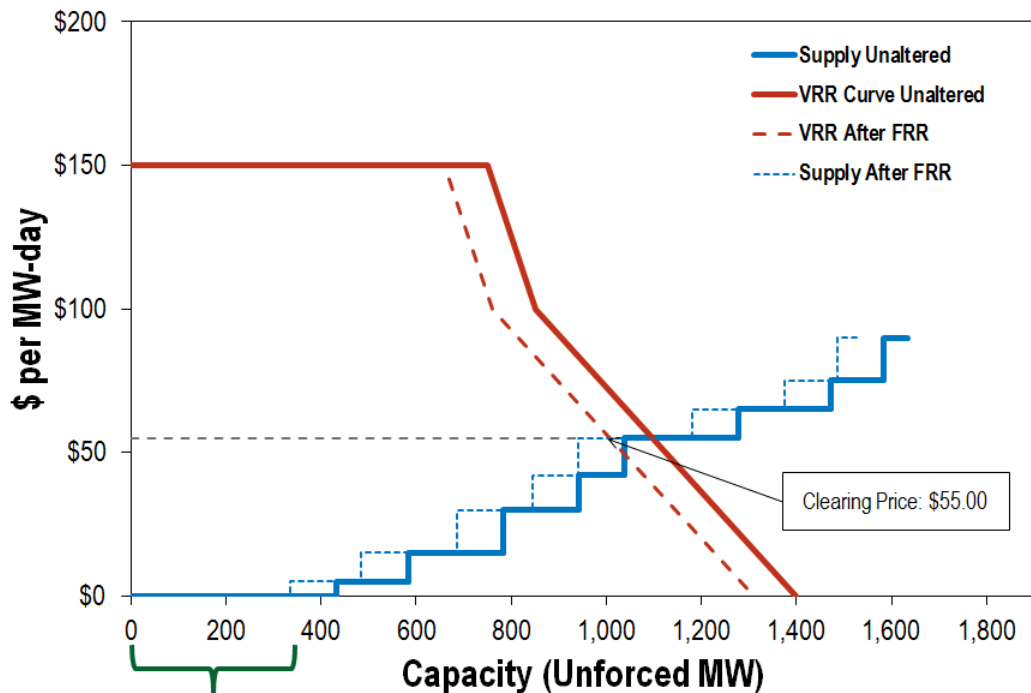
# Example 2: Capacity Auction Clearing Child LDA



# Example 2: Capacity Auction Clearing with FRR Child LDA



# Example 2: Capacity Auction Clearing with FRR Parent LDA



Child LDA's cleared VRR, net of imports (335 MW)

# Summary

	Parent LDA	Child LDA
Base Case	\$55.00	\$65.00
Example 1: Subsidized Resource out of the Money	\$45.00	\$45.00
Example 2: Subsidized Resource in the Money	\$55.00	\$67.00

# Sensitivity Analysis: FRR options

## Effect on Clearing Prices for 2021/2022 BRA

LDA	Clearing Prices (\$/MW-day)		
	Base Residual Auction	Remove Cost of Service Units	Remove all Coal and Nuclear Units
RTO	\$140.00	\$149.27	\$25.46
ATSI	\$171.33	\$193.27	\$25.46
ComEd	\$195.55	\$184.05	\$43.93
MAAC	\$140.00	\$149.27	\$150.93
EMAAC	\$165.73	\$186.68	\$150.93
PSEG	\$204.29	\$204.80	\$204.29
BGE	\$200.30	\$202.67	\$150.93

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