

# Treatment of Deactivations in RPM

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Capacity Market Operations  
Deactivation Enhancement Senior Task Force  
November 9, 2023

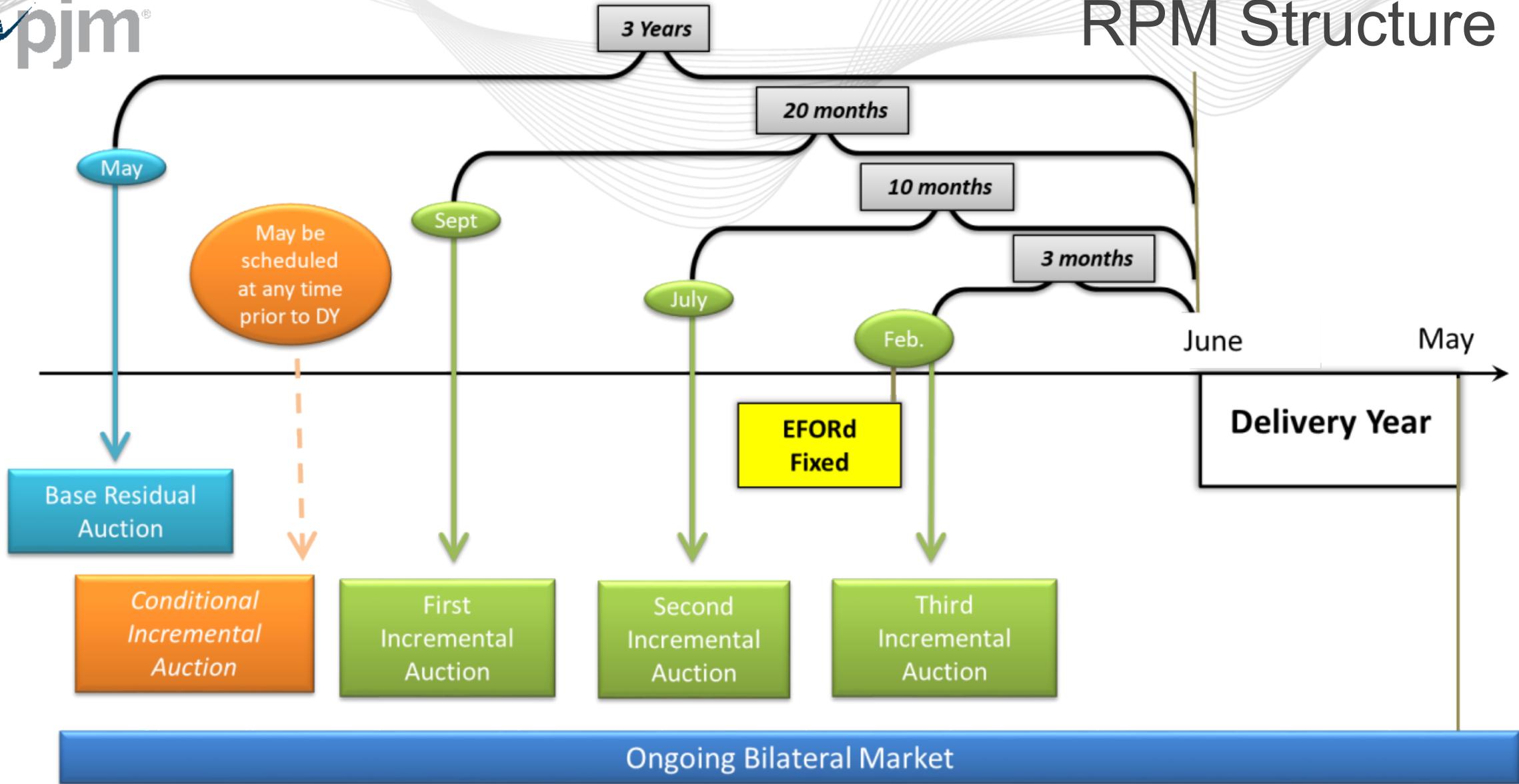
# RPM Resource Deactivation Process

- RPM resources scheduled to deactivate are subject to the must-offer obligation consistent with Attachment DD, Section 6.6 and 6.6(a); however,
  - Must-offer exception requests due to a scheduled deactivation prior to or during DY can be submitted via the MIRA system (subject to IMM & PJM review)
- Reliability Must Run (RMR) arrangement would stipulate whether unit is subject to must-offer
  - A RMR resource that is not required to offer does not have to submit exception request
  - If RMR resource is required to participate in RPM, the resource is handled consistent with how all other capacity resources are in RPM (subject to RMR arrangement)
- A unit with a RMR arrangement is modeled in reliability studies
- Participants must submit their deactivation CapMod just prior to deactivation date



# Key RPM Auction Deadlines (Normal Schedule)

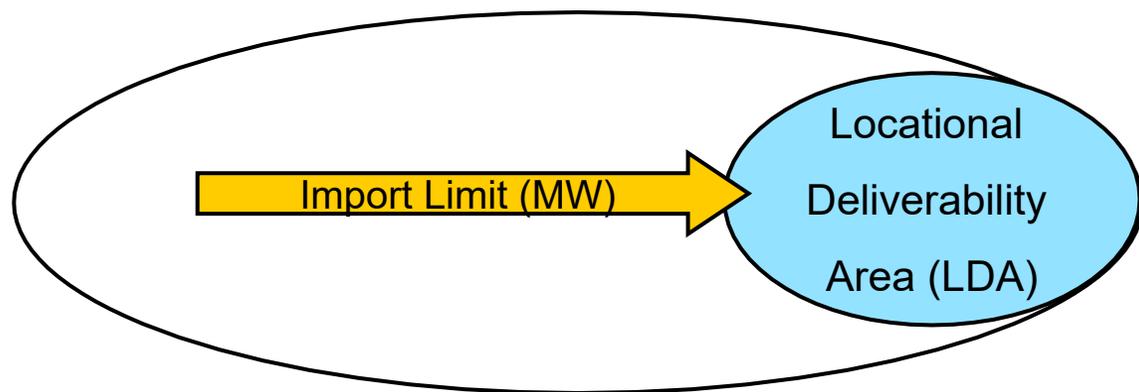
Auction Activity	Deadline
Last day for Capacity Market Sellers to request preliminary must-offer exception for the reason specified under OATT Attachment M-Appendix § II.C.4.A ( <b>Note: deadline waived under compressed schedule</b> )	BRA - Sep 1st IA - 240 days
Planning Parameters Posted (BRA)*	Feb 1st
Last day for Capacity Market Sellers to request must-offer exception for the reason specified under OATT Attachment M-Appendix § II.C.4.A (Deactivation)	120 days*
IMM provides participant with determination on must offer exception	90 days
Last day for Capacity Market Sellers to notify PJM/IMM of agreement with IMM determination of its request to remove a resource from Capacity Resource status or must offer exception	80 days
PJM notifies participant/IMM of its determination on must offer exception	65 days
Planning Parameters Posted (IA)	30 days



- Generation Capacity Resources that have provided proper notice to PJM for a scheduled deactivation may replace DY commitment prior to the 3IA in accordance with Section 8.8 of Manual 18
  - Such requests should be sent to both [rpm\\_hotline@pjm.com](mailto:rpm_hotline@pjm.com) and [rpmacr@monitoringanalytics.com](mailto:rpmacr@monitoringanalytics.com)
  - Generation replaced may not be recommitted for the DY
- Available capacity can be obtained via the bilateral market or Incremental Auctions using a Buy Bid

# Locational Deliverability Areas (LDAs)

- PJM determines sub-regions (i.e., Locational Deliverability Areas (LDAs)) and respective LDA Reliability Requirements to be modeled in RPM Auctions to recognize and quantify the locational value of capacity within the PJM region.
- Modeled Locational Deliverability Areas (LDAs) are determined by comparing the import limit of a LDA (CETL) to the amount of capacity that needs to be imported into a LDA to meet the reliability criterion (CETO).



CETL = Capacity Emergency Transfer Limit  
CETO = Capacity Emergency Transfer Objective

- CETO values are provided in the Planning Parameters for each modeled LDA. Value is used only when determining whether an LDA should be modeled in a Base Residual Auction (among additional factors, LDAs would be modeled if  $CETL < 1.15 \times CETO$ ).
- CETL values indicate the maximum amount of capacity in MW that can be imported into an LDA to contribute towards meeting the LDA's Reliability Requirement. If an LDA's CETL is reached in the course of determining an auction solution, the LDA is considered "binding" and subsequently higher cost supply in that LDA will be utilized to meet the requirement. Ultimately, this results in a higher clearing price for that LDA through the application of a locational price adder.
- An LDA's Reliability Requirement represents the total capacity in MW calculated to meet the target reserve level to be cleared for that RPM auction. This number is determined by adding the CETO value to the total of all internal generation capacity (in UCAP) in that LDA. The Reliability Requirement value is an important component for calculating the VRR Curve UCAP level points A, B and C for all LDAs.

# Planning Parameters Example

A change in the Reliability Requirement will result in a change in the UCAP Levels (Points A, B and C) of the VRR Curve for that LDA.

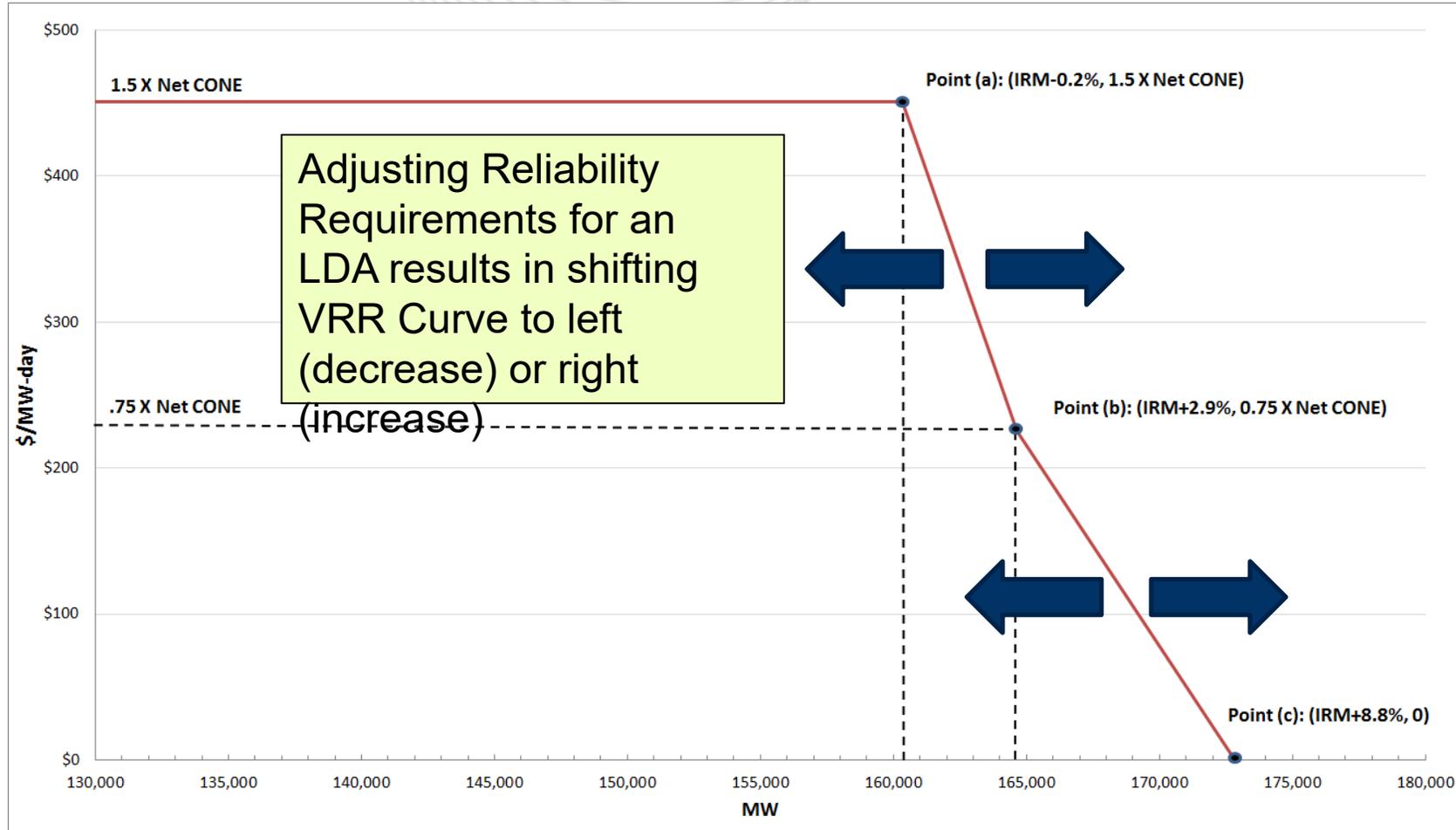
Example: An increase in MAAC Reliability Requirement to 65,000.0 results in the VRR curve changes below:

2024-2025 RPM Base Residual Auction Planning Parameters		2/27/2023			
	<b>RTO</b>	<b>Notes:</b>			
Installed Reserve Margin (IRM)	14.7%	2021 IRM Study, endorsed at the October 20, 2021 MRC meeting...			
Pool-Wide Average EFORd	5.02%	2021 IRM Study, endorsed at the October 20, 2021 MRC meeting.			
Forecast Pool Requirement (FPR)	1.0894	2021 IRM Study, endorsed at the October 20, 2021 MRC meeting.			
Preliminary Forecast Peak Load	150,640.3	2022 Load Report with adjustments for load served outside PJM.			
	<b>RTO</b>	<b>MAAC</b>	<b>EMAAC</b>	<b>SWMAAC</b>	<b>PS</b>
CETO	NA	-4,760.0	2,740.0	6,060.0	5,630.0
CETL	NA	5,965.0	8,594.0	7,947.0	8,287.0
Reliability Requirement	164,107.6	63,518.0	35,415.0	14,299.0	11,166.0
Total Peak Load of FRR Entities	29,421.6	0	0	0	0
Preliminary FRR Obligation	32,051.9	0	0	0	0
Reliability Requirement adjusted for FRR	132,055.7	63,518.0	35,415.0	14,299.0	11,166.0
Gross CONE, \$/MW-Day (UCAP Price)	\$348.94	\$351.93	\$355.14	\$357.45	\$355.14
<b>Net CONE, \$/MW-Day (UCAP Price)</b>	<b>\$293.19</b>	<b>\$294.06</b>	<b>\$312.39</b>	<b>\$261.07</b>	<b>\$321.21</b>
EE Addback (UCAP)	7,668.7	3,393.8	1,906.7	766.2	676.5
<b>Variable Resource Requirement Curve:</b>					
Point (a) UCAP Price, \$/MW-Day	\$439.79	\$441.09	\$468.59	\$391.61	\$481.82
Point (b) UCAP Price, \$/MW-Day	\$219.89	\$220.55	\$234.29	\$195.80	\$240.91
Point (c) UCAP Price, \$/MW-Day	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Point (a) UCAP Level, MW	138,342.8	66,247.3	36,951.2	14,915.6	11,725.7
Point (b) UCAP Level, MW	141,911.9	67,964.0	37,908.3	15,302.1	12,027.5
Point (c) UCAP Level, MW	148,704.6	71,231.2	39,730.0	16,037.6	12,601.8
<b>Nominated PRD Value, MW</b>	<b>305.0</b>	<b>305.0</b>	<b>35.0</b>	<b>270.0</b>	<b>0.0</b>
<b>VRR Curve adjusted for PRD:</b>					
Point (a1) UCAP Price, \$/MW-Day	\$439.79	\$441.09	\$468.59	\$391.61	
Point (b1) UCAP Price, \$/MW-Day	\$219.89	\$220.55	\$234.29	\$195.80	
Point (prd1) UCAP Price, \$/MW-Day	\$0.01	\$0.01	\$0.01	\$0.01	
Point (prd2) UCAP Price, \$/MW-Day	\$0.01	\$0.01	\$0.01	\$0.01	
Point (c) UCAP Price, \$/MW-Day	\$0.00	\$0.00	\$0.00	\$0.00	
Point (a1) UCAP Level, MW	138,010.5	65,915.0	36,913.1	14,621.5	
Point (b1) UCAP Level, MW	141,579.6	67,631.7	37,870.2	15,008.0	
Point (prd1) UCAP Level, MW	148,372.0	70,898.8	39,691.8	15,743.5	
Point (prd2) UCAP Level, MW	148,704.3	71,231.1	39,729.9	16,037.6	
Point (c) UCAP Level, MW	148,704.6	71,231.2	39,730.0	16,037.6	
<b>Pre-Auction Credit Rate, \$/MW</b>	<b>\$53,507.18</b>	<b>\$53,665.95</b>	<b>\$57,011.18</b>	<b>\$47,645.28</b>	<b>\$58,620.83</b>
Participant-Funded ICTRs Awarded	NA	1557.0	40.0	NA	1070.0
<b>FRR Load Requirement (% Obligation):</b>					
Minimum Internal Resource Requirement	NA	97.7%	83.3%	48.8%	28.5%

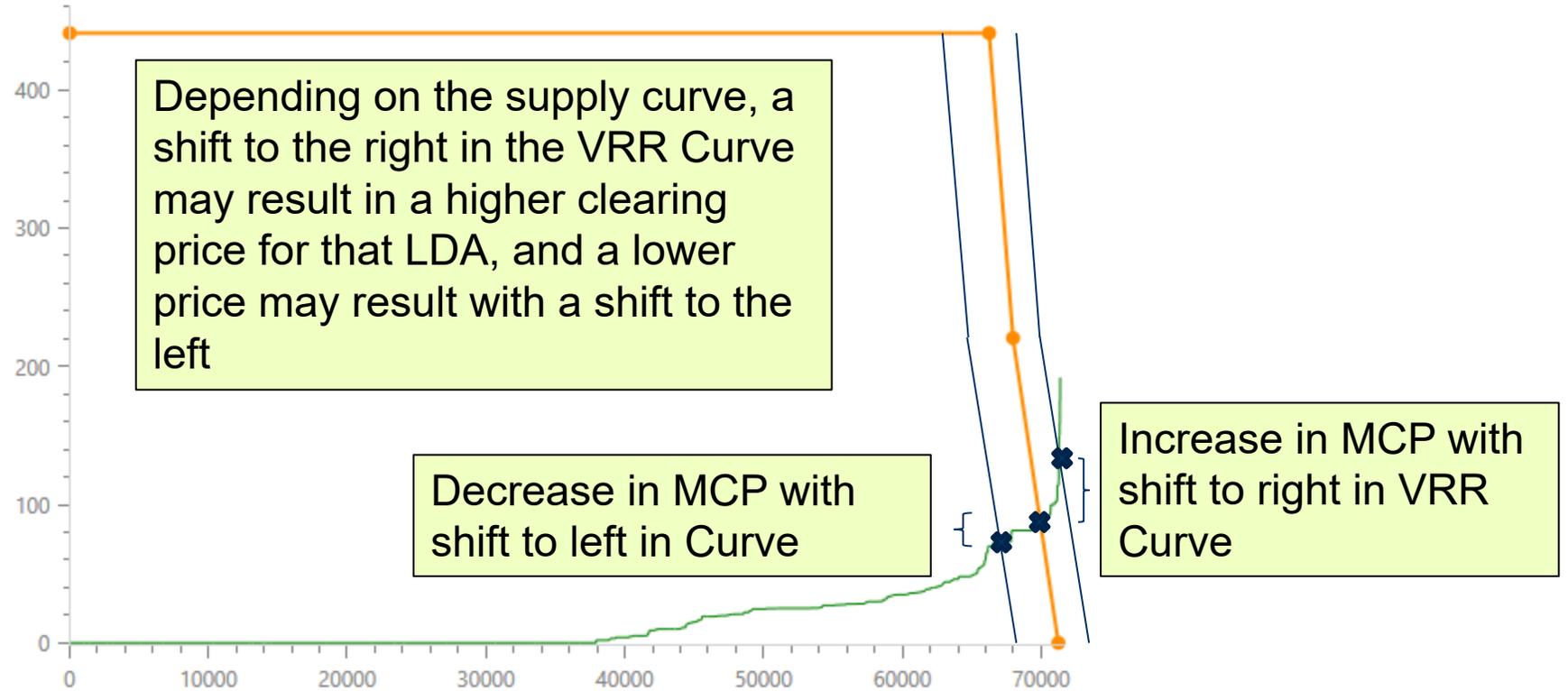
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<b>Nominated PRD Value, MW</b>	<b>305.0</b>	<b>305.0</b>	<b>35.0</b>	



# Variable Resource Requirement (VRR) Curve



# Clearing Example Using Supply Curve



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## Treatment of Deactivations in RPM



### Member Hotline

(610) 666 – 8980

(866) 400 – 8980

[custsvc@pjm.com](mailto:custsvc@pjm.com)

**PROTECT THE  
POWER GRID**  
**THINK BEFORE  
YOU CLICK!**



Be alert to  
malicious  
phishing emails.

**Report suspicious email activity to PJM.**  
(610) 666-2244 / [it\\_ops\\_ctr\\_shift@pjm.com](mailto:it_ops_ctr_shift@pjm.com)

