Capacity Obligations for Large Load Adjustments (COLA)

First Read of Solution Package

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Markets Implementation Committee

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Summary of Issue

- New data centers, and other emerging large-load industries, are driving significant forecasted load growth in certain areas of PJM.
    - These forecasted large load additions are incremental to the PJM Load Forecast
- These forecasted large load additions are leading to **an issue with the assignment of capacity obligations within a zone for future delivery years**.
    - Under the existing process, the capacity obligation is spread to all entities across the zone.
    - This can create a misalignment in the capacity obligations and associated cost impacts of the forecasted load addition.
- **As sponsors of the Problem Statement and Issue Charge, AEP and Dominion Energy present the following to provide additional details to the identified interest areas and design elements for stakeholder consideration.**

Review of Interest Identification

- Ensures an unbiased, transparent, traceable process to receive inputs and easily administered calculation of LSE UCAP Obligation.

- Ensure solutions are applicable across all zones for any large load adjustment.

- Send appropriate signals to market participants; prior to the BRA, ensure accurate assignment of Large Load Adjustments between RPM (VRR Curve) and FRR Obligations within a single zone.

- Accurately assign large load adjustments capacity obligations to the appropriate entity.

- Ensure an unbiased, transparent, traceable process to receive inputs to the LSE UCAP Obligation.

Potential Solution Options for identified interests and design elements

- Define Large Load Adjustment (LLA) as any MW quantity that the Transmission Owner reports in Table B-9 by zone and that is reported in the annual PJM Load Forecast Report.
- Largely retain status quo in determining Base Zonal Scaling Factors for FRR and RPM LSEs, but excludes the LLA in the Base Zonal Scaling Factor determination if there is an LLA projected within the zone at time of the BRA.
- Largely retain status quo in determining Final Zonal Scaling Factors for FRR and RPM LSEs, but excludes the LLA in the Final Zonal Scaling Factor determination if there is an LLA projected within the zone at the time of Delivery Year.
- Method developed to include a new step to add the LLA to the UCAP Obligations of the appropriate Zone/Area, which consequently adds the LLA to the UCAP obligation of the appropriate LSE based upon the EDC's protocol.

AEP and Dominion Energy Proposal Matrix

#	Design Components	Status Quo	AEP/DOM Package
*	Implementation		In 2024, solution in effect for applicable activities associated with the 2026/27 Delivery Year Base Residual Auction (i.e. use of Base FRR/RPM Scaling Factors). In 2025 and beyond, solution in effect for all applicable activities, including those associated with the 2025-26 Delivery Year (i.e. use of Final FRR/RPM Scaling Factors).
1	Definition of Large Load Adjustment	n/a	Any MW quantity TO reports in Table B-9, by zone/area
2	Definition of Preliminary Zonal Peak Load Forecast used for the calculation of the scaling factors	Includes reported large load adjustments by zone submitted by TO	Status quo
3	Definition of Final Zonal Peak Load Forecast used for the calculation of the scaling factors	Includes reported large load adjustments by zone submitted by TO	Status quo
4	Calculation of Base Zonal FRR Scaling Factor	FRR = Preliminary Zonal Peak Load Forecast divided by Zonal W/N Summer Peak Load - Calculated at time of BRA - Defined in RAA Schedule 8.1 and Manual 18, Section 11	Status quo, but exclude LLAs (only applies if there is an LLA in the zone)
5	Calculation of Base Zonal RPM Scaling Factor	RPM = Preliminary Zonal Peak Load Forecast divided by Zonal W/N Summer Peak Load * OPL Scaling Factor - OPL Scaling Factor = RTO UCAP Obligation for BRA divided by (RTO Preliminary Peak Load Forecast * FPR) - Calculated with BRA clearing results - Defined in RAA Schedule 8 and Manual 18, Section 7	Status quo, but exclude LLAs (only applies if there is an LLA in the zone)

AEP and Dominion Energy Proposal Matrix, continued…

#	Design Components	Status Quo	AEP/DOM Package
6	Calculation of Final Zonal FRR Scaling Factor	FRR = Final Zonal Peak Load Forecast divided by Zonal W/N Summer Peak Load - Calcuated prior to DY - Defined in RAA Schedule 8.1 and Manual 18, Section 11	Status quo, but exclude LLAs (only applies if there is an LLA in the zone)
7	Calculation of Final Zonal RPM Scaling Factor	RPM = Final Zonal UCAP Obligation/(FPR*Zonal W/N Summer Peak Load) = Final Zonal Peak Load Forecast divided by Zonal W/N Summer Peak Load * OPL Scaling Factor; - OPL Scaling Factor = Final RTO UCAP Obligation divided by (RTO Final Peak Load Forecast * FPR) - Calculated with 3rd IA clearing results. - Defined in RAA Schedule 8 and Manual 18, Section 7	Status quo, but exclude LLAs (only applies if there is an LLA in the zone)
8	Calculation of Obligation Peak Load (OPL)	Sum of Peak Load Contributions by LSE as submitted by EDC for the operating day, where sum must equal Zonal W/N Forecast	Status quo
9	Use of FRR Scaling Factors in determining preliminary and final daily FRR LSE UCAP Obligation	OPL * Final Zonal FRR Scaling Factor * FPR; - Defined in RAA Schedule 8.1 and Manual 18, Section 11	No change to use of FRR Scaling Factor (as modified above); add new step to adjust the OPL MW of Zone/Areas to reflect LLAs in the appropriate Zone/Areas. EDC allocate to LSE based on EDC protocol.
10	Use of RPM Scaling Factors in determining preliminary and final daily RPM LSE UCAP Obligation	OPL * Final Zonal RPM Scaling Factor * FPR Defined in RAA Schedule 8 and Manual 18, Section 7	No change to use of RPM Scaling Factor (as modified above); add new step to adjust the OPL MW of Zone/Areas to reflect LLAs in the appropriate Zone/Areas. EDC allocate to LSE based on EDC protocol.

How do the potential solution options address the identified interest?

Does the following…	By doing…
Ensures an unbiased, transparent, traceable process to receive inputs and easily administered calculation of LSE UCAP Obligation.	Clearly defines LLA as any MW quantity the TO reports in the load forecast Table B-9; adds new step for determining FRR LSE and RPM LSE UCAP Obligation after excluding LLAs from calculation of Base Zonal Scaling Factors; administered by PJM.
Ensure solutions are applicable across all zones for any large load adjustment.	Applies to all zones to appropriate allocation and account for LLA between Zone/Areas.
Send appropriate signals to market participants; prior to the BRA, ensure accurate assignment of Large Load Adjustments between RPM (VRR Curve) and FRR Obligations within a single zone.	Allocates the LLA to the appropriate Zone/Area prior to the Base Residual Auction for the applicable delivery year.
Accurately assign large load adjustments capacity obligations to the appropriate entity.	PJM will assign and account for LLAs to the appropriate Zone/Areas after applying adjusted Zonal Scaling Factors. If applicable, EDC will further account for LLAs within a Zone/Area based on EDC protocol.

Stakeholder Process / Schedule

Schedule & Implementation:

2024	
March	• MIC First Read
April	• MIC Second Read & Voting • MRC First Read
May	• MRC Second Read & Voting
June	• MC Voting
July	• FERC 205 Filing
August	
September	• FERC Order
October	• Effective Date for Solution
November	• Solution in Effect for 2026/27 Delivery Year Activities (i.e. use of Base Zonal Scaling Factors)
December	• 2026/27 Delivery Year Base Residual Auction
2025+	• Solution in Effect for All Applicable Activities, including for the 2025/26 Delivery Year (i.e. use of Final Zonal Scaling Factors)

MIC MRC/MC

March-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

July-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December-24

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
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22	23	24	25	26	27	28
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