



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**In the Matter of:**

**AN ELECTRONIC EXAMINATION OF THE  
APPLICATION OF THE FUEL ADJUSTMENT CLAUSE  
OF BIG RIVERS ELECTRIC CORPORATION FROM  
NOVEMBER 1, 2022 THROUGH OCTOBER 31, 2024**

)  
) **Case No.**  
) **2025-00343**  
)  
)

**Responses to Commission Second Request for Information  
dated February 6, 2026**

**FILED: February 20, 2026**

**BIG RIVERS ELECTRIC CORPORATION**

**AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL  
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**CASE NO. 2025-00343**

**VERIFICATION**

I, Thomas L. Melton., verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



2/18/26

Thomas L. Melton

COMMONWEALTH OF KENTUCKY )

COUNTY OF DAVIESS )

18<sup>th</sup> SUBSCRIBED AND SWORN TO before me by Thomas L. Melton. on this the  
day of February 2026.



Notary Public, Kentucky State at Large

Kentucky ID Number

KYNP33629

My Commission Expires

8-30-2029

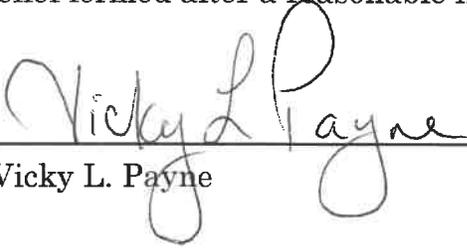
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**VERIFICATION**

I, Vicky L. Payne, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

  
\_\_\_\_\_  
Vicky L. Payne

COMMONWEALTH OF KENTUCKY )

COUNTY OF DAVIESS )

20<sup>th</sup> SUBSCRIBED AND SWORN TO before me by Vicky L. Payne on this the  
20<sup>th</sup> day of February, 2026.

  
\_\_\_\_\_  
Notary Public, Kentucky State at Large  
Kentucky ID Number KYNP33629  
My Commission Expires 8-30-2029

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1 **Item 1)**     *Refer to the Direct Testimony of Vicky Payne (Payne Direct*  
2 *Testimony) page 6, lines 8-9. Because the two Green units do not operate on a*  
3 *daily basis and require time to create sufficient steam to transmit energy on*  
4 *the Midcontinent Independent System Operator (MISO) system, starting from*  
5 *when the units are offline, explain the timeline of deciding when and how to*  
6 *bid the units into the day ahead energy market and actually bringing them*  
7 *online.*

8

9 **Response:** The Green units are offered into the MISO day- ahead market as either  
10 “Economic” when available to be called upon to run/generate by MISO, or on an  
11 “Outage” designation when they are unavailable. MISO then determines through  
12 their daily offer process if they want to dispatch the units into service. The Green  
13 units offer curve is determined by the daily gas price supplied by ACES gas traders.  
14 Natural gas transportation is also taken into consideration for any potential pipeline  
15 capacity constraints. Once any day ahead award is received, Green Station begins a  
16 startup sequence to bring a unit online to meet the awarded start time via the day

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1 ahead award process. This is a staged process to bring the unit up to appropriate  
2 temperature and operational standards. Once the unit is at correct operational  
3 levels, MISO then dispatches the unit via Automated Dispatch System (“ADS”) to the  
4 needed generation output level.

5

6 **Witness)** Vicky L. Payne

7

8

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1 **Item 2)**     *Refer to the Payne Direct Testimony, page 6, lines 18-22. Confirm*  
2 *whether Wilson Station can receive coal via rail or truck. If confirmed,*  
3 *explain whether BREC has transportation contracts with firms in either the*  
4 *rail or trucking industry and whether these modes of transportation were*  
5 *used during the review period.*

6

7 **Response:** Wilson Station can and does receive coal via truck. BREC received coal  
8 deliveries via truck delivery. Contract BRE-22-001 was designed for coal delivery  
9 for 2022, 2023, and 2024 via truck. BREC received truck deliveries from January  
10 2022 until May 2024. During the month of April 2024, "ACNR" Pride Mine was  
11 closed. We received the remaining tons from Pride Mine of 4,477 tons in May 2024.  
12 Thereafter, deliveries were sourced from two separate locations via barge to fulfill  
13 remaining contract tonnage requirements.

14           There is no rail system to Wilson Station; therefore, no coal delivery is  
15 available via rail.

16 **Witness: Vicky Payne**

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1 **Item 3)**     *Refer to the Direct Testimony of Thomas Melton (Melton Direct*  
2 *Testimony), page 4, lines 20-21. Provide the units for the natural gas prices.*

3

4 **Response:** The natural gas prices discussed in the testimony are Million British  
5 Thermal Units (MMBTu) or Dekatherm (Dth) values. These are interchangeable in  
6 the natural gas industry.

7

8 **Witness: Thomas L. Melton**

9

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1 **Item 4)**     *Refer to the Melton Direct Testimony, page 5, lines 11-14. Explain*  
2 *the drivers for the significant disparity between the summer and winter*  
3 *season capacity market clearing prices for the 2025-2026 planning year.*

4

5 **Response:** Please see the attached MISO presentation, “A Brief Review of MISO’s  
6 Reliability Based Demand Curve (RBDC) Implementation” dated September 18,  
7 2025, that discusses how the planning resources auction is cleared, specifically  
8 Slide 14 that mentions the summer season has the highest risk and tends to have  
9 the highest clearing price.

10 The presentation is also available online at [https://www.in.gov/iurc/files/2.-A-Brief-](https://www.in.gov/iurc/files/2.-A-Brief-Review-of-MISO-RBDC-Implementation.pdf)  
11 [Review-of-MISO-RBDC-Implementation.pdf](https://www.in.gov/iurc/files/2.-A-Brief-Review-of-MISO-RBDC-Implementation.pdf)

12

13 **Witness: Thomas L. Melton**



# A Brief Review of MISO's Reliability Based Demand Curve (RBDC) Implementation

Andrew Taylor

September 18, 2025

# Purpose & Agenda



## Purpose:

Provide Technical Conference with an educational refresher and discuss questions on RBDC.

## Agenda Topics:

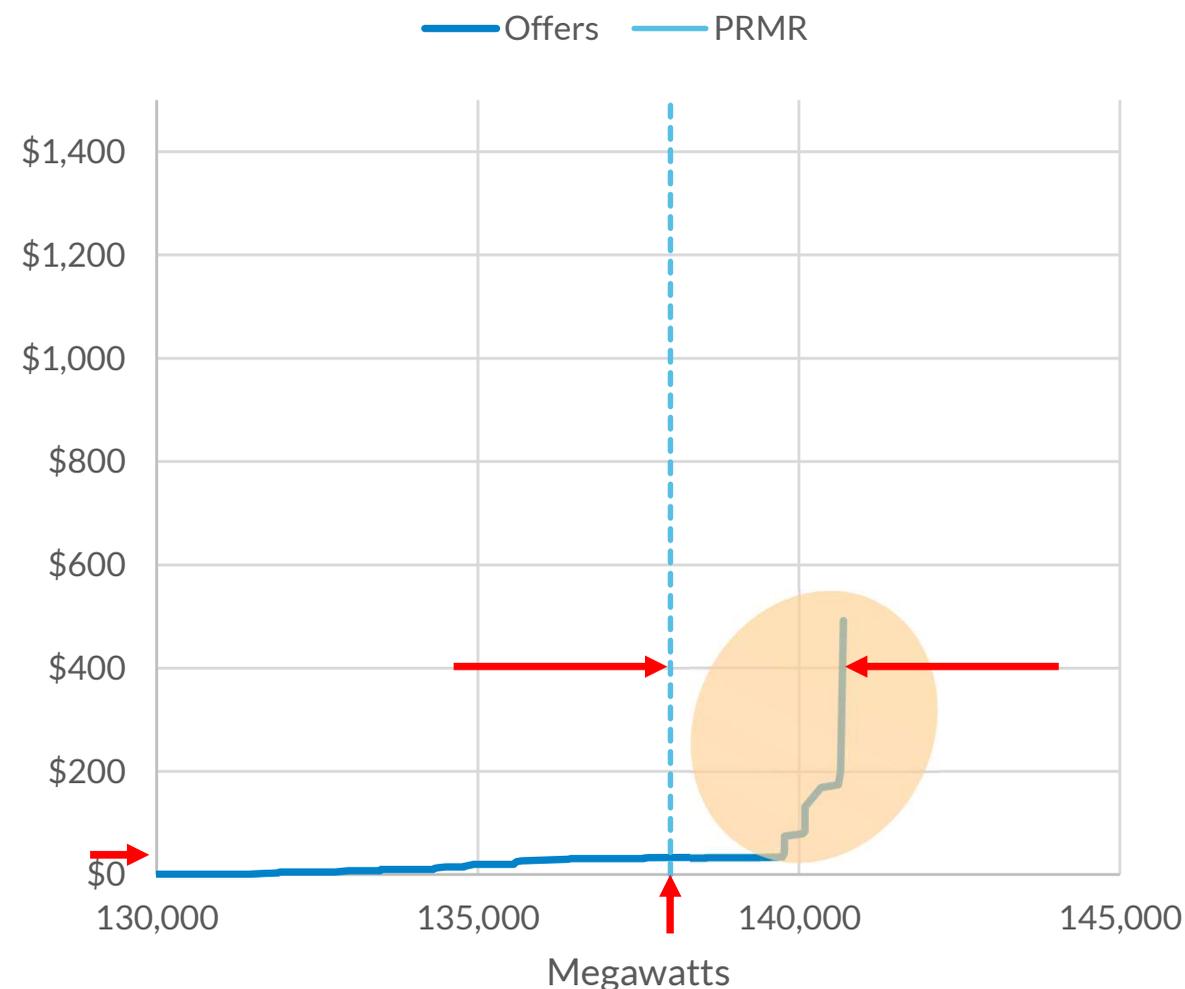
- Review of MISO's Capacity Market
- Summary of RBDC Filing / Order
- Mechanics of RBDC
- Review of RBDC Outcome(s) for 2025-26 Planning Resource Auction (PRA)

# Review of MISO's Capacity Market

- MISO's capacity market was established in the 2009/2010 Planning Year (PY)
  - Initially called the Voluntary Capacity Auction (VCA), it is now known as the Planning Resource Auction (PRA)
  - As the reliability coordinator, MISO sets requirements (Planning Resource Margin Requirement "PRMR"), accredits capacity resources (Seasonal Accredited Capacity "SAC") and facilitates the PRA
- This "auction" construct was established and though there have been reforms, the auction has been carried out largely unchanged for the last ~15 years
- The PRA is held on a "prompt" year basis – meaning just prior to start of the next PY
- "Single, Sealed-Ballot" style auction; more an optimization of all available resources by price
- Envisioned as a residual market; where primary planning role and capacity procurement is carried out by member states (IRPs, etc.).
  - MISO and the PRA do not procure capacity, MISO facilitates the market and ultimately operates a "0 sum" capacity market

# Review of MISO's Capacity Market

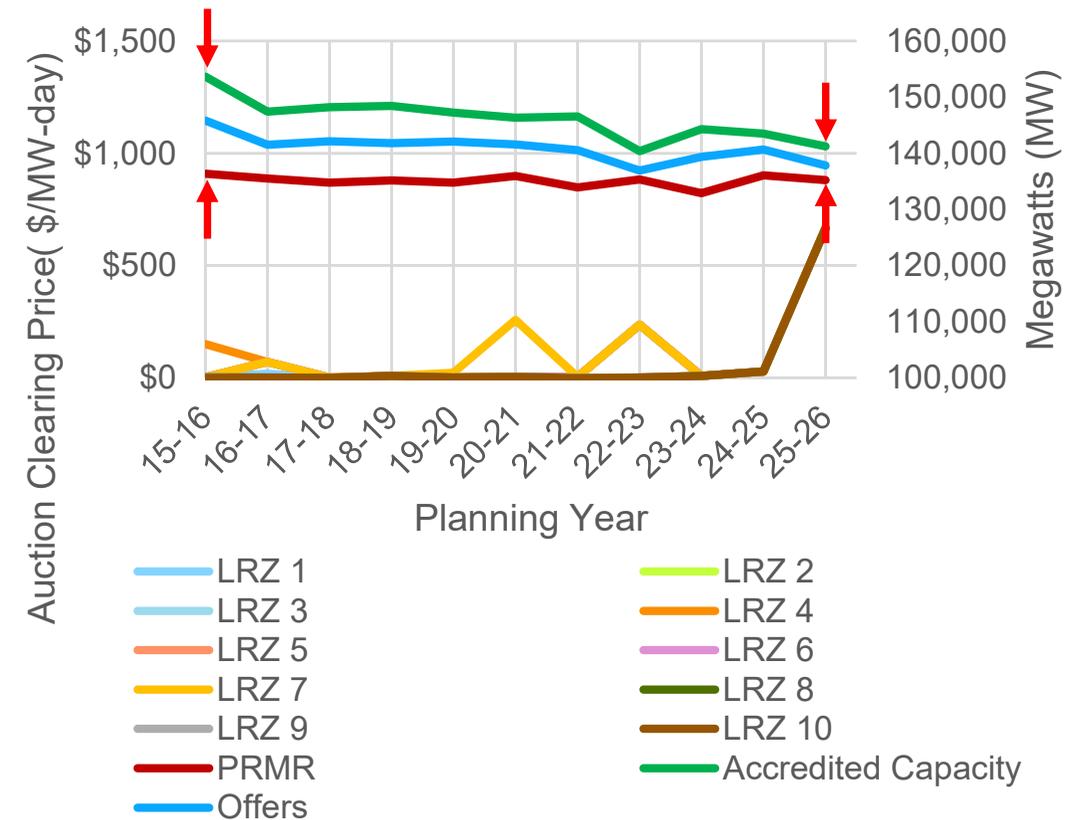
- PRA itself may appear complicated, due to all the factors involved.
- At a high level, it is a relatively simple optimization.
- Prior to RBDC, requirements for load and reserve margin were set (PRMR) and held fixed.
  - NOTE: This essentially sets a vertical, perfectly inelastic demand curve.
- Resource owners place offers for accredited capacity.
- These offers are essentially sorted from lowest to highest price to set the supply curve.
  - NOTE: No value for capacity beyond this requirement



# Review of MISO's Capacity Market

- Resulted in much of the following:
  - Significant, ample supply beyond the requirement existed.
  - Most LSEs offered in at a near \$0 price (residual market).
  - Lead to many years of low capacity prices.
  - What incremental capacity was offered would not clear.
- Over time, incremental capacity left the market
  - This lead to time period where prices remained very low despite shrinking margins.
- Capacity began to shrink to point the where the requirement could no longer be satisfied.
  - Volatile capacity price outcomes (high / low)
  - Example 22-23 PRA (\$236), 23-24 PRA (\$10)

MISO Historic Planning Resource Auction Outcomes



# Summary of RBDC Filing / Order

- MISO Filed with FERC for RBDC in 2023.
- Proposed a change from vertical curve to a downward sloping (left-to-right) demand curve.
- Intended to address many of these issues, including price volatility and value for incremental capacity. (see: *reliability*)
- Intended to improve price signals of the PRA and the market as a whole; better informing decisions on both new investment and potential retirement.
- Ultimately approved by FERC for implementation in the 2025-26 Planning Year.

187 FERC ¶ 61,202  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Willie L. Phillips, Chairman;  
Allison Clements and Mark C. Christie.

Midcontinent Independent System Operator, Inc.      Docket Nos. ER23-2977-000  
ER23-2977-001  
ER23-2977-002

## ORDER ACCEPTING TARIFF REVISIONS

(Issued June 27, 2024)

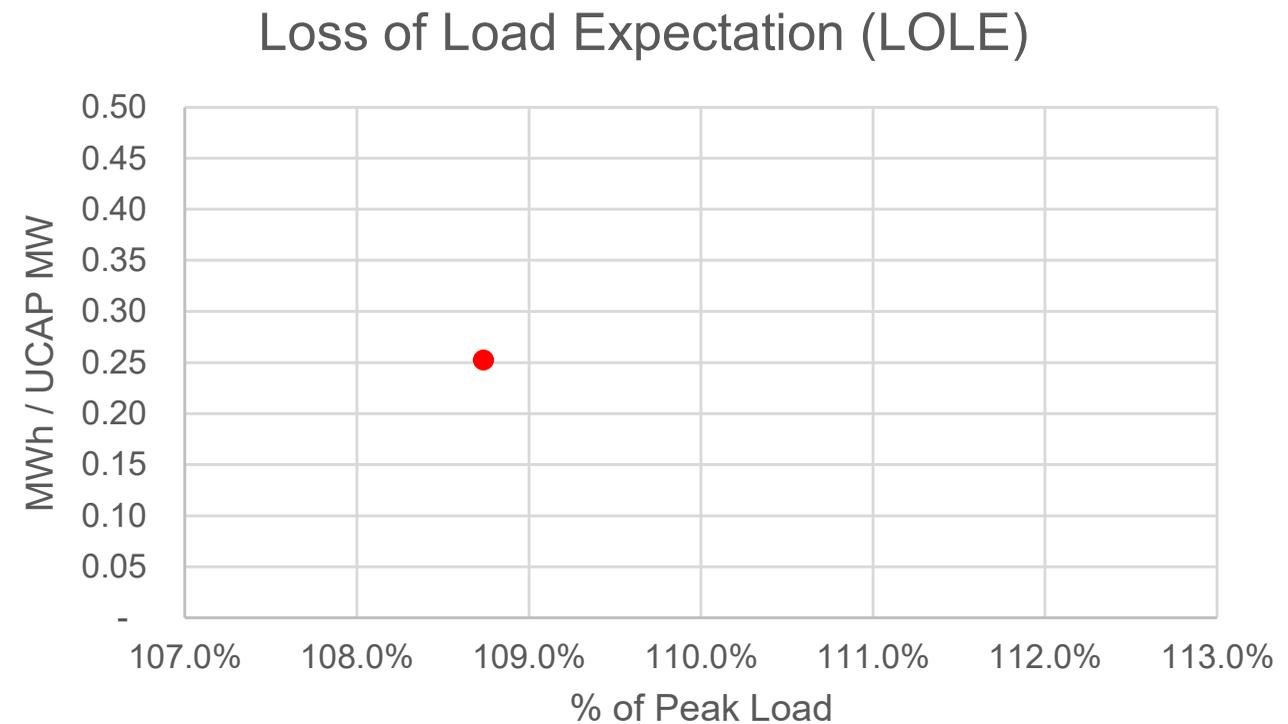
1. On September 29, 2023, as amended on December 21, 2023 and May 13, 2024, pursuant to section 205 of the Federal Power Act (FPA),<sup>1</sup> Midcontinent Independent System Operator, Inc. (MISO) submitted proposed revisions to its Open Access Transmission, Energy and Operating Reserve Markets Tariff (Tariff) to implement a downward-sloping Reliability Based Demand Curve (RBDC) in the MISO Planning Resource Auction (Auction) beginning with the 2025/2026 Planning Year. As discussed below, we accept MISO's proposed Tariff revisions, effective June 3, 2024, as requested.

### I. Background

2. MISO has used a vertical demand curve to represent the market's demand for capacity since the Auction's inception in the 2009/2010 Planning Year.<sup>2</sup> When MISO originally proposed the Auction, MISO and others argued that a fixed reliability target in the form of a vertical demand curve would provide a clear target compared to the variable requirement found in a downward-sloping demand curve. Supporters argued that, given that resource adequacy in MISO rested primarily on load serving entities (LSE) that are overseen by Relevant Electric Retail Regulatory Authorities (RERRA),<sup>3</sup> a defined

# Mechanics of RBDC

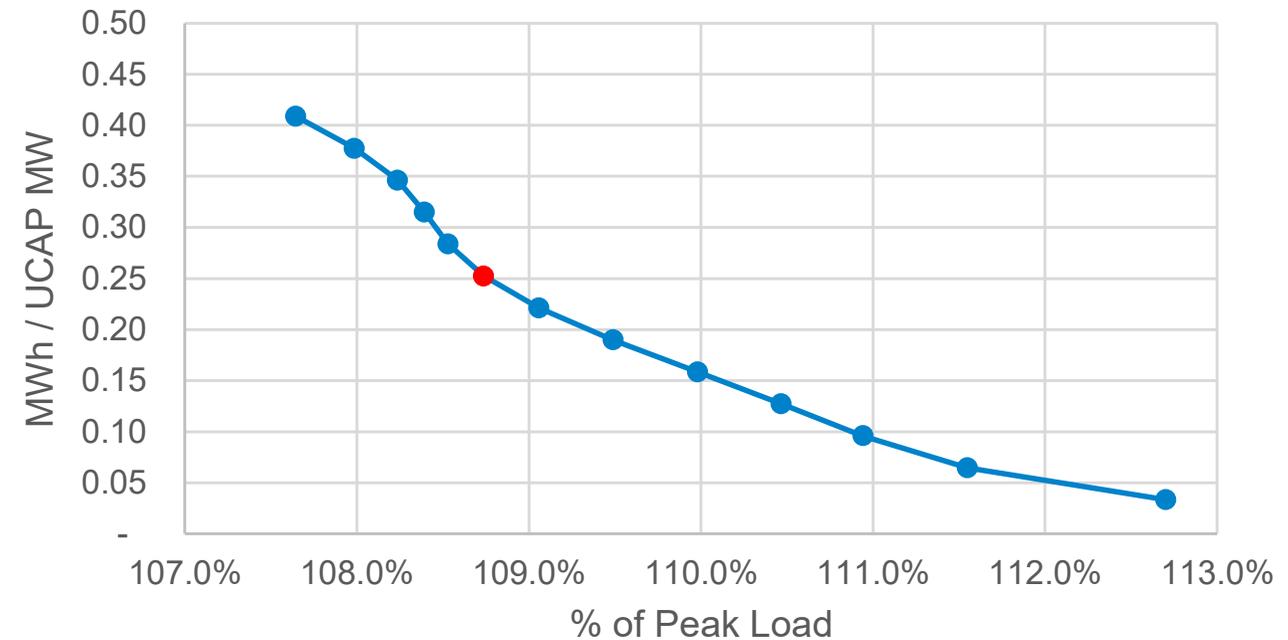
- Begins with Loss of Load Expectation (LOLE)
- This is a probabilistic study which “begins” the planning process leading up to the PRA each year.
- The LOLE study process will determine the amount of additional capacity needed (relative to peak load) to serve the system with the expectation of only 1 loss event in 10 years, or the “1 in 10” standard.



# Mechanics of RBDC

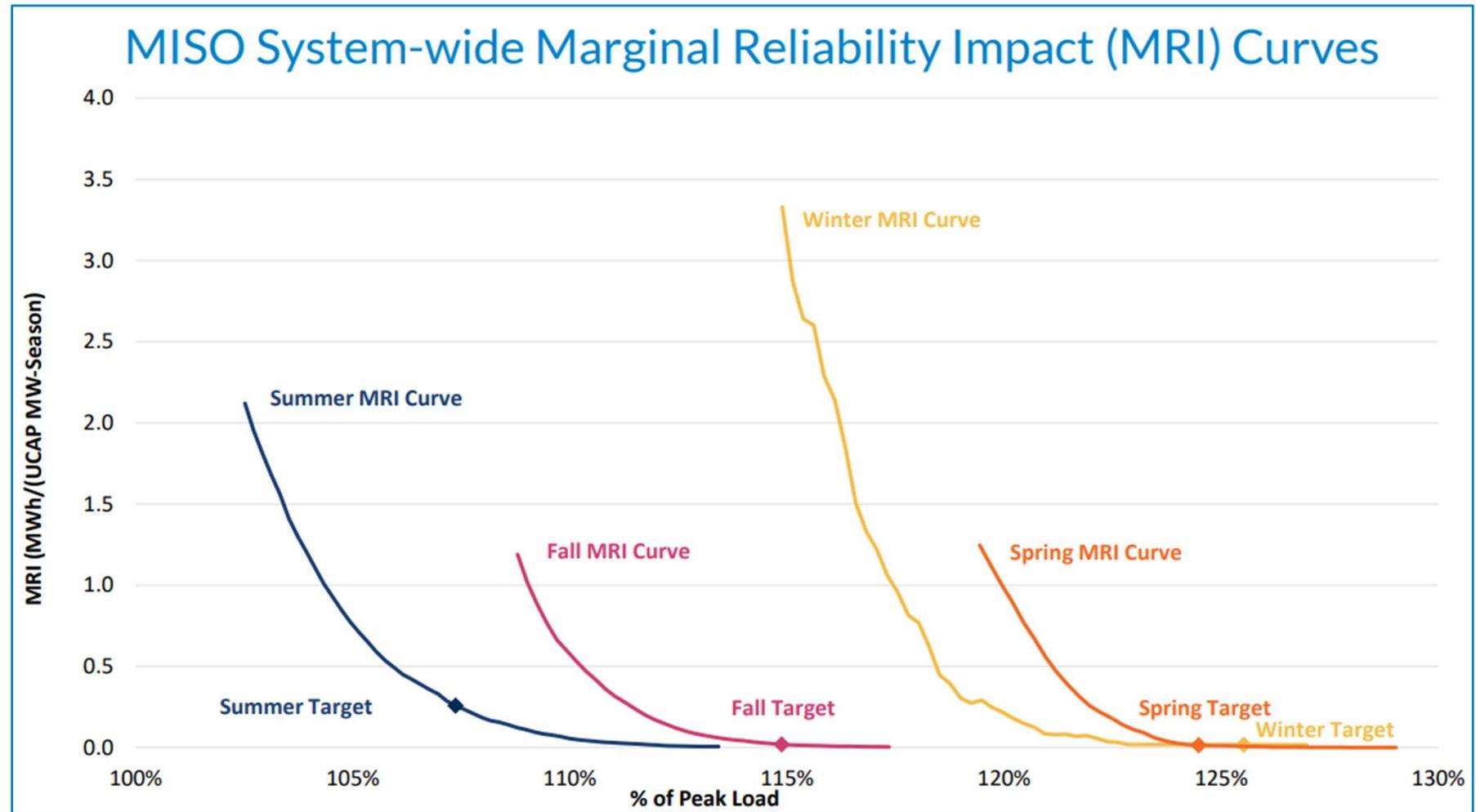
- MISO then modifies this outcome, by adding and removing chunks of capacity from this model.
- More capacity leads to increased reliability
  - Points down and to the right
- Less capacity leads to decreased reliability
  - Points up and to the left
- These relations are called Marginal Reliability Impact or “MRI” curves

Marginal Reliability Impact (MRI) Curve



# Mechanics of RBDC

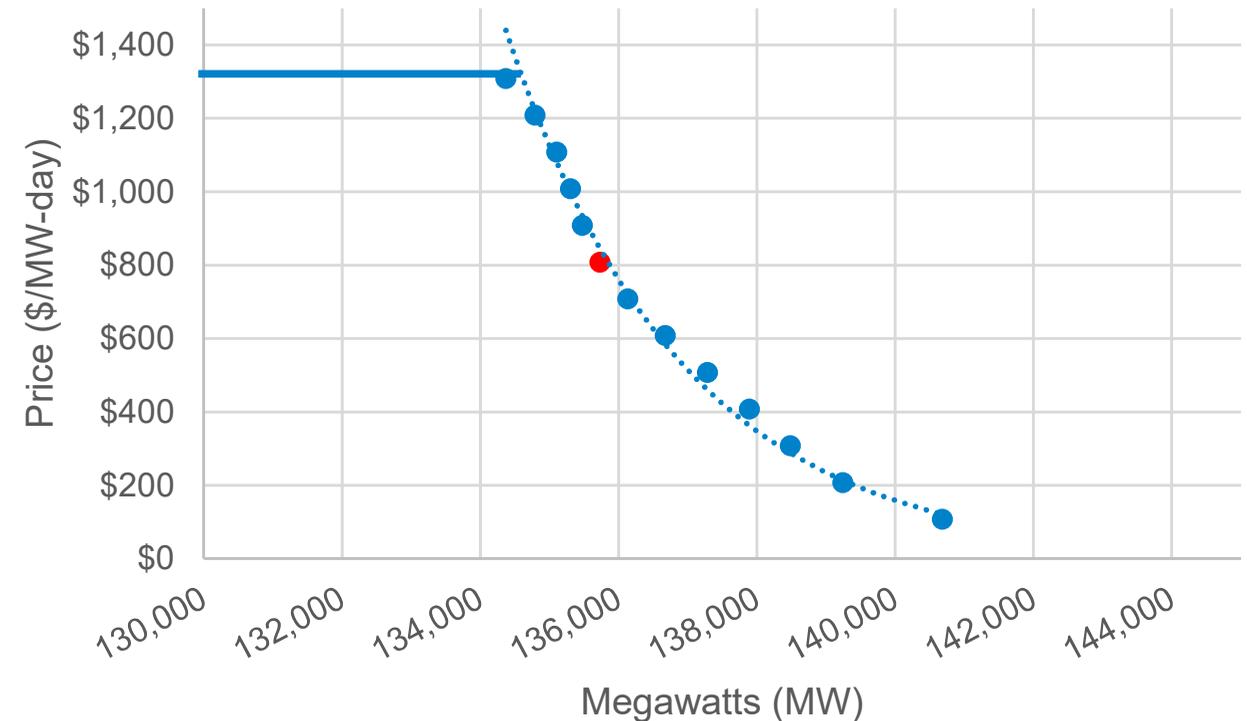
- Example of actual MRIs developed during RBDC implementation.
- Note curves are not perfectly smooth.
- RBDCs are ultimately further smoothed in the process prior to PRA clearing.



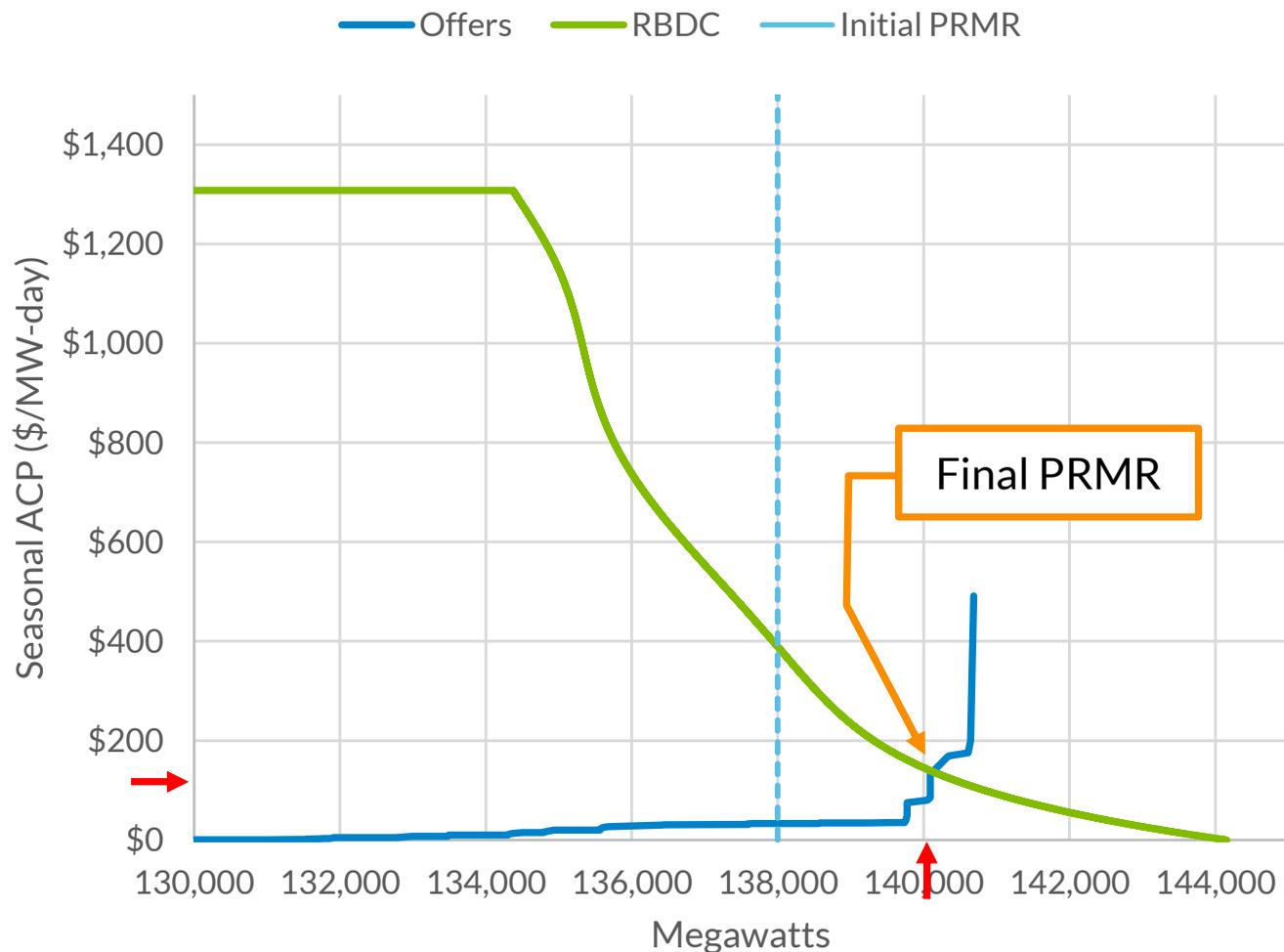
# Mechanics of RBDC

- Using a conversion factor based upon expected market revenue (“Net CONE”), MISO translates the MRI to a price basis (from EUE basis).
- This sets the reliability-based demand curve (RBDC).
- The RBDC is capped at Seasonal CONE.

Reliability Based Demand Curve (RBDC)

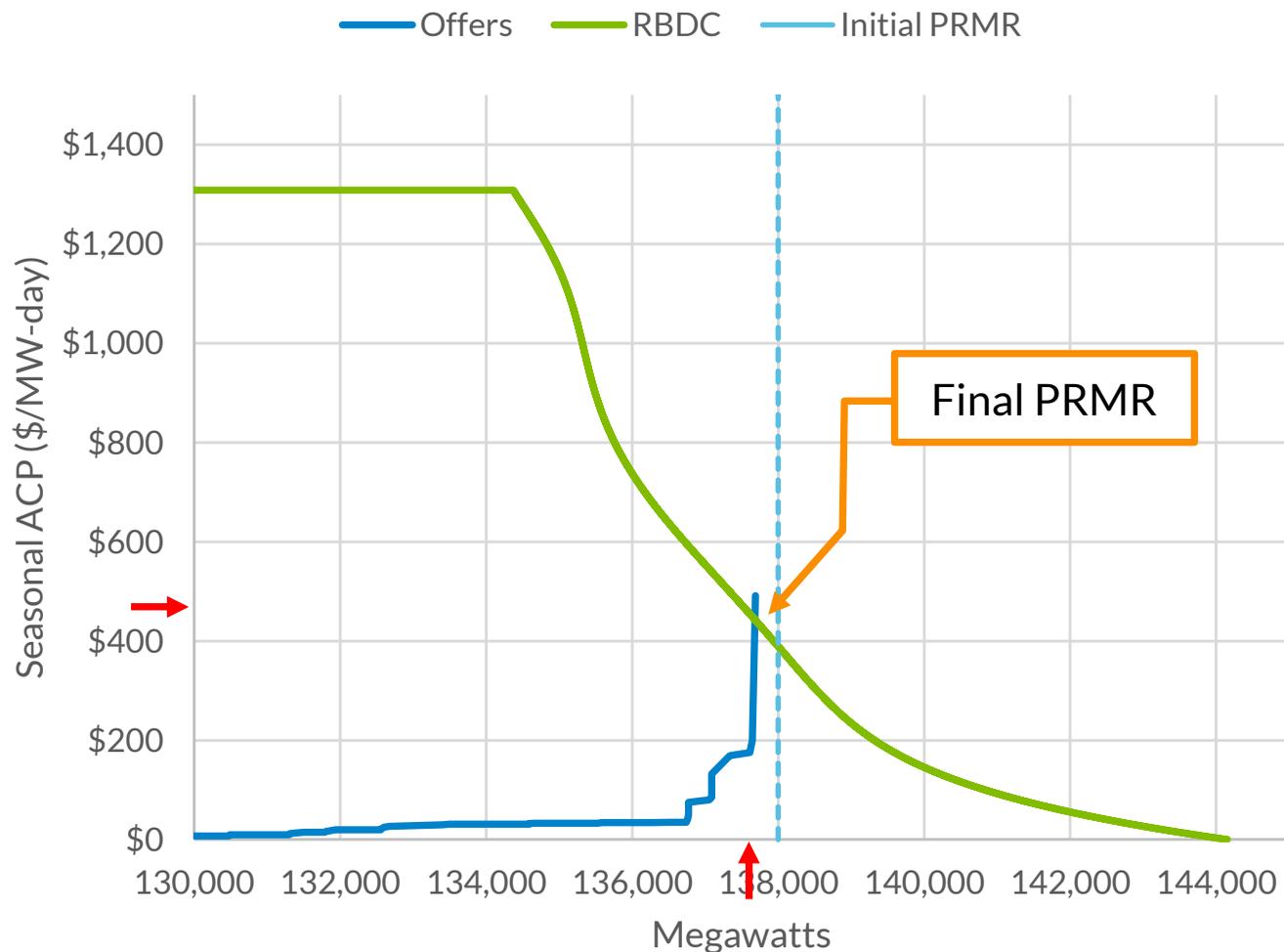


# Mechanics of RBDC



- We can return to our PRA example from earlier.
- Implementation of RBDC allows additional capacity – beyond the “Initial PRMR” – to be cleared, should that capacity be offered in at a price lower than the value of reliability.
- This phrase was used often in PRA results:
  - *Cost of capacity vs. Value of reliability*
    - NOTE: Should capacity be offered in at a very high price; less reliability will be procured since the RBDC will not clear more capacity if its cost is higher than the value of reliability at that same point.
- Consequence of the design is PRMR cannot be known until the PRA is complete; now termed **“FINAL PRMR”**

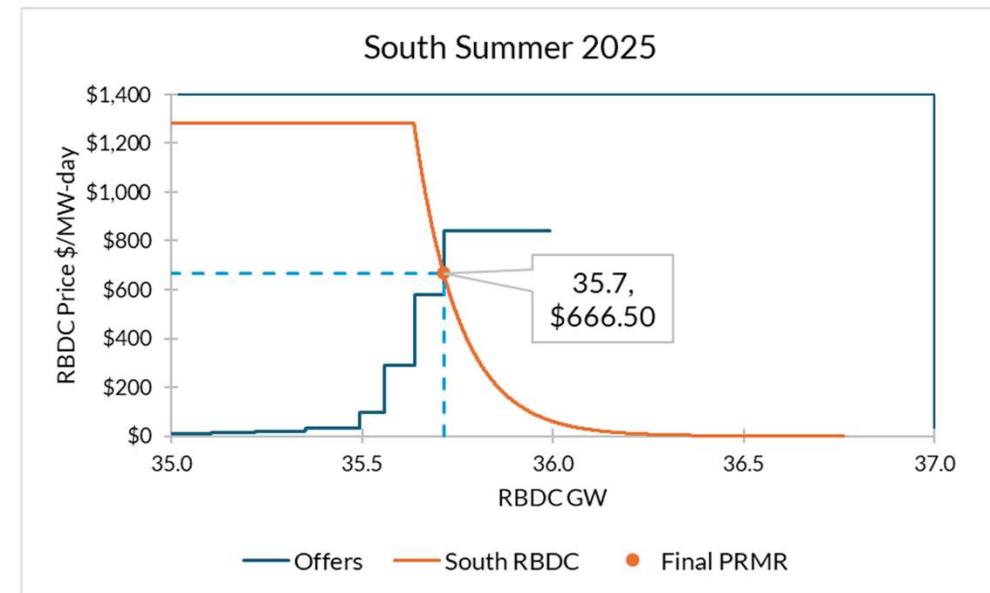
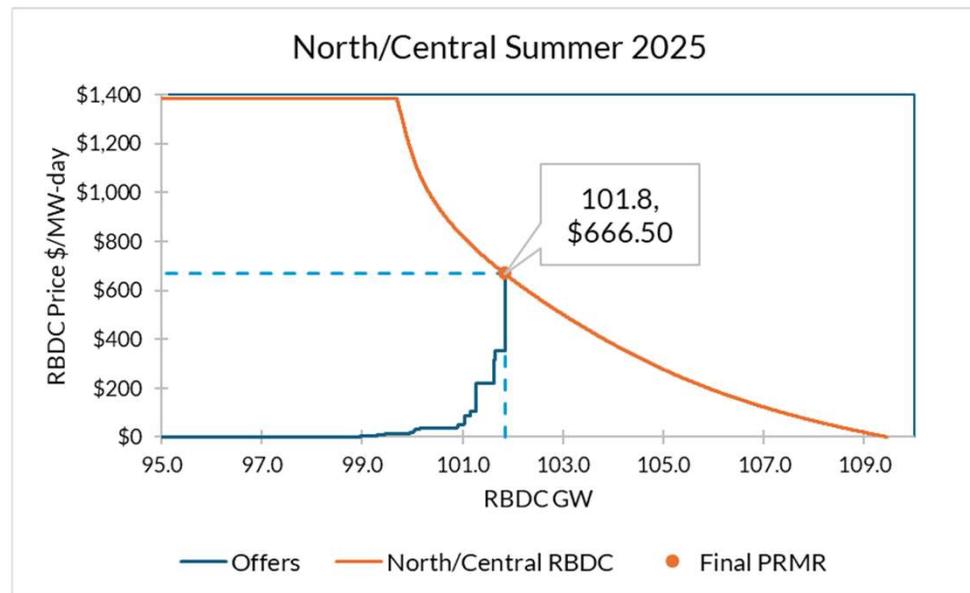
# Mechanics of RBDC



- While the objective of RBDC is to provide improved price signals for *incremental* reliability, the approach also impacts PRA outcomes where Initial PRMR is not satisfied.
- RBDC recognizes that failing to achieve the planning requirement by a small amount (*...by a single MW*) is not immediately worth CONE pricing.
  - Just as surpassing the planning requirement does not make incremental capacity worthless
- RBDC establishes the financial value of reliability.

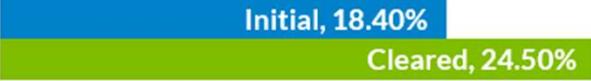
# RBDC outcomes for the MISO PRA

- Prices reflect incremental value of reliability
- Incremental reliability cleared (to “right” of LOLE point) in all Seasons
  - NOTE: Additional 1.5% - 6.1% reserve margin cleared
- In Summer, all but one (1) resource was cleared
  - All capacity offered in below value of reliability at the MW point
- Pricing sends improved investment signal for capacity for member states, merchant generators, etc.



# RBDC outcomes for the MISO PRA

- 25-26 PRA resulted in all Seasons clearing additional capacity than initially planned.
- As reviewed, this was due to incremental capacity being offered in at a price lower than the value of reliability.
- The Season with the highest risk (Summer) will set “1 in 10” criterial, tend to have the highest ACP.
- MISO is beginning to enter preparations for the 26-27 PRA and looks forward to continued use of RBDC in its capacity market construct.

	2025 Planning Resource Auction Initial Target vs. Final Cleared	Additional Reliability	Auction Clearing Price
Summer	 Initial, 7.90% Cleared, 9.80%	+1.9%	\$666.50
Fall	 Initial, 14.90% Cleared, 17.50%	+2.6%	\$91.60 N/C \$74.09 S
Winter	 Initial, 18.40% Cleared, 24.50%	+6.1%	\$33.20
Spring	 Initial, 25.30% Cleared, 26.80%	+1.5%	\$69.88
			Annualized \$217 (North/Central) \$212 (South)

# Questions?



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1 **Item 5)**     *Refer to the Melton Direct Testimony, page 5, Confidential lines*  
2 *15-20.*

3     *a.     Provide the MISO seasonal capacity values of each of BREC's*  
4 *generation units / power sources and compare those values to BREC's*  
5 *forecast demand and its MISO capacity obligation for the 2026-2027*  
6 *and the 2027-2028 planning years.*

7     *b.     Explain the justification for the forecast seasonal capacity*  
8 *positions for the 2026-2027 planning year and for the 2027-2028*  
9 *planning year. Include in the response the MISO seasonal capacity*  
10 *accreditation for each of BREC's generation units pertaining to the*  
11 *2026-2027 and 2027-2028 planning years.*

12     *c.     Provide an update on any actions BREC may take relative to its*  
13 *capacity positions.*

14

15 **Response:**

16     a.     Please see the attachment to this response.

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1           b.       Big River's forecasted seasonal capacity positions for the 2026-2027  
2 and 2027-2028 planning years are based on the draft accreditation for the 2026-  
3 2027 planning year posted by MISO (2027-2028 accreditation won't be determined  
4 by MISO until early 2027) along with the most recent load forecast submitted to  
5 MISO. The MISO requirement is determined by adjusting the forecast peak by Big  
6 River's coincidence factor, transmission losses, and MISO's planning reserve margin  
7 percentage for each season. The capacity position is determined by subtracting the  
8 total requirement from the total capacity accreditation. Please see the attachment  
9 in response to 5a for seasonal capacity accreditation values.

10           c.         
11   
12   
13   
14   
15 

16

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1

2

3 **Witness: Thomas L. Melton**

4

**Big Rivers Electric Corporation**  
**Case No. 2025-00343**  
**Attachment to Response to PSC 2-5(a)**

2026-2027 Planning Year			
Summer	Fall	Winter	Spring

2027-2028 Planning Year			
Summer	Fall	Winter	Spring

Capacity Accreditation				
Wilson				
Green 1				
Green 2				
Reid CT				
Unbridled Solar				
SEPA Hydro				
Total Capacity Accreditation				

Capacity Accreditation				
Wilson				
Green 1				
Green 2				
Reid CT				
Unbridled Solar				
SEPA Hydro				
Total Capacity Accreditation				

Forecasted Peak	
MISO Requirement	
OMU Requirement	
KYMEA Requirement	
Total Requirement	

Forecasted Peak	
Projected MISO Requirement	
OMU Requirement	
KYMEA Requirement	
Total Requirement	

Capacity Position	
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Capacity Position	
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Note: The 2026-2027 winter requirement for OMU is less than the summer and fall seasons because the existing and new agreements with OMU span the winter season and have different contract terms around capacity obligations.  
 Accreditation for the 2027-2028 planning year won't be determined by MISO until early in 2027 so accreditation for the 2026-2027 planning year is used as estimates.  
 Some values used to calculate the MISO requirement for the 2027-2028 planning year won't be determined until closer to the start of the planning year so values from the 2026-2027 planning year are used to project the requirement.  
 The OMU agreement ends before the 2027-2028 planning year begins so there is no capacity requirement.