



**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, 2020 THROUGH OCTOBER 31, 2022**

)  
) **Case No.**  
) **2023-00013**  
)  
)

**Responses to Commission Staff's Second Request for Information  
dated October 5, 2023**


**FILED:      October 20, 2023**

**BIG RIVERS ELECTRIC CORPORATION**

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FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022  
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**VERIFICATION**

I, Christopher A. ("Chris") Warren, 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.

  
\_\_\_\_\_  
Christopher A. "Chris" Warren

COMMONWEALTH OF KENTUCKY )  
COUNTY OF DAVIESS )

SUBSCRIBED AND SWORN TO before me by Christopher A. ("Chris")  
Warren on this the 19<sup>th</sup> day of October, 2023.

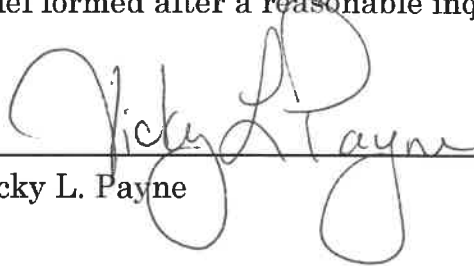
  
\_\_\_\_\_  
Notary Public, Kentucky State at Large  
Kentucky ID Number KYNP16841  
My Commission Expires October 31, 2024

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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 )

19th SUBSCRIBED AND SWORN TO before me by Vicky L. Payne on this the  
day of October, 2023.

  
\_\_\_\_\_  
Notary Public, Kentucky State at Large

Kentucky ID Number KYNPI6841

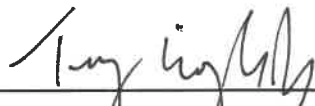
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**VERIFICATION**

I, Terry Wright, Jr., 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.

  
\_\_\_\_\_  
Terry Wright, Jr.

COMMONWEALTH OF KENTUCKY )  
COUNTY OF DAVIESS )

19<sup>th</sup> SUBSCRIBED AND SWORN TO before me by Terry Wright, Jr. on this the  
day of October, 2023.

  
\_\_\_\_\_  
Notary Public, Kentucky State at Large

Kentucky ID Number

KYNP16841

My Commission Expires

October 31, 2024

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1 **Item 1)**     *Refer to the Direct Testimony of Terry Wright Jr. (Wright Direct*  
2 *Testimony), page 4, lines 5-7. Explain whether the statement refers to BREC's*  
3 *Midcontinent Independent System Operator (MISO) Zone 6 locational*  
4 *marginal prices (LMPs) or MISO power prices generally. If the statement*  
5 *represents MISO generally, explain BREC's outlook for Zone 6 energy and*  
6 *capacity prices.*

7

8 **Response)** The statement was a generic statement for MISO as a whole but would  
9 also apply to BREC LMPs. [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13

14

15 **Witness)**   Terry Wright Jr.

16

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- 1 **Item 2)**      *Refer to Wright Direct Testimony, page 4, lines 8-11.*
- 2            *a. Explain whether the degree to which importing power from PJM*
- 3            *affects BREC's Zone 6 LMPs rather than MISO generally.*
- 4            *b. Explain whether MISO importing PJM power represents*
- 5            *economic purchases or represents needed energy due to capacity*
- 6            *shortages.*
- 7            *c. Explain whether the majority of MISO's purchased power comes*
- 8            *from PJM and whether other sources of power are not available*
- 9            *to offset any negative impacts from PJM imports.*

10

11 **Response)**

- 12            a. Imports from PJM impact both Zone 6 LMPs along with MISO LMPs as
- 13            a whole. On a Day-Ahead Basis, MISO's optimization model attempts
- 14            to solve for the cheapest set of Resources that can meet MISO's Load
- 15            plus Ancillary Obligations for every hour of the day. MISO is basically
- 16            stacking units from cheapest to most expensive, subject to varying unit
- 17            constraints, and if those imports are cheaper than the most expensive

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1 unit required by MISO to meet its Load Obligation, then those imports  
2 would displace the most expensive units and result in a cheaper  
3 marginal resource. Since the cost of this marginal resource is what sets  
4 the Marginal Energy Component (“MEC”) of the LMP, this would impact  
5 both BREC’s Zone 6 LMPs and MISO as a whole.

6 b. MISO importing power from PJM would represent both economic  
7 purchases and energy needed to help alleviate energy shortfalls.  
8 Subpart (a) above illustrates importing PJM power as economic  
9 purchases. Some Market Participants play the markets by trying to  
10 offer their Resources into the higher of the two markets (PJM or MISO)  
11 in order to maximize Revenue, for economic purposes. While these PJM  
12 imports are not guaranteed under extreme conditions, there have been  
13 quite a few instances where MISO is importing Power from PJM during  
14 these extreme conditions, which helps to alleviate MISO’s energy  
15 shortfall.

16 c. Yes, MISO’s Historical NSI File for 2023, shows PJM Net Imports  
17 (Imports – Exports) 18,765,090 MWhs from Jan 2023 to Aug 31<sup>st</sup>, 2023

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1           or ~3,217 MWs per hour. The next largest import is Manitoba Hydro at  
2           7,056,000 MWhs or ~1,210 MWs per hour. If PJM imports were  
3           completely unavailable, it would be difficult for another location to make  
4           up for their imports as they are a magnitude larger than other  
5           interconnections.

6

7

8 **Witness)**   Terry Wright, Jr.

9



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- 1 **Item 3)**      *Refer to Wright Direct Testimony, page 4, lines 13-16.*
- 2            *a.      Provide a monthly breakdown of the summer, fall, winter, and*
- 3                    *spring capacity categories.*
- 4            *b.      Confirm that near term low capacity prices indicates that there*
- 5                    *is a surplus of capacity in Zone 6.*
- 6            *c.      Provide BREC's outlook for future Zone 6 capacity prices.*

7

8 **Response)**

- 9            a.      For PY23-24, Summer Capacity Prices settled at \$10/MW-Day, so
- 10                    Capacity was valued at \$10/MW for every day in June 2023, July 2023,
- 11                    and August 2023. Fall Capacity Prices settled at \$15/MW-Day, so
- 12                    Capacity was valued at \$15/MW for every day in September 2023,
- 13                    October 2023, and November 2023. Winter Capacity Prices settled at
- 14                    \$2/MW-Day, so Capacity was valued at \$2/MW for every day in
- 15                    December 2023, January 2024, and February 2024. Spring Capacity
- 16                    Prices settled at \$10/MW-Day, so Capacity was valued at \$10/MW for
- 17                    every day in March 2024, April 2024, and May 2024.

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1        b.     That is correct that low capacity prices indicate that there is an excess  
2             of capacity in Zone 6. [REDACTED]  
3             [REDACTED]  
4             [REDACTED]  
5             [REDACTED]  
6             [REDACTED]

7        c.     Big Rivers expects Zone 6 capacity prices to increase as MISO  
8             implements Reliability Based Demand Curves and moves from a  
9             vertical demand curve to a sloped demand curve. This change is  
10            currently expected to go live in PY25-26.

11  
12  
13  
14

**Witness)** Terry Wright, Jr.

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1 **Item 4)**      *Refer to the Wright Direct Testimony, page 4, lines 20-22 and page 5,*  
2 *lines 1-6. Explain how these potential changes will affect MISO participants in Zone*  
3 *6 and BREC specifically.*

4

5 **Response)** Any increase in Capacity Prices will negative impact market  
6 participants who are short (deficient) Capacity and provide a benefit to market  
7 participants who are long (excess) Capacity. [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11

12

13 **Witness)**      Terry Wright, Jr.

14

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- 1 **Item 5)**      *Refer to Wright Direct Testimony, page 5, lines 1-6*
- 2            *a.      Provide a seasonal breakdown of BREC's generation versus*
- 3                            *purchases and the net purchase position for calendar years 2020-*
- 4                            *2022 and forecast years 2024-2025.*
- 5            *b.      Explain whether there were periods during the period under*
- 6                            *review where Wilson and Green units were not consuming fuel*
- 7                            *(shut down) due to economics as opposed to outages. If so, explain*
- 8                            *when this occurred.*
- 9            *c.      Provide a copy of the referenced MISO presentations*

10

11 **Response)**

- 12            a.      MISO's Capacity Market operates on a seasonal basis, but their energy
- 13                            market does not operate on a seasonal basis, as they are two completely
- 14                            separate markets. In order to show Big Rivers' energy positions on a
- 15                            "Seasonal Basis," I have utilized MISO's Seasonal Capacity definition
- 16                            on energy (Summer = June to August, Fall = September to November,

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1 Winter = December to February, and Spring = March – May). The table  
2 below provides a break-down of BREC's generation versus purchases on  
3 a seasonal basis for the period 2020-2022 (*Total MWhs*):

<b>Season</b>	<b>Months Included</b>	<b>Purchases</b>	<b>Generation</b>	<b>Net</b>
Fall 2020	Nov 2020	(317,072)	271,726	(45,346)
Winter 2020-2021	Dec 2020 - Feb 2021	(1,169,152)	1,172,909	3,758
Spring 2021	Mar 2021 - May 2021	(988,449)	1,281,083	292,634
Summer 2021	Jun 2021 - Aug 2021	(1,291,378)	1,679,149	387,771
Fall 2021	Sep 2021 - Nov 2021	(1,114,072)	1,578,449	464,378
Winter 2021-2022	Dec 2021 - Feb 2022	(1,224,696)	1,184,084	(40,612)
Spring 2022	Mar 2022 - May 2022	(1,073,224)	988,836	(84,389)
Summer 2022	Jun 2022 - Aug 2022	(1,357,503)	928,392	(429,111)
Fall 2022	Sep 2022 - Oct 2022	(740,792)	259,759	(481,033)

4

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1       The table below provides a break-down of BREC's generation versus purchases  
2       on a seasonal basis for the forecast planning year 2024-2025:

<b>Season</b>	<b>Months Included</b>	<b>Purchases</b>	<b>Generation</b>	<b>Net</b>
Summer 2024	Jun - Aug 2024		954,666	
Fall 2024	Sep 2024 - Nov 2024		874,295	
Winter 2024-2025	Dec 2024 - Feb 2025		961,323	
Spring 2025	Mar 2025 - May 2025		695,436	

3  
4       b.       During the period 2020-2022, Wilson was primarily offered in as Must  
5       Run or it was on Outage. There were 11 days that Wilson was offered  
6       in as Economic during this period. During most of the days when it was  
7       offered in as Economic, LMPs were low and the unit was not profitable.  
8       The Green Units were offered in as a mix of MustRun and Economic, so  
9       there were quite a few periods where these units were offline for  
10       Economics. Please see the attachment to this response, for information  
11       on the Unit Status of each generation unit.

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1           c.       I have included 4 items. Two of the items discuss Direct Loss of Load  
2                     and the other two of the items discuss Reliability Based Demand Curves.

3

4 **Witness)**    Terry Wright, Jr.

5

6

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1 **Item 6)**      *Refer to Wright Direct Testimony, page 5, lines 9-10. Provide an*  
2 *update on the status of the Unbridled Solar project, when BREC is expected*  
3 *to begin receiving energy from Unbridled Solar, and whether BREC has any*  
4 *reason to expect that the project will not be built.*

5

6 **Response)** The last update we have on the Unbridled Solar project is that it is  
7 expected to be complete [REDACTED] and Big Rivers would start  
8 receiving energy around that time. Big Rivers does not have any reason to expect  
9 that the project will not be built.

10

11

12 **Witness)**      Terry Wright, Jr.

13



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1 **Item 7)**      *Refer to Wright Direct Testimony, page 5, lines 13-17. Given the*  
2 *expected changes to MISO capacity modeling changes, provide a breakdown*  
3 *of the current hourly risk seasonally (Tier) and the expected / forecast hourly*  
4 *risk seasonally.*

5

6 **Response)** Please see the attached Power Point presentation titled “Market  
7 Redefinition: Accreditation Reform “RASC” dated October 4, 2023 for a discussion  
8 surrounding this item. Please refer to Slide 8, which states that “Increasing solar  
9 penetration drives lower DLOL accreditation for solar resources.” See also Slide 22,  
10 which illustrates by “Hour of day” that as Solar increases, the Loss of Load Hours  
11 (LOLH) shift more and more from HE17 and HE18 to HE20 and HE21 during the  
12 Summer period, which is past the end of the Solar day.

13

14

15 **Witness)**      Terry Wright, Jr.

16



# Market Redefinition: Accreditation Reform

RASC

October 4, 2023

(Issues RASC-2020-4 and 2019-2)

Added footnote on  
Slide 6 on 10/2/23

Updated title of  
Slide 7 on 10/4/23

# Purpose & Key Takeaways



## Purpose:

1. Share additional sensitivities around DLOL accreditation
2. Provide updated proposal for the transition to DLOL

## Key Takeaways:

- Market Participant level impacts related to MISO's accreditation reform proposal are available upon request
- At the request of stakeholders, today MISO will share multiple sensitivities regarding DLOL accreditation results and plans to share a Future 2A look in late October/early November
- MISO will delay the accreditation reform FERC filing and is now targeted for Q1 2024

# Direct-LOL Results

# MISO has indicative Market Participant level accreditation reform impacts ready for distribution

- MISO External Affairs will begin to reach out to customers regarding their indicative impacts
- Detailed instructions on how to request the data can be found in the Appendix

# MISO is committed to sharing forward looking Direct-LOL results and trends with stakeholders in the coming months

- Direct-LOL results based on Future 2A will be shared at the October 2023 Attributes Workshop as well as at the November 2023 RASC meeting
- MISO plans to use the Regional Resource Assessment (RRA) to publish forward looking accreditation and planning reserve margin requirement estimates starting with the 2024 RRA



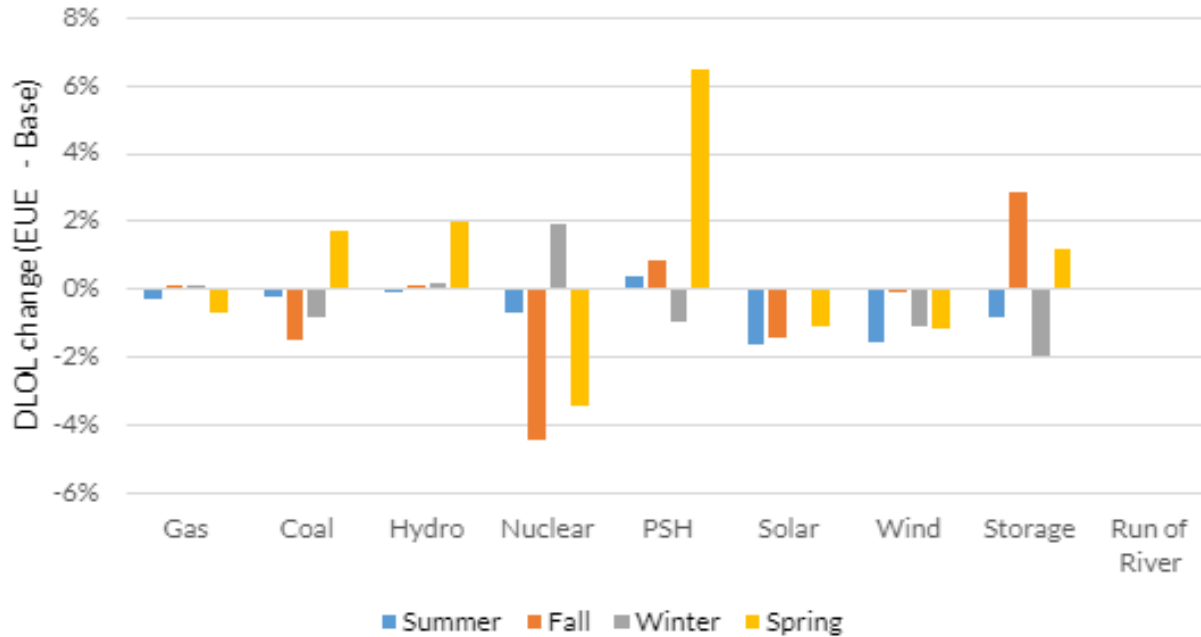
# Expanding the hours used in the DL0L calculation leads to a few resource classes having higher accreditation values

PY23-24 Resource Class	Summer			Fall			Winter			Spring		
	UCAP	DL0L		UCAP	DL0L		UCAP	DL0L		UCAP	DL0L	
		Base	3% EH		Base	3% EH		Base	3% EH		Base	3% EH
Gas	91%	89%	90%	89%	88%	89%	84%	70%	70%	88%	72%	72%
Coal	92%	91%	91%	91%	87%	89%	90%	72%	74%	89%	74%	74%
Hydro	97%	97%	98%	97%	99%	99%	42%	69%	69%	62%	74%	73%
Nuclear	95%	90%	91%	96%	83%	87%	95%	84%	86%	92%	77%	80%
Pumped Storage	99%	98%	98%	91%	98%	98%	94%	47%	51%	89%	70%	68%
Solar	45%	36%	42%	25%	28%	35%	6%	0%	2%	15%	15%	22%
Wind	18%	11%	14%	23%	15%	15%	40%	13%	17%	23%	16%	16%
Storage	95%	94%	93%	95%	89%	93%	95%	90%	90%	95%	97%	96%
Run-of-River	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Resource class results expected to change as LOLE modeling enhancements are made to better reflect reliability risks across the year and the changing fleet, e.g., storage results expected to decrease

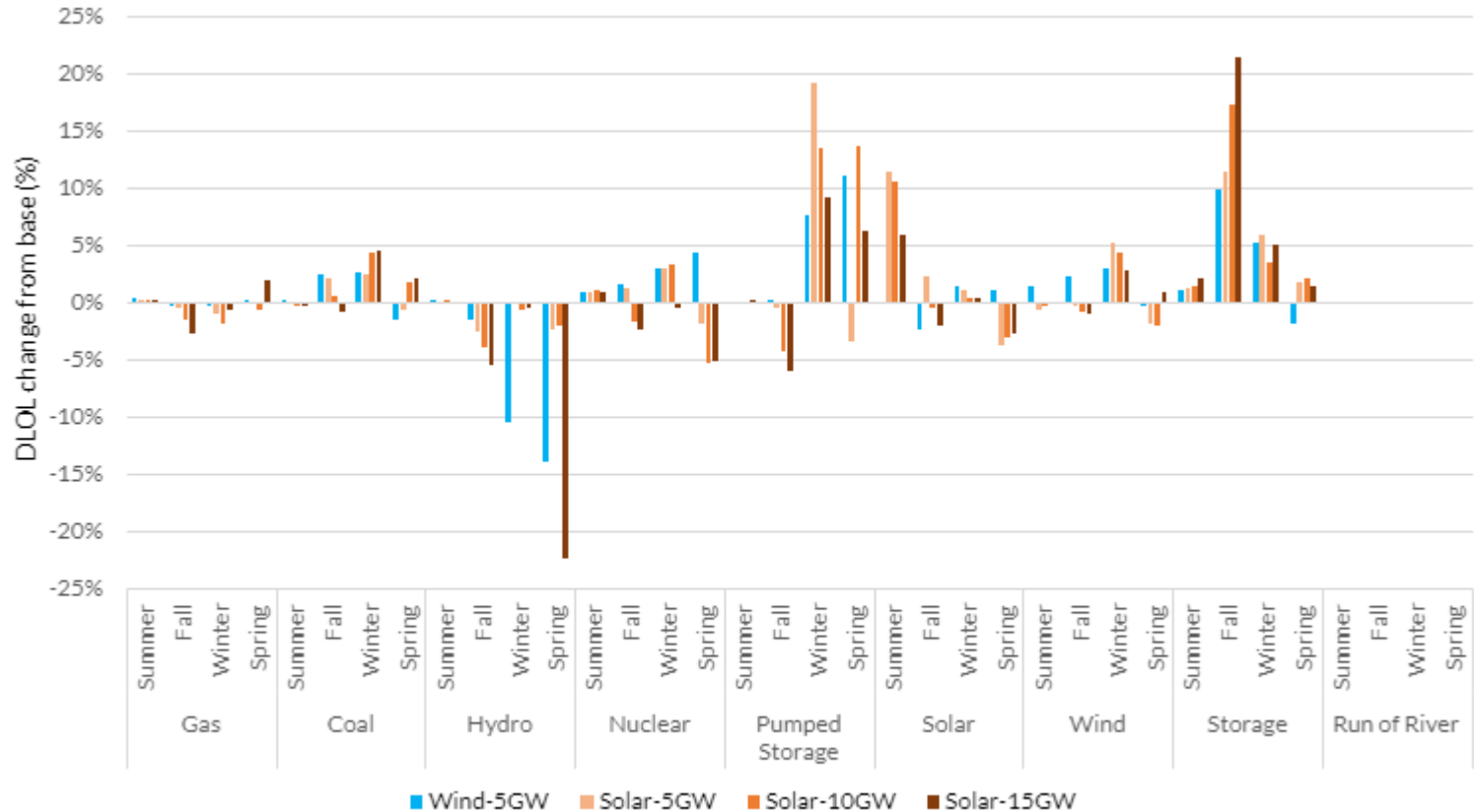
3% EH = 3% expanded hours (anytime generation is within 3% of load)      UCAP = current accreditation methodology by resource type

# DLOL weighted by Expected Unserved Energy (EUE) produces similar results compared to a straight average approach



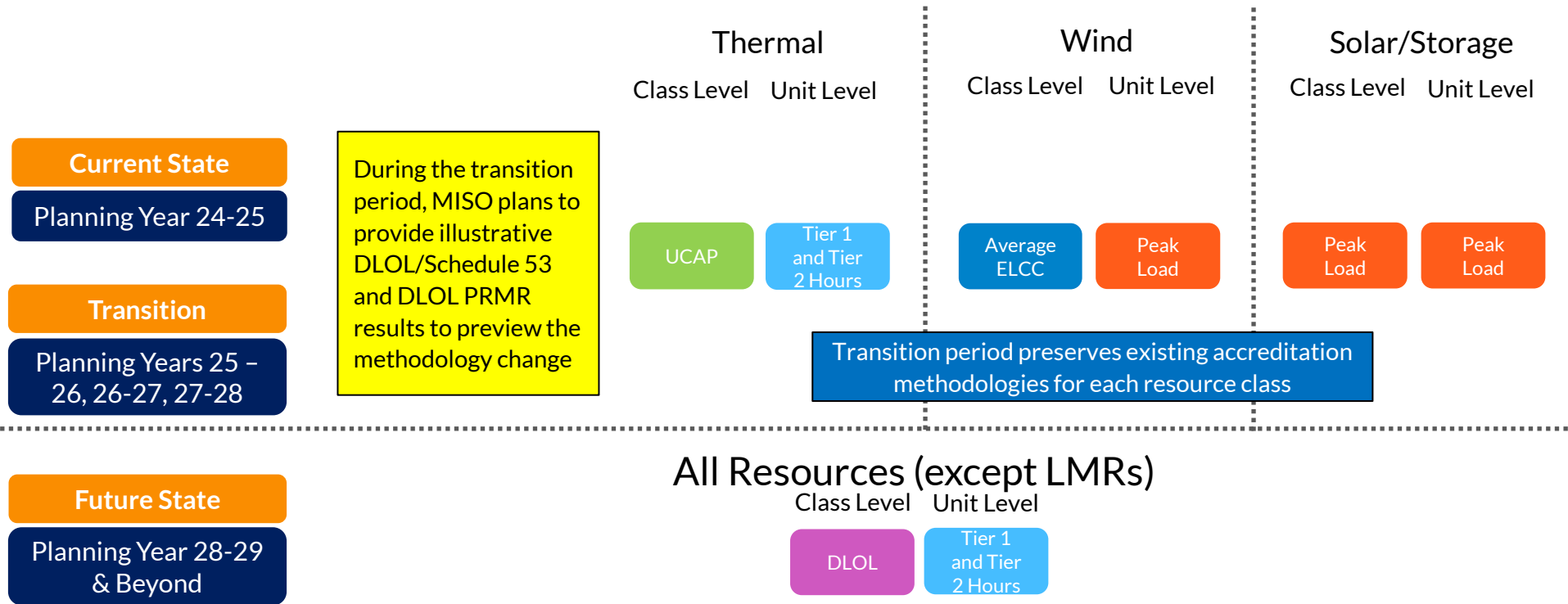


# Increasing solar penetration drives lower DLOL accreditation for solar resources



# Transition Period

# MISO is proposing a 3-year transition to allow stakeholders to better understand and plan for the DLOL accreditation methodology



**End State: Consistent accreditation methodology for all resources with continued emphasis and improvements on the probabilistic modeling (i.e., generator capabilities, correlated outages, fuel supply limitations, severe weather).**

# August RASC Stakeholder DLOL Enhancement Proposal

MISO is still evaluating the stakeholder proposal for DLOL enhancements and will also consider the stakeholder presentations included with today's agenda on PRMR allocation

### 1 - LOL Hour Selection

- Expand beyond just narrow LOL hours to include hours within tightest hours, more closely aligning to existing Schedule 53 tightest hours

### 2 - Energy Limited Resource Dispatch

- Amend LOLE model storage dispatch assumptions such that each MW of capacity is treated equitably across dispatch technologies

### 3 – Allocation of PRMR Reduction

- Reduce risk of inadvertently favoring certain zones over others as a result of MISO's proposed PRMR reduction

# Next Steps

## Next Steps

- Provide Market Participants resource level accreditation values with requirements upon request through Dynamics – details in Appendix
- Revised Resource Accreditation whitepaper will be posted once more design details are added
- MISO is targeting a response to the stakeholder DLOL enhancements proposal at the November RASC
- A FERC filing for Resource Adequacy accreditation reforms is now targeted for Q1 2024



# Contact Information

Davey Lopez:  
[dlopez@misoenergy.org](mailto:dlopez@misoenergy.org)



# Appendix

# Instructions for requesting indicative Market Participant level accreditation reform impacts

1. Go to [help.misoenergy.org/](https://help.misoenergy.org/)
2. Login to account
3. Select "My Support"
4. Select "Open a New Case"
5. Input Contact Details
6. Select "Resource Adequacy" category
7. Select "Resource Accreditation" type
8. Title "Request for Results" or "Feedback from \*insert company name here"
9. Add description with feedback, or other details as needed

## Example

### Case Details

Category \*  
Resource Adequacy

Type \*  
Resource Accreditation

Unit Name

Title \*

Description

Use this case type for questions or issues related to resource accreditation for MISO's Planning Resource Auction.

# MISO's accreditation design is near final with the expansion of hours being the one remaining feature still being considered

Design Element	MISO Proposal	Features still being considered
Hour Selection	Loss of Load (LOL) hours only	Expansion of hours to include hours within a certain margin threshold (e.g., 3% margin)
Direct-LOL calculation	Straight average of all LOL hours	Design final
Resource Classes	Gas, Coal, Hydro, Nuclear, Pumped Storage, Solar, Wind, Storage, Run-of-River	Design final

# MISO suggests extending Schedule 53 to all resources (except LMRs) although some design elements may need to be modified (Unit Level Design)

Design Elements		Today under current Schedule 53	Proposed changes to Schedule 53
Hour Selection	Calculation of operating margin to identify RA hours	Online margin + offline margin with 12 hours or less lead time divided by RT load	No Change
	Top X% of tightest margin hours	Tier-1: all hours excluding tight hours in Tier-2 Tier-2: MaxGen hours supplemented with top 3% of tight margin hours per season	No Change
	Margin threshold	25%	No Change
	Seasons with no/ limited RA hours to meet 3% per season (65 hours)	Supplement deficient number of hours with Annual Average Offered Capacity (AAOC) over top 3% of tightest margin hours per year	Fill deficient hours with seasonal class DLOL % (Current UCAP during transition)
	Regionality (N+C/S) (tight margin and MaxGen hours)	Yes	No Change
	Leadtime for offline units (tight margin calc)	24 hours	No Change
Accreditation Calculation	Annual verses seasonal	4 season	No Change
	Tiered weighting	Tier-1 20%; Tier-2 80%	No Change
	Leadtime for offline units	24 hours	No Change
	Real-time offer considered	Tier-1 & Tier-2 Emergency Max	Real-time availability for Wind/Solar; All other resources will use Emergency Max (same as today)
	Adjustment Ratio	Multiply ISAC by ratio of thermal class UCAP to ISAC	Resource ISAC * (Class DLOL/Class ISAC) (Current UCAP during transition)
Planned Outage Exemption	Exemption removes hours from the Schedule 53 calculations	Yes, full out-of-service outages only with proposed three-level structure (none, Tier-1, Tier-2)	No Change

## DLOL results weighted by Expected Unserved Energy (EUE) results produce similar results compared to a straight average approach

PY23-24 Resource Class	Summer DLOL		Fall DLOL		Winter DLOL		Spring DLOL	
	Base	EUE Weighted	Base	EUE Weighted	Base	EUE Weighted	Base	EUE Weighted
Gas	89%	89%	88%	88%	70%	70%	72%	71%
Coal	91%	91%	87%	85%	72%	71%	74%	76%
Hydro	97%	97%	99%	99%	69%	69%	74%	76%
Nuclear	90%	90%	83%	79%	84%	86%	77%	74%
Pumped Storage	98%	99%	98%	99%	47%	46%	70%	76%
Solar	36%	35%	28%	27%	0%	0%	15%	14%
Wind	11%	9%	15%	15%	13%	12%	16%	15%
Storage	94%	94%	89%	92%	90%	88%	97%	98%
Run-of-River	100%	100%	100%	100%	100%	100%	100%	100%

# Increasing solar penetration drives lower DLOL accreditation for solar resources

Resource Class	Summer				
	DLOL Base	Wind-5GW	Solar-5GW	Solar-10GW	Solar-15GW
Gas	89%	89%	89%	89%	89%
Coal	91%	91%	91%	91%	90%
Hydro	97%	97%	97%	97%	97%
Nuclear	90%	91%	91%	91%	91%
Pumped Storage	98%	98%	98%	98%	98%
Solar	36%	36%	29%	22%	15%
Wind	11%	10%	10%	11%	11%
Storage	94%	96%	96%	96%	97%
Run-of-River	100%	100%	100%	100%	100%

Resource Class	Fall				
	DLOL Base	Wind-5GW	Solar-5GW	Solar-10GW	Solar-15GW
Gas	88%	88%	88%	87%	85%
Coal	87%	89%	89%	87%	86%
Hydro	99%	97%	96%	95%	93%
Nuclear	83%	85%	85%	82%	81%
Pumped Storage	98%	98%	97%	94%	92%
Solar	28%	26%	18%	10%	6%
Wind	15%	15%	14%	14%	14%
Storage	89%	99%	100%	100%	100%
Run of River	100%	100%	100%	100%	100%

Resource Class	Winter				
	DLOL Base	Wind-5GW	Solar-5GW	Solar-10GW	Solar-15GW
Gas	70%	69%	69%	68%	69%
Coal	72%	74%	74%	76%	76%
Hydro	69%	59%	69%	68%	69%
Nuclear	84%	87%	87%	87%	84%
Pumped Storage	47%	55%	66%	61%	56%
Solar	0%	2%	1%	0%	0%
Wind	13%	14%	18%	17%	16%
Storage	90%	95%	95%	93%	95%
Run-of-River	100%	100%	100%	100%	100%

Resource Class	Spring				
	DLOL Base	Wind-5GW	Solar-5GW	Solar-10GW	Solar-15GW
Gas	72%	72%	72%	71%	74%
Coal	74%	72%	73%	76%	76%
Hydro	74%	60%	72%	72%	52%
Nuclear	77%	82%	75%	72%	72%
Pumped Storage	70%	81%	67%	84%	76%
Solar	15%	16%	7%	5%	4%
Wind	16%	13%	14%	14%	17%
Storage	97%	95%	99%	99%	98%
Run-of-River	100%	100%	100%	100%	100%



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1 **Item 8)**     *Refer to Wright Direct Testimony, page 6, lines 14-18. Explain*  
2 *whether BREC is referring to financially hedging fuel prices or energy prices.*  
3 *If energy prices, explain whether BREC has engaged in the financial hedging*  
4 *of energy prices over the review period.*

5

6 **Response)** The statement is referring to hedging energy prices. Big Rivers  
7 primarily purchases Physical Power to hedge our energy prices, but we do on occasion  
8 purchase/sell energy using Financial Hedges. During the review period, BREC did  
9 engage in both Physical and Financial Hedging.

10

11

12 **Witness)**   Terry Wright, Jr.

13



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1 **Item 9)**     *Refer to Wright Direct Testimony, page 7, lines 11-13. If BREC*  
2 *didn't purchase either replacement capacity or energy, explain what was*  
3 *purchased from the market.*

4

5 **Response)** As the referenced outages were forced outages, MISO Market rules do  
6 not require and Big Rivers did not purchase replacement capacity. Big Rivers had  
7 not forward sold any energy for that period, so we had no energy obligations on the  
8 units, Green Units or Reid CT, due to any forward energy sale. Big Rivers purchased  
9 our Load from MISO and used Revenue from selling our Generation Units to MISO  
10 to offset those Load Purchases. In this case, we would have less Revenue from our  
11 Generating Units, assuming MISO would have picked them up, to offset our Load  
12 Purchases.

13

14

15 **Witness)**   Terry Wright, Jr.

16

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1 **Item 10)**     *Refer to Wright Direct Testimony, page 8 lines 19-20 and page 9,*  
2 *lines 1- 11.*

3         *a.     Explain whether offering a unit into MISO as "must run" means*  
4             *that the unit will at least run at its economic minimum and will*  
5             *still be dispatched economically up to its maximum load.*

6         *b.     Explain whether the Green units are offered in to MISO as "must*  
7             *run."*

8         *c.     Explain what other market participants in Zone 6 offer*  
9             *generation into the market.*

10

11 **Response)**

12         a.     That is correct. Offering a unit into MISO as a "Must Run" only  
13             guarantees that the unit will be online and run at its economic  
14             minimum. MISO still dispatches the Unit from its economic minimum  
15             to its economic max.

16

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1           b.       Since the Green units have been converted from Coal to Natural Gas,  
2                       we have offered in these units primarily using the "Economic" Status.

3           c.       Other market participants in Zone 6 that offer generation into the MISO  
4                       Market include Duke (Indiana), Indianapolis Power & Light, Northern  
5                       Indiana Public Service Company, and Southern Indiana Gas & Electric.

6                       There are likely some other market participants that offer into Zone 6,  
7                       but these are the some of the main market participants.

8

9

10 **Witness)**   Terry Wright, Jr.

11

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1 **Item 11)**    *Refer to the Direct Testimony of Vickie L. Payne (Payne Direct*  
2 *Testimony), page 2, line 2. Confirm that the case reference should be Case No.*  
3 *2022-00041 and not Case No. 2021-00041.*

4

5 **Response)** Yes, the case referenced should have been Case No. 2022-00041.

6

7

8 **Witness)**    Vicky L. Payne

9

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1 **Item 12)**     *Refer to Payne Direct Testimony, page 4, lines 6-7, in regard to*  
2 *the statement, "Big Rivers' fuel procurement costs are competitive as*  
3 *compared to the fuel benchmarking performed amongst Kentucky utilities".*  
4 *Explain in detail what BREC means by "fuel benchmarking."*

5

6 **Response)** Fuel benchmarking is a way to measure coal pricing amongst other  
7 utilities, other RTOs, and other types of coal. For example, Big Rivers burns Illinois  
8 Basin Coal from West KY region.

9           Big Rivers participates in benchmarking against other utilities of the same  
10 nature and size. Big Rivers fuel procurement costs remain competitive.

11           Big Rivers also keeps active subscriptions to journals such as Argus Media,  
12 Energy Ventures Analysis, Coal Desk, etc. to keep a close watch on how pricing  
13 volatility is taking place in the market. Big Rivers current fuel procurement  
14 contracts are much lower than current market prices.

15

16

17 **Witness)**     Vicky L. Payne

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1 **Item 13)**     *Refer to Payne Direct Testimony, page 4, lines 15-16, in regard to*  
2 *the statement "Big Rivers purchases gas on the spot market when any of its'*  
3 *units are called upon."*

4         *a.     Explain if BREC has considered utilizing storage as a physical*  
5             *hedge for its natural gas procurement strategy.*

6         *b.     Explain if BREC's considers its practice of procuring natural gas*  
7             *on the spot market only when any of its units are called upon a*  
8             *sound strategy to mitigate price volatility for its customers.*

9

10 **Response)**

11         a.     Big Rivers has looked at physical storage for natural gas procurement.  
12             However there are limited storage facilities. Texas Gas Transmission,  
13             LLC does have physical storage areas, but does not have availability.

14         b.     Big Rivers' practice of procuring natural gas on the spot market is a  
15             sound strategy to mitigate price volatility for its Member-Owners.  
16             Current day gas prices are used in the daily unit offer curves for each

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1           gas generating unit. If the market calls on the unit to run with the  
2           current gas price, then it is economical for our Member-Owners.

3

4

5 **Witness)**   Vicky L. Payne

6

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1 **Item 14)**    *Refer to Payne Direct Testimony, page 4, lines 17-19. Explain if*  
2 *BREC has the capability to perform the necessary spot market gas*  
3 *procurement for its units without using a third party such as ACES.*

4

5 **Response)** No, Big Rivers does not currently employ any gas traders. Therefore,  
6 it relies on ACES to procure spot market gas.

7

8

9 **Witness)**    Vicky L. Payne

10



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1 **Item 15)**     *Refer to Payne Direct Testimony, page 5, lines 6-7.*

2           *a.     Explain whether BREC maintains a firm gas transportation*  
3           *contract with Texas Gas Transmission, LLC. If not, explain the*  
4           *nature of the transportation contract and whether in times of*  
5           *peak demand BREC is guaranteed to be able to transport gas to*  
6           *the Green and Reid units.*

7           *b.     Explain whether ACES arranges transportation of purchased*  
8           *gas to BREC.*

9

10 **Response)**

11           a.     No, Big Rivers does not maintain firm gas transportation with Texas  
12           Gas Transmission, LLC. The cost to maintain firm gas transportation  
13           contract is not economical. BREC has an Interruptible Transportation  
14           ("IT") and a Park and Loan ("PAL") contract with Texas Gas  
15           Transmission, LLC. BREC is not guaranteed to be able to transport gas  
16           to the Green and Reid units.

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1           b.       When ACES nominates gas with the natural gas supplier selected, the  
2                   nomination acts as the schedule and the notification for gas. ACES does  
3                   not contact Texas Gas Transmission, LLC to schedule transportation.

4

5

6 **Witness)**   Vicky L. Payne

7

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1 **Item 16)**     *Refer to Payne Direct Testimony, page 5, lines 16-22. Explain*  
2 *whether BREC's barge shipments of coal have been delayed by low river*  
3 *levels.*

4

5 **Response)** Big Rivers' barge shipments of coal have not been delayed by low river  
6 levels. Barge draft levels (the amount of coal tonnage to put into each barge) fluctuate  
7 from 9" to 9.5" depending on water levels, but no delays have been caused by low river  
8 levels.

9

10

11 **Witness)**     Vicky L. Payne

12

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1 **Item 17)** *Refer to Payne Direct Testimony, page 7, lines 19-22 through page*  
2 *9, lines 1-13. Also refer to Wright Direct Testimony, page 4, lines 1-7 and*  
3 *BREC's response to Commission Staffs First Request for Information (Staff's*  
4 *First Request), Item 23. The discussions in testimony appear to indicate that*  
5 *fuel prices are expected to be higher over the next two years. Reconcile the*  
6 *expectation of higher future fuel prices with BREC proposing to leave its base*  
7 *fuel cost at the present rate of \$0.020932 per kWh.*

8

9 **Response)** There are several reasons why Big Rivers is choosing not to incorporate  
10 a change in base fuel cost. During the first part of the review period, the FAC was  
11 negative as discussed in the response to PSC 1-23. Big Rivers was also operating  
12 three coal units (versus 1 today) during much of the review period as the Green Gas  
13 conversion had not been completed. Lastly, the elevated gas prices experienced  
14 during the final months of the review period are no longer representative of the level  
15 of fuel cost currently being experienced by Big Rivers.

16

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1

2

3 **Witness)** Christopher A. Warren

4

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1 **Item 18)**     *Refer to BREC's response to Staffs First Request, Item 2. Explain*  
2 *whether the listed coal prices are inclusive of transportation costs, i.e. the*  
3 *delivered cost.*

4

5 **Response)** The listed coal prices for both American Consolidated Natural  
6 Resources, Inc. ("ACNR") contracts are inclusive of transportation cost, i.e. trucking.  
7 The two contracts with Alliance Coal, LLC do not include transportation costs and  
8 delivery is by barge.

9

10

11 **Witness)**     Vicky L. Payne

12

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- 1 **Item 19)**     *Refer to BREC's response to Staff's First Request, Item 3.*
- 2           *a.     If the target number of days for coal inventory is based on*
- 3                     *projected annual fuel burn, explain why Duration (In Days)*
- 4                     *equals 126 days.*
- 5           *b.     If the target number of days for coal inventory is based on*
- 6                     *projected annual fuel burn, explain why BREC is using actual*
- 7                     *burn for the preceding six-month period as opposed to an annual*
- 8                     *amount or Wilson's full burn rate per day. Include in the response*
- 9                     *Wilson's daily full burn rate.*
- 10          *c.     Explain why BREC appears to be maintaining a coal supply that*
- 11                     *is almost three times its maximum target level as opposed to the*
- 12                     *stated 10 days.*

13

14 **Response)**

- 15          a.     The target number of days for coal inventory is based on projected
- 16                     annual burn rate, as it is a forecast and the best estimate for projected

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1 inventory levels. The duration (in days) for the ending inventory is  
2 based on actual numbers for the period under review. Big Rivers takes  
3 the actual total in-service hours for period under review and divides by  
4 24 hours to calculate in-service days. Total of 3,022 (rounded to whole  
5 number) in-service hours for period under review divided by 24 hours in  
6 a day equals 126 (rounded to whole number) in-service days during  
7 period under review.

8 b. Wilson's full burn rate is used for the period under review. Total  
9 ending inventory at the last day of the period under review 696,261.42  
10 tons. The total burn rate for period under review 516,663.25 tons.  
11 Ending inventory times the total in-service days (126) divided by total  
12 burn equals 170 days.

13 c. Big Rivers nominated maximum tonnage on all contracts to  
14 utilize full advantage of the lower pricing contracts, while market prices  
15 continue to be much higher.

16



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1

2

3 **Witness)** Vicky L. Payne

4

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- 1 **Item 20)**     *Refer to BREC's response to Staff's First Request, Item 12.*
- 2           *a. Explain whether any of the purchases (including hedges) or sales*
- 3                     *associated with the Kentucky Municipal Energy Agency,*
- 4                     *Owensboro Municipal Utilities or the three public power entities*
- 5                     *in Nebraska pass through the Fuel Adjustment Clause (FAC).*
- 6           *b. Explain the time associated with Peak and Off-Peak Block*
- 7                     *purchases.*

8

9 **Response)**

- 10           a. No. Purchases and sales associated with Kentucky Municipal Energy
- 11                     Agency (“KYMEA”), Owensboro Municipal Utilities (“OMU”), or the
- 12                     three public power entities in Nebraska do not flow through the Fuel
- 13                     Adjustment Clause.
- 14           b. In the MISO Market, On Peak is defined as a weekday from HE7-HE22
- 15                     EST; not including Holidays. Off-Peak is defined as all other hours.

16

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1

2

3 **Witness)** Terry Wright, Jr.

4

**BIG RIVERS ELECTRIC CORPORATION**  
**AN ELECTRONIC EXAMINATION OF THE**  
**APPLICATION OF THE FUEL ADJUSTMENT CLAUSE**  
**OF BIG RIVERS ELECTRIC CORPORATION**  
**FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022**  
**CASE NO. 2023-00013**

**Responses to Commission Staff's Second Request for Information**  
**Dated October 5, 2023**

**October 20, 2023**

1 **Item 21)** *Refer to BREC's response to Staffs First Request, Item 22. On a*  
2 *\$/MMBTu basis, provide the cost of delivery. If truck delivery is more*  
3 *expensive, explain why BREC does not increase the percentage of its coal*  
4 *delivered by barge to minimize overall cost.*

5

6 **Response)** Big Rivers awards all coal bids based on total commodity price plus  
7 delivery cost for an all-in cost analysis. Some bids are sent in as a total \$/MMBTu for  
8 commodity and delivery. Other bids are sent in with only the commodity price and  
9 then delivery is calculated separately to arrive at a total delivered price. The final  
10 bid award is based on total overall cost. Current awarded contracts are roughly 60%  
11 by truck and 40% barge. Pricing for trucking varies from \$1.65 - \$3.82 per ton  
12 depending on contract. Also, trucking costs get adjusted for changes in diesel costs.  
13 Each change of ten cents (\$0.10) per gallon from the base diesel cost of three dollars  
14 (\$3.00) per gallon will result in the trucking rate being increased or decreased by  
15 \$0.033 per ton. The close proximity of the coal mine to the D.B. Wilson Plant allows

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**FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022**  
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1 for cheaper trucking cost. Barging rate ranges from \$4.50 - \$5.00 per ton depending  
2 on unloaded tonnage and any potential barge repair costs during the month.

3

4

5 **Witness)** Vicky L. Payne

6

**BIG RIVERS ELECTRIC CORPORATION**

**AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL  
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**Response to Commission's Request for Information  
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**October 20, 2023**

1 **Item 22)** *Refer to BREC's response to Staff's First Request, Items 24–26.*  
2 *Regardless of whether BREC considers the questions as not applicable to the*  
3 *review period, provide the requested information.*

4

5 **Response)** There are several reasons why choosing a month in the review period is  
6 inappropriate to incorporate a change in base fuel cost. During the first part of the  
7 review period, the FAC was negative as discussed in the response to PSC 1-23. Big  
8 Rivers was also operating 3 coal units (versus 1 today) during much of the review  
9 period as the Green Gas conversion had not been completed. Lastly, the elevated gas  
10 prices experienced during the final months of the review period are no longer  
11 representative of the level of fuel cost currently being experienced by Big Rivers.

12

13

14 **Witness)** Chris A. Warren

15

**BIG RIVERS ELECTRIC CORPORATION**  
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1 **Item 23)**     *Refer to BREC's response to Staff's First Request, Item 29. Since*  
2 *BREC has contractual obligations, provide an update to the response*  
3 *showing the incremental addition of BREC's non-member contract*  
4 *customers.*

5

6 **Response)**

7 *Max Annual System Demand:*

8       November 1, 2020 through October 31, 2021 – 894 MWs;

9       November 1, 2021 through October 31, 2022 – 954 MWs

10 *Average Annual Demand:*

11       November 1, 2020 through October 31, 2021 – 523 MWs;

12       November 1, 2021 through October 31, 2022 – 559 MWs.

13 These figures include Big Rivers' native load, include transmission losses, and include  
14 KYMEA and OMU. They do not include other transmission customers.

15

16 **Witness)**     Terry Wright Jr.

**BIG RIVERS ELECTRIC CORPORATION**  
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**FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022**  
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1 **Item 24)** *Refer to BREC's response to Staff's First Request, Item 32.*

2 *Confirm that the figures for natural gas both in dollars and MCF are correct.*

3

4 **Response)** Yes, both figures for natural gas in dollars and MCF are correct.

5

6

7 **Witness)** Vicky L. Payne

8



**BIG RIVERS ELECTRIC CORPORATION**  
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**FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022**  
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**Dated October 5, 2023**

**October 20, 2023**

1 **Item 25)**     *State whether any MISO costs were included in BREC's monthly*  
2 *FAC filings during the period under review. If yes, provide the amount of the*  
3 *costs by month and by type of cost.*

4

5 **Response)** Yes, MISO costs were included in Big Rivers' monthly FAC filings  
6 during the period under review. All MISO costs included in Big Rivers' monthly FAC  
7 filings during the period under review were associated with the costs of Purchased  
8 Power. The detail and amounts of these purchases are provided each month on the  
9 Power Transaction Schedule in Big Rivers' monthly FAC Form B Filings. Please see  
10 the attachment to this response for the amount of these costs by month and by type  
11 of cost.

12

13

14 **Witness)**     Christopher A. Warren

15

**BIG RIVERS ELECTRIC CORPORATION**  
**AN ELECTRONIC EXAMINATION OF THE**  
**APPLICATION OF THE FUEL ADJUSTMENT CLAUSE**  
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**FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022**  
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**Dated October 5, 2023**

**October 20, 2023**

1 **Item 26)** *In an Excel spreadsheet format with all formulas, columns, and*  
2 *rows unprotected and fully accessible, for the period under review and when*  
3 *the units are available to run.*

4 *a. Provide the bid status (i.e. economic dispatch, must-run, etc.), by*  
5 *day, of BREC's generating units into MISO's day ahead market.*  
6 *Explain the reason for each bid status.*

7 *b. Provide the price per MWH, by day, of BREC's generating units*  
8 *bid into MISO's day ahead market and the corresponding LMP*  
9 *indicating whether or not the unit cleared the market.*

10 *c. In a separate spreadsheet Tab, provide a graphical*  
11 *representation of the information in part b. above.*

12

13 **Response)** See the Excel file attached to this response.

14

15

16 **Witness)** Terry Wright, Jr.



**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, 2020 THROUGH OCTOBER 31, 2022**

)  
)  
) **Case No.**  
) **2023-00013**  
)

**Big Rivers Electric Corporation's**

**Response to the Commission Staff's Second  
Request for Information dated October, 5 2023**

**Attachment to Big Rivers' Response to  
Item No. 26**

**FILED WITH MOTION FOR  
CONFIDENTIAL TREATMENT**

**FILED:      October 20, 2023**

**BIG RIVERS ELECTRIC CORPORATION**

**AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL  
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FROM NOVEMBER 1, 2020 THROUGH OCTOBER 30, 2022  
CASE NO. 2023-00013**

**Response to Commission's Request for Information  
dated October 5, 2023**

**October 20, 2023**

1 **Item 27)** *For the two-year period under review, provide each instance an*  
2 *error or misreport was made by BREC on its FAC form A rate sheet filing.*

3 *For each instance provide:*

4 a. *An explanation on the error that occurred and why the error was*  
5 *made.*

6 b. *BREC's actions taken to correct for the error and to ensure future*  
7 *similar errors do not occur.*

8 c. *Revised FAC form A rate sheets showing the actual fuel related*  
9 *expenses and sales as correctly calculated pursuant to 807 KAR 5:056.*

10

11 **Response)** There were three instances during the review period, which are detailed  
12 below.

13 a. (1) February 2022 - The Form A filing for the February 2022 expense month  
14 was adjusted in the March 2022 expense month filing. [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

**BIG RIVERS ELECTRIC CORPORATION**

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1

[REDACTED]

2

A portion of the kWh billed for this contract were inadvertently excluded from the member sales volumes to prepare the Form A filing.

3

4

(2) February 2022 & March 2022 – The Form A filing for the February 2022 and March 2022 expense months were adjusted in the April 2022 expense

5

6

month filing. The portion of the kWh billed for the above referenced contract

7

which are excluded from Market Rate Sales, were inadvertently included in

8

system losses, rather than Non-Tariff Market Rate Sales to Members used to

9

prepare the Form A Filing. Additionally, purchases made to serve this

10

members' non-tariff market rate sales contract were inadvertently classified

11

as an economic purchase, rather than other purchase.

12

(3) May 2022 – The Form A filing for the May 2022 expense month was

13

adjusted in the June 2022 expense month filing. A purchase hedge was

14

inadvertently recorded as a sale hedge.

**BIG RIVERS ELECTRIC CORPORATION**

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- 1        b.        (1) To correct this error, a 2,061,245 kWh adjustment was made to increase the  
2                    February 2022 sales volumes. The net impact of this adjustment was reflected  
3                    in the Over/(Under) Recovery Schedule for the March 2022 expense month  
4                    through the "Revised FAC Rate Billed, if prior period adjustment is needed",  
5                    included on Line 7 of that schedule. Supporting calculations and explanations  
6                    of these adjustments were provided in Appendix A. To keep this from re-  
7                    occurring in the future, the supporting billing summary file where the volumes  
8                    are derived has been modified to include the market rate sales in the Member  
9                    section.
- 10                (2) The net impact of these adjustments were reflected in the Over/(Under)  
11                    Recovery Schedule for the April 2022 expense month through the "Revised  
12                    FAC Rate Billed, if prior period adjustment is needed", included on Line 7 of  
13                    that schedule. Supporting calculations and explanations of these adjustments  
14                    were provided in Appendix A.
- 15                (3) The net impact of this adjustment was reflected in the Over/(Under)  
16                    Recovery Schedule for the March 2022 expense month through the "Revised  
17                    FAC Rate Billed, if prior period adjustment is needed", included on Line 7 of  
18                    that schedule. Supporting calculations and explanations of these adjustments  
19                    were provided in Appendix A.

**BIG RIVERS ELECTRIC CORPORATION**

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1 To ensure errors do not occur, Big Rivers has enhanced our review process and  
2 compares the Form A filing to our budgeted and forecast amounts. The  
3 company has also worked to close the month-end earlier to allow more time for  
4 FAC preparation.

5

6 c. The revised FAC form A rate sheets showing the actual fuel related expenses  
7 and sales as correctly calculated pursuant to 807 KAR 5:056 are provided in  
8 the attachment to this response.

9

10

11 **Witness)** Chris A. Warren

12

**Big Rivers Electric Corporation**  
**Adjustments to February 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated March 21, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>	<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
<b>Page 1:</b>			
Fuel "Fm" (Fuel Cost Schedule) (p. 2)	\$ 10,143,785	\$ 10,137,168	\$ 6,617
Sales "Sm" (Sales Schedule) (p. 3)	254,823,771	252,762,526	2,061,245
<b>Total Fuel Cost per kWh (F(m) / S(m))</b>	\$ 0.039807	\$ 0.040106	\$ (0.000299)
Base Fuel Factor	\$ 0.020932	\$ 0.020932	\$ -
<b>FAC Factor</b>	\$ <b>0.018875</b>	\$ <b>0.019174</b>	\$ <b>(0.000299)</b>



**Big Rivers Electric Corporation**  
**Adjustments to February 2022 Expense Month Form A Filing**  
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<i>Expense Month:</i>	<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
<b>Page 2:</b>			
Company Generation:			
(+) Coal Burned	\$ 9,685,226	\$ 9,685,226	\$ -
(+) Pet Coke Burned	-	-	-
(+) Oil Burned	895,557	895,557	-
(+) Gas Burned	-	-	-
(+) Propane Burned	-	-	-
(-) MISO Make Whole Payments	10,349	10,349	-
(+) Fuel (Assigned Cost During F.O.)	1,593,072	1,593,072	-
(-) Fuel (Substitute Cost During F.O.)	187,636	187,636	-
(-) Fuel (Supplemental & Back-Up Energy to Smelters)	-	-	-
(-) Fuel (Domtar Back-Up/ Imbalance Generation)	-	-	-
(A) SUB-TOTAL Generation	\$ 11,975,870	\$ 11,975,870	\$ -
Purchases:			
(+) Net energy cost - economy purchases	\$ 780,167	\$ 780,167	\$ -
(+) Identifiable fuel cost - other purchases	3,924,128	3,924,128	-
(+) Identifiable fuel cost - Forced Outage purchases	1,805,057	1,805,057	-
(-) Identifiable fuel cost (substitute for Forced Outage)	1,805,057	1,805,057	-
(-) Less Purchases for Supplemental and Back-Up to Smelters	-	-	-
(-) Less Purchases for Domtar back up	54,885	54,885	-
(-) Less Purchases Above Highest Cost Units	50,801	50,801	-
(B) SUB-TOTAL Purchases	\$ 4,598,609	\$ 4,598,609	\$ -
Intersystem Sales			
(C) Including Interchange-out	\$ 7,016,264	\$ 7,046,832	\$ (30,568) (1)
(D) Over/(Under) Recovery (p. 4)	\$ (585,570)	\$ (609,521)	\$ 23,951
<b>Total Fuel Cost [(A) + (B) - (C) - (D)]</b>	<b>\$ 10,143,785</b>	<b>\$ 10,137,168</b>	<b>\$ 6,617</b>

Big Rivers Electric Corporation  
Adjustments to February 2022 Expense Month Form A Filing  
(Originally Filed with Commission by Letter Dated March 21, 2022)

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

*Expense Month:*                      **Feb-22**                      **Feb-22**                      **Feb-22**  
*As Revised*                              *As Originally Filed*                      *Difference*

<b>Page 3:</b>			
	<b>Feb-22</b>	<b>Feb-22</b>	<b>Feb-22</b>
	<b>As Revised</b>	<b>As Originally Filed</b>	<b>Difference</b>
Generation (Net)	270,056,366	270,056,366	-
Purchases including interchange-in	659,442,918	657,195,922	2,246,996 (2)
(A) SUB-TOTAL (Generation & Purchases)	929,499,284	927,252,288	2,246,996
Inter-system Sales including interchange-out	655,362,853	654,078,657	1,284,196 (3)
Supplemental Sales to Smelters	-	-	-
Backup Sales to Smelters	-	-	-
Back-up and Energy Imbalance Sales to Domtar	1,267,960	1,267,960	-
System Losses	18,044,700	19,143,145	(1,098,445) (4)
(B) SUB-TOTAL (OSS & Losses)	674,675,513	674,489,762	185,751
<b>Total Sales ((A) - (B))</b>	<b>254,823,771</b>	<b>252,762,526</b>	<b>2,061,245</b>

**Big Rivers Electric Corporation  
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<i>Expense Month:</i>		<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>	
<b>Page 4:</b>					
1.	Last FAC Rate Billed	\$ 0.011620	\$ 0.011620	\$ -	
2.	kWh Billed at Above Rate	254,823,771	252,762,526	2,061,245	(5)
3.	FAC Revenue/(Refund) (Line 1 x Line 2)	\$ 2,961,052	\$ 2,937,101	\$ 23,951	
4.	kWh Used to Determine Last FAC Rate	305,217,040	305,217,040	-	
5.	Non-Jurisdictional kWh (Included in Line 4)	-	-	-	
6.	Kentucky Jurisdictional kWh (Line 4 - Line 5)	305,217,040	305,217,040	-	
7.	Revised FAC Rate, if prior period adjustment is needed	\$ -	\$ -	\$ -	
8.	Recoverable FAC Revenue/(Refund) (Line 1 x Line 6)	\$ 3,546,622	\$ 3,546,622	\$ -	
9.	Over or (Under) Recovery (Line 3 - Line 8)	\$ (585,570)	\$ (609,521)	\$ 23,951	
10.	Total Sales "Sm" (Page 3)	254,823,771	252,762,526	2,061,245	(5)
11.	Kentucky Jurisdictional Sales	254,823,771	252,762,526	2,061,245	(5)
12.	Total Sales Divided by KY Juris. Sales (Line 10 / Line 11)	1.0000000	1.0000000	-	
13.	Total Co. Over or (Under) Recovery (Line 9 x Line 12)	\$ (585,570)	\$ (609,521)	\$ 23,951	

**Big Rivers Electric Corporation  
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(See Footnotes for explanation of changes)

<i>Expense Month:</i>	<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
-----------------------	------------------------------	---------------------------------------	------------------------------

Footnotes:

- (1) Feb-22 "Intersystem Sales Including Interchange-Out" was overstated \$30,568. The adjustment to Feb-22 System Losses (Note (5)) decreased the system average fuel price per MWh from \$41.956 to \$41.774. This resulted in a decrease to the intersystem sales including interchange-out of \$30,568.
- (2) Feb-22 "Purchases including interchange-in" were understated 2,246,996 kWh. The adjustment to Feb-22 member sales volumes (Note (5)) impacted the calculation utilized to determine the monthly interchange in, which caused the purchases including interchange-in to increase 2,246,996 kWh.
- (3) Feb-22 "Inter-system Sales including interchange-out" were understated 1,284,196 kWh. The adjustment to Feb-22 member sales volumes (Note (5)) impacted the calculation utilized to determine the monthly interchange out, which caused the inter-system sales including interchange-out to increase 1,284,196 kWh.
- (4) Feb-22 "System Losses" were overstated 1,098,445 kWh. The adjustment to Feb-22 member sales volumes (Note (5)) impacted the calculation utilized to determine the monthly system losses, which caused the System Losses to decrease 1,098,445 kWh.
- (5) Feb-22 "Total Sales" were understated 2,061,245 kWh. A new member contract became effective in February 2022. A portion of the mWh billed for this contract were inadvertently excluded from member sales volumes used to prepare the Form A Filing. To correct this error, a 2,061,245 mWh adjustment was made to increase the Feb-22 sales volumes.

**Big Rivers Electric Corporation**  
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**(Originally Filed with Commission by Letter Dated March 21, 2022)**

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	<i>Expense Month:</i>	<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
<b>Page 1:</b>				
Fuel "Fm" (Fuel Cost Schedule)	(p. 2)	\$ 10,037,256	\$ 10,137,168	\$ (99,912)
Sales "Sm" (Sales Schedule)	(p. 3)	252,762,526	252,762,526	-
<b>Total Fuel Cost per kWh (F(m) / S(m))</b>		\$ 0.039710	\$ 0.040106	\$ (0.000396)
Base Fuel Factor		\$ 0.020932	\$ 0.020932	\$ -
<b>FAC Factor</b>		\$ <b>0.018778</b>	\$ <b>0.019174</b>	\$ <b>(0.000396)</b>

**Big Rivers Electric Corporation**  
**Adjustments to February 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated March 21, 2022)**

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<i>Expense Month:</i>	<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>	
<b>Page 2:</b>				
Company Generation:				
(+) Coal Burned	\$ 9,685,226	\$ 9,685,226	\$ -	
(+) Pet Coke Burned	-	-	-	
(+) Oil Burned	895,557	895,557	-	
(+) Gas Burned	-	-	-	
(+) Propane Burned	-	-	-	
(-) MISO Make Whole Payments	10,349	10,349	-	
(+) Fuel (Assigned Cost During F.O.)	1,593,072	1,593,072	-	
(-) Fuel (Substitute Cost During F.O.)	187,636	187,636	-	
(-) Fuel (Supplemental & Back-Up Energy to Smelters)	-	-	-	
(-) Fuel (Domtar Back-Up/ Imbalance Generation)	-	-	-	
(A) SUB-TOTAL Generation	\$ 11,975,870	\$ 11,975,870	\$ -	
Purchases:				
(+) Net energy cost - economy purchases	\$ 680,255	\$ 780,167	\$ (99,912)	(1)
(+) Identifiable fuel cost - other purchases	4,024,040	3,924,128	99,912	(1)
(+) Identifiable fuel cost - Forced Outage purchases	1,805,057	1,805,057	-	
(-) Identifiable fuel cost (substitute for Forced Outage)	1,805,057	1,805,057	-	
(-) Less Purchases for Supplemental and Back-Up to Smelters	-	-	-	
(-) Less Purchases for Domtar back up	154,797	54,885	99,912	(1)
(-) Less Purchases Above Highest Cost Units	50,801	50,801	-	
(B) SUB-TOTAL Purchases	\$ 4,498,697	\$ 4,598,609	\$ (99,912)	
Intersystem Sales				
(C) Including Interchange-out	\$ 7,046,832	\$ 7,046,832	\$ -	
(D) Over/(Under) Recovery (p. 4)	\$ (609,521)	\$ (609,521)	\$ -	
<b>Total Fuel Cost [(A) + (B) - (C) - (D)]</b>	<b>\$ 10,037,256</b>	<b>\$ 10,137,168</b>	<b>\$ (99,912)</b>	

**Big Rivers Electric Corporation**  
**Adjustments to February 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated March 21, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>		<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
<b>Page 3:</b>				
	Generation (Net)	270,056,366	270,056,366	-
	Purchases including interchange-in	657,195,922	657,195,922	-
(A)	SUB-TOTAL (Generation & Purchases)	927,252,288	927,252,288	-
	Inter-system Sales including interchange-out	654,078,657	654,078,657	-
	Supplemental Sales to Smelters	-	-	-
	Backup Sales to Smelters	-	-	-
	Back-up and Energy Imbalance Sales to Domtar	3,329,205	1,267,960	2,061,245 (2)
	System Losses	17,081,900	19,143,145	(2,061,245) (2)
(B)	SUB-TOTAL (OSS & Losses)	674,489,762	674,489,762	-
	<b>Total Sales ((A) - (B))</b>	<b>252,762,526</b>	<b>252,762,526</b>	-

**Big Rivers Electric Corporation**  
**Adjustments to February 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated March 21, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>		<b>Feb-22 As Revised</b>	<b>Feb-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
<b>Page 4:</b>				
1.	Last FAC Rate Billed	\$ 0.011620	\$ 0.011620	\$ -
2.	kWh Billed at Above Rate	252,762,526	252,762,526	-
3.	FAC Revenue/(Refund) (Line 1 x Line 2)	\$ 2,937,101	\$ 2,937,101	\$ -
4.	kWh Used to Determine Last FAC Rate	305,217,040	305,217,040	-
5.	Non-Jurisdictional kWh (Included in Line 4)	-	-	-
6.	Kentucky Jurisdictional kWh (Line 4 - Line 5)	305,217,040	305,217,040	-
7.	Revised FAC Rate, if prior period adjustment is needed	\$ -	\$ -	\$ -
8.	Recoverable FAC Revenue/(Refund) (Line 1 x Line 6)	\$ 3,546,622	\$ 3,546,622	\$ -
9.	Over or (Under) Recovery (Line 3 - Line 8)	\$ (609,521)	\$ (609,521)	\$ -
10.	Total Sales "Sm" (Page 3)	252,762,526	252,762,526	-
11.	Kentucky Jurisdictional Sales	252,762,526	252,762,526	-
12.	Total Sales Divided by KY Juris. Sales (Line 10 / Line 11)	1.0000000	1.0000000	-
13.	Total Co. Over or (Under) Recovery (Line 9 x Line 12)	\$ (609,521)	\$ (609,521)	\$ -

**Footnotes:**

- (1) Feb-22 "Net energy cost - economy purchases" were overstated \$99,912. Purchases made to serve a members' non-tariff market rate sales contract were inadvertently classified as an economic purchase, rather than other purchase.
- (2) Feb-22 "System Losses" were overstated 2,061,245 kWh. A new member contract became effective in February 2022. A portion of the kWh billed for this contract are excluded from market rate sales and were inadvertently included in system losses, rather than Non-Tariff Market Rate Sales to Members" used to prepare the Form A Filing. To correct this error, a 6,177,424 kWh adjustment was made to decrease the Mar-22 sales volumes.



**Big Rivers Electric Corporation  
Adjustments to March 2022 Expense Month Form A Filing  
(Originally Filed with Commission by Letter Dated April 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

	<i>Expense Month:</i>	<b>Mar-22 As Revised</b>	<b>Mar-22 As Originally Filed</b>	<b>Mar-22 Difference</b>
<b>Page 1:</b>				
Fuel "Fm" (Fuel Cost Schedule)	(p. 2)	\$ 8,177,765	\$ 8,320,269	\$ (142,504)
Sales "Sm" (Sales Schedule)	(p. 3)	223,923,285	230,100,709	(6,177,424)
<b>Total Fuel Cost per kWh (F(m) / S(m))</b>		\$ 0.036520	\$ 0.036159	\$ 0.000361
Base Fuel Factor		\$ 0.020932	\$ 0.020932	\$ -
<b>FAC Factor</b>		\$ <b>0.015588</b>	\$ <b>0.015227</b>	\$ <b>0.000361</b>

**Big Rivers Electric Corporation**  
**Adjustments to March 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated April 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>	<b>Mar-22 As Revised</b>	<b>Mar-22 As Originally Filed</b>	<b>Mar-22 Difference</b>	
<b>Page 2:</b>				
Company Generation:				
(+) Coal Burned	\$ 13,930,191	\$ 13,930,191	\$ -	
(+) Pet Coke Burned	783,372	783,372	-	
(+) Oil Burned	160,736	160,736	-	
(+) Gas Burned	-	-	-	
(+) Propane Burned	-	-	-	
(-) MISO Make Whole Payments	-	-	-	
(+) Fuel (Assigned Cost During F.O.)	104,312	104,312	-	
(-) Fuel (Substitute Cost During F.O.)	-	-	-	
(-) Fuel (Supplemental & Back-Up Energy to Smelters)	-	-	-	
(-) Fuel (Domtar Back-Up/ Imbalance Generation)	-	-	-	
(A) SUB-TOTAL Generation	\$ 14,978,611	\$ 14,978,611	\$ -	
Purchases:				
(+) Net energy cost - economy purchases	\$ 789,699	\$ 1,026,131	\$ (236,432)	(2)
(+) Identifiable fuel cost - other purchases	2,602,910	2,366,478	236,432	(2)
(+) Identifiable fuel cost - Forced Outage purchases	158,295	158,295	-	
(-) Identifiable fuel cost (substitute for Forced Outage)	158,295	158,295	-	
(-) Less Purchases for Supplemental and Back-Up to Smelters	-	-	-	
(-) Less Purchases for Domtar back up	589,958	353,526	236,432	(2)
(-) Less Purchases Above Highest Cost Units	285,329	285,329	-	
(B) SUB-TOTAL Purchases	\$ 2,517,322	\$ 2,753,754	\$ (236,432)	
Intersystem Sales				
(C) Including Interchange-out	\$ 9,771,038	\$ 9,771,038	\$ -	
(D) Over/(Under) Recovery (p. 4)	\$ (452,870)	\$ (358,942)	\$ (93,928)	
<b>Total Fuel Cost [(A) + (B) - (C) - (D)]</b>	<b>\$ 8,177,765</b>	<b>\$ 8,320,269</b>	<b>\$ (142,504)</b>	

**Big Rivers Electric Corporation  
Adjustments to March 2022 Expense Month Form A Filing  
(Originally Filed with Commission by Letter Dated April 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>		<b>Mar-22 As Revised</b>	<b>Mar-22 As Originally Filed</b>	<b>Mar-22 Difference</b>
<b>Page 3:</b>				
	Generation (Net)	408,352,086	408,352,086	-
	Purchases including interchange-in	586,495,093	586,495,093	-
(A)	SUB-TOTAL (Generation & Purchases)	994,847,179	994,847,179	-
	Inter-system Sales including interchange-out	740,500,011	740,500,011	-
	Supplemental Sales to Smelters	-	-	-
	Backup Sales to Smelters	-	-	-
	Back-up and Energy Imbalance Sales to Domtar	13,222,964	7,045,540	6,177,424 (1)
	System Losses	17,200,919	17,200,919	-
(B)	SUB-TOTAL (OSS & Losses)	770,923,894	764,746,470	6,177,424
	<b>Total Sales ((A) - (B))</b>	<b>223,923,285</b>	<b>230,100,709</b>	<b>(6,177,424)</b>

**Big Rivers Electric Corporation**  
**Adjustments to March 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated April 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

	<i>Expense Month:</i>	<b>Mar-22 As Revised</b>	<b>Mar-22 As Originally Filed</b>	<b>Mar-22 Difference</b>	
<b>Page 4:</b>					
1.	Last FAC Rate Billed	\$ 0.019174	\$ 0.019174	\$ -	
2.	kWh Billed at Above Rate	223,923,285	230,100,709	(6,177,424)	(1)
3.	FAC Revenue/(Refund) (Line 1 x Line 2)	\$ 4,293,505	\$ 4,411,951	\$ (118,446)	
4.	kWh Used to Determine Last FAC Rate	252,762,526	252,762,526	-	
5.	Non-Jurisdictional kWh (Included in Line 4)	-	-	-	
6.	Kentucky Jurisdictional kWh (Line 4 - Line 5)	252,762,526	252,762,526	-	
7.	Revised FAC Rate, if prior period adjustment is needed	\$ 0.018778	\$ 0.018875	\$ (0.000097)	
8.	Recoverable FAC Revenue/(Refund) (Line 7 x Line 6)	\$ 4,746,375	\$ 4,770,893	\$ (24,518)	
9.	Over or (Under) Recovery (Line 3 - Line 8)	\$ (452,870)	\$ (358,942)	\$ (93,928)	
10.	Total Sales "Sm" (Page 3)	223,923,285	230,100,709	(6,177,424)	(1)
11.	Kentucky Jurisdictional Sales	223,923,285	230,100,709	(6,177,424)	(1)
12.	Total Sales Divided by KY Juris. Sales (Line 10 / Line 11)	1.0000000	1.0000000	-	
13.	Total Co. Over or (Under) Recovery (Line 9 x Line 12)	\$ (452,870)	\$ (358,942)	\$ (93,928)	

Footnotes:

- (1) Mar-22 "Total Sales" were overstated 6,177,424 kWh. A new member contract became effective in February 2022. A portion of the kWh billed for this contract are excluded from market rate sales and were inadvertently included in member sales volumes used to prepare the Form A Filing. To correct this error, a 6,177,424 kWh adjustment was made to decrease the Mar-22 sales volumes.
- (2) Mar-22 "Net energy cost - economy purchases" were overstated \$236,432. Purchases made to serve a members' non-tariff market rate sales contract were inadvertently classified as an economic purchase, rather than other purchase.

**Big Rivers Electric Corporation  
Adjustments to May 2022 Expense Month Form A Filing  
(Originally Filed with Commission by Letter Dated June 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>	<b>May-22 As Revised</b>	<b>May-22 As Originally Filed</b>	<b>Feb-22 Difference</b>	
<b>Page 1:</b>				
Fuel "Fm" (Fuel Cost Schedule) (p. 2)	\$ 8,616,563	\$ 6,014,367	\$ 2,602,196	(1)
Sales "Sm" (Sales Schedule) (p. 3)	221,720,192	221,720,192	-	
<b>Total Fuel Cost per kWh (F(m) / S(m))</b>	<b>\$ 0.038862</b>	<b>\$ 0.027126</b>	<b>\$ 0.011736</b>	
Base Fuel Factor	\$ 0.020932	\$ 0.020932	\$ -	
<b>FAC Factor</b>	<b>\$ 0.017930</b>	<b>\$ 0.006194</b>	<b>\$ 0.011736</b>	

**Big Rivers Electric Corporation**  
**Adjustments to May 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated June 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>	<b>May-22 As Revised</b>	<b>May-22 As Originally Filed</b>	<b>Feb-22 Difference</b>	
<b>Page 2:</b>				
Company Generation:				
(+) Coal Burned	\$ 6,003,776	\$ 6,003,776	\$ -	
(+) Pet Coke Burned	-	-	-	
(+) Oil Burned	277,094	277,094	-	
(+) Gas Burned	3,645,241	3,645,241	-	
(+) Propane Burned	-	-	-	
(-) MISO Make Whole Payments	-	-	-	
(+) Fuel (Assigned Cost During F.O.)	1,509,139	1,509,139	-	
(-) Fuel (Substitute Cost During F.O.)	112,151	112,151	-	
(-) Fuel (Supplemental & Back-Up Energy to Smelters)	-	-	-	
(-) Fuel (Domtar Back-Up/ Imbalance Generation)	-	-	-	
(A) SUB-TOTAL Generation	\$ 11,323,099	\$ 11,323,099	\$ -	
Purchases:				
(+) Net energy cost - economy purchases	\$ (508,492)	\$ (3,110,688)	\$ 2,602,196	(1)
(+) Identifiable fuel cost - other purchases	7,515,772	7,515,772	-	
(+) Identifiable fuel cost - Forced Outage purchases	4,290,117	4,290,117	-	
(-) Identifiable fuel cost (substitute for Forced Outage)	4,290,117	4,290,117	-	
(-) Less Purchases for Supplemental and Back-Up to Smelters	-	-	-	
(-) Less Purchases for Domtar back up	2,005,508	2,005,508	-	
(-) Less Purchases Above Highest Cost Units	553,438	553,438	-	
(B) SUB-TOTAL Purchases	\$ 4,448,334	\$ 1,846,138	\$ 2,602,196	(1)
Intersystem Sales				
(C) Including Interchange-out	\$ 6,830,311	\$ 6,830,311	\$ -	
(D) Over/(Under) Recovery (p. 4)	\$ 324,559	\$ 324,559	\$ -	
<b>Total Fuel Cost [(A) + (B) - (C) - (D)]</b>	<b>\$ 8,616,563</b>	<b>\$ 6,014,367</b>	<b>\$ 2,602,196</b>	<b>(1)</b>

Big Rivers Electric Corporation  
Adjustments to May 2022 Expense Month Form A Filing  
(Originally Filed with Commission by Letter Dated June 20, 2022)

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>		<b>May-22 As Revised</b>	<b>May-22 As Originally Filed</b>	<b>Feb-22 Difference</b>
<b>Page 3:</b>				
	Generation (Net)	269,285,829	269,285,829	-
	Purchases including interchange-in	546,274,156	546,274,156	-
(A)	SUB-TOTAL (Generation & Purchases)	815,559,985	815,559,985	-
	Inter-system Sales including interchange-out	557,387,447	557,387,447	-
	Supplemental Sales to Smelters	-	-	-
	Backup Sales to Smelters	-	-	-
	Back-up and Energy Imbalance Sales to Domtar	24,678,447	24,678,447	-
	System Losses	11,773,899	11,773,899	-
(B)	SUB-TOTAL (OSS & Losses)	593,839,793	593,839,793	-
	<b>Total Sales ((A) - (B))</b>	<b>221,720,192</b>	<b>221,720,192</b>	-

**Big Rivers Electric Corporation**  
**Adjustments to May 2022 Expense Month Form A Filing**  
**(Originally Filed with Commission by Letter Dated June 20, 2022)**

**Changes Highlighted in Orange**

(See Footnotes for explanation of changes)

<i>Expense Month:</i>		<b>May-22</b>	<b>May-22</b>	<b>Feb-22</b>
		<b>As Revised</b>	<b>As Originally Filed</b>	<b>Difference</b>
<b>Page 4:</b>				
1.	Last FAC Rate Billed	\$ 0.018073	\$ 0.018073	\$ -
2.	kWh Billed at Above Rate	221,720,192	221,720,192	-
3.	FAC Revenue/(Refund) (Line 1 x Line 2)	\$ 4,007,149	\$ 4,007,149	\$ -
4.	kWh Used to Determine Last FAC Rate	203,761,983	203,761,983	-
5.	Non-Jurisdictional kWh (Included in Line 4)	-	-	-
6.	Kentucky Jurisdictional kWh (Line 4 - Line 5)	203,761,983	203,761,983	-
7.	Revised FAC Rate, if prior period adjustment is needed	\$ -	\$ -	\$ -
8.	Recoverable FAC Revenue/(Refund) (Line 1 x Line 6)	\$ 3,682,590	\$ 3,682,590	\$ -
9.	Over or (Under) Recovery (Line 3 - Line 8)	\$ 324,559	\$ 324,559	\$ -
10.	Total Sales "Sm" (Page 3)	221,720,192	221,720,192	-
11.	Kentucky Jurisdictional Sales	221,720,192	221,720,192	-
12.	Total Sales Divided by KY Juris. Sales (Line 10 / Line 11)	1.0000000	1.0000000	-
13.	Total Co. Over or (Under) Recovery (Line 9 x Line 12)	\$ 324,559	\$ 324,559	\$ -

**Footnotes:**

- (1) May-22 "Total Fuel Cost" was understated \$2,602,196. The adjustment to May-22 "Net energy cost - economy purchases" decreased the total fuel cost from \$6,014,367 to \$8,616,563. This was a result of purchases hedges being improperly recorded as a sale hedge in May 2022.



**BIG RIVERS ELECTRIC CORPORATION**  
**AN ELECTRONIC EXAMINATION OF THE**  
**APPLICATION OF THE FUEL ADJUSTMENT CLAUSE**  
**OF BIG RIVERS ELECTRIC CORPORATION**  
**FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022**  
**CASE NO. 2023-00013**

**Responses to Commission Staff's Second Request for Information**  
**Dated October 5, 2023**

**October 20, 2023**

1 **Item 28)**     *For each month of the review period, provide the total amount of*  
2 *fuel related cost that occurred during a forced outage that was disallowed*  
3 *pursuant to 807 KAR 5:056, or that BREC was unable to collect via any other*  
4 *means.*

5

6 **Response)** Please see the attachment to this response, for a summary of fuel related  
7 generation and purchased power costs incurred during forced outages, and the  
8 related amounts which were disallowed for recovery through the FAC pursuant to  
9 807 KAR 5:056.

10

11

12 **Witness)**     Christopher A. Warren

13

## Big Rivers Electric Corporation

		<u>Nov-20</u>		<u>Dec-20</u>		<u>Jan-21</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 516,220</b>	<b>\$</b>	<b>258,044</b>	<b>\$</b>	<b>295,449</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)	\$ 387,411		\$ 195,785		\$ 175,243
(-)	Fuel (Substitute Cost During F.O.)	\$ -		\$ -		\$ -
	Sub-Total	\$ 387,411		\$ 195,785		\$ 175,243

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases	\$ 516,220		\$ 258,044		\$ 295,449
(-)	Identifiable fuel cost (substitute for Forced Outage)	\$ 516,220		\$ 258,044		\$ 295,449
	Sub-Total	\$ -		\$ -		\$ -

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)] \$ 387,411 \$ 195,785 \$ 175,243**

<b>Forced Outage Costs Not Recovered through FAC</b>		<b>\$ 128,809</b>		<b>\$ 62,259</b>		<b>\$ 120,206</b>
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## Big Rivers Electric Corporation

		<u>Feb-21</u>		<u>Mar-21</u>		<u>Apr-21</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 628,591</b>	<b>\$</b>	<b>164,715</b>	<b>\$</b>	<b>630,961</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)	\$ 463,630	\$	205,965	\$	461,990
(-)	Fuel (Substitute Cost During F.O.)	\$ 188,730	\$	65,735	\$	37,084
	Sub-Total	\$ 274,900	\$	140,230	\$	424,906

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases	\$ 628,591	\$	164,715	\$	630,961
(-)	Identifiable fuel cost (substitute for Forced Outage)	\$ 628,591	\$	164,715	\$	630,961
	Sub-Total	\$ -	\$	-	\$	-

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)]**    \$ 274,900    \$ 140,230    \$ 424,906

<b>Forced Outage Costs Not Recovered through FAC</b>	<b>[(A) - (D)]</b>	<b>\$ 353,691</b>	<b>\$</b>	<b>24,485</b>	<b>\$</b>	<b>206,055</b>
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## Big Rivers Electric Corporation

		<u>May-21</u>	<u>Jun-21</u>	<u>Jul-21</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 217,743</b>	<b>\$ 1,739,846</b>	<b>\$ 1,933,893</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)	\$ 360,172	\$ 735,043	\$ 1,242,791
(-)	Fuel (Substitute Cost During F.O.)	\$ 164,860	\$ 122,462	\$ 116,181
	Sub-Total	<b>(B) \$ 195,312</b>	<b>\$ 612,581</b>	<b>\$ 1,126,610</b>

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases	\$ 217,743	\$ 1,739,846	\$ 1,933,893
(-)	Identifiable fuel cost (substitute for Forced Outage)	\$ 217,743	\$ 1,739,846	\$ 1,933,893
	Sub-Total	<b>(C) \$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)] \$ 195,312 \$ 612,581 \$ 1,126,610**

<b>Forced Outage Costs Not Recovered through FAC</b>	<b>[(A) - (D)]</b>	<b>\$ 22,431</b>	<b>\$ 1,127,265</b>	<b>\$ 807,283</b>
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## Big Rivers Electric Corporation

			<u>Aug-21</u>		<u>Sep-21</u>		<u>Oct-21</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$</b>	<b>902</b>	<b>\$</b>	<b>539,940</b>	<b>\$</b>	<b>416,009</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)		\$ -		\$ 218,560		\$ 121,584
(-)	Fuel (Substitute Cost During F.O.)		\$ -		\$ -		\$ -
	Sub-Total	<b>(B)</b>	\$ -		\$ 218,560		\$ 121,584

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases		\$ 902		\$ 539,940		\$ 416,009
(-)	Identifiable fuel cost (substitute for Forced Outage)		\$ 902		\$ 539,940		\$ 416,009
	Sub-Total	<b>(C)</b>	\$ -		\$ -		\$ -

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)]**    \$ -    \$ 218,560    \$ 121,584

<b>Forced Outage Costs Not Recovered through FAC</b>			<b>[(A) - (D)]</b>		<b>\$ 902</b>		<b>\$ 321,380</b>		<b>\$ 294,425</b>
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## Big Rivers Electric Corporation

		<u>Nov-21</u>	<u>Dec-21</u>	<u>Jan-22</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 1,604,655</b>	<b>\$ 124,752</b>	<b>\$ 1,300,407</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)		\$ 1,008,793	\$ 86,437	\$ 1,211,109
(-)	Fuel (Substitute Cost During F.O.)		\$ 460,129	\$ -	\$ 136,388
	Sub-Total	<b>(B)</b>	<b>\$ 548,664</b>	<b>\$ 86,437</b>	<b>\$ 1,074,721</b>

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases		\$ 1,604,655	\$ 124,752	\$ 1,300,407
(-)	Identifiable fuel cost (substitute for Forced Outage)		\$ 1,604,655	\$ 124,752	\$ 1,300,407
	Sub-Total	<b>(C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)]**    **\$ 548,664    \$ 86,437    \$ 1,074,721**

<b>Forced Outage Costs Not Recovered through FAC</b>	<b>[(A) - (D)]</b>	<b>\$ 1,055,991</b>	<b>\$ 38,315</b>	<b>\$ 225,686</b>
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## Big Rivers Electric Corporation

		<u>Feb-22</u>	<u>Mar-22</u>	<u>Apr-22</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 1,805,057</b>	<b>\$ 158,295</b>	<b>\$ -</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)		\$ 1,593,072	\$ 104,312	\$ -
(-)	Fuel (Substitute Cost During F.O.)		\$ 187,636	\$ -	\$ -
	Sub-Total	<b>(B)</b>	<b>\$ 1,405,436</b>	<b>\$ 104,312</b>	<b>\$ -</b>

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases		\$ 1,805,057	\$ 158,295	\$ -
(-)	Identifiable fuel cost (substitute for Forced Outage)		\$ 1,805,057	\$ 158,295	\$ -
	Sub-Total	<b>(C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)]**    **\$ 1,405,436    \$ 104,312    \$ -**

<b>Forced Outage Costs Not Recovered through FAC</b>	<b>[(A) - (D)]</b>	<b>\$ 399,621</b>	<b>\$ 53,983</b>	<b>\$ -</b>
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## Big Rivers Electric Corporation

		<u>May-22</u>	<u>Jun-22</u>	<u>Jul-22</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 4,290,117</b>	<b>\$ 3,892,932</b>	<b>\$ 3,430,387</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)		\$ 1,509,139	\$ 1,432,473	\$ 1,289,497
(-)	Fuel (Substitute Cost During F.O.)		\$ 112,151	\$ -	\$ -
	Sub-Total	<b>(B)</b>	<b>\$ 1,396,988</b>	<b>\$ 1,432,473</b>	<b>\$ 1,289,497</b>

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases		\$ 4,290,117	\$ 3,892,932	\$ 3,430,387
(-)	Identifiable fuel cost (substitute for Forced Outage)		\$ 4,290,117	\$ 3,892,932	\$ 3,430,387
	Sub-Total	<b>(C)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)] \$ 1,396,988 \$ 1,432,473 \$ 1,289,497**

<b>Forced Outage Costs Not Recovered through FAC</b>	<b>[(A) - (D)]</b>	<b>\$ 2,893,129</b>	<b>\$ 2,460,459</b>	<b>\$ 2,140,890</b>
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## Big Rivers Electric Corporation

		<u>Aug-22</u>	<u>Sep-22</u>	<u>Oct-22</u>
<b>Cost of Power Purchased for Forced Outages</b>	<b>(A)</b>	<b>\$ 1,832,855</b>	<b>\$ 3,726,202</b>	<b>\$ -</b>

**Amounts Related to Forced Outages Included in Form A Filing:  
(Page 2, Fuel Cost Schedule)**

**Company Generation:**

(+)	Fuel (Assigned Cost During F.O.)	\$ 378,004	\$ 783,065	\$ -
(-)	Fuel (Substitute Cost During F.O.)	\$ -	\$ -	\$ -
	Sub-Total	<b>(B) \$ 378,004</b>	<b>\$ 783,065</b>	<b>\$ -</b>

**Purchases:**

(+)	Identifiable fuel cost - Forced Outage purchases	\$ 1,832,855	\$ 3,726,202	\$ -
(-)	Identifiable fuel cost (substitute for Forced Outage)	\$ 1,832,855	\$ 3,726,202	\$ -
	Sub-Total	<b>(C) \$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Costs Related to Forced Outages Recovered through FAC (D) = [(B) + (C)] \$ 378,004 \$ 783,065 \$ -**

<b>Forced Outage Costs Not Recovered through FAC</b>	<b>[(A) - (D)]</b>	<b>\$ 1,454,851</b>	<b>\$ 2,943,137</b>	<b>\$ -</b>
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