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September 30, 2025

VIA ELECTRONIC Mail to PSCED@ky.gov

Ms. Linda C. Bridwell
Executive Director
Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

RECEIVED

SEP 30 2025

**PUBLIC SERVICE
COMMISSION**

Re: *In the Matter of: Application of Big Rivers Electric Corporation for
Authority to Transfer Functional Control of its Transmission System to
Midwest Independent Transmission System Operator, Inc. - Case No.
2010-00043*

Dear Ms. Bridwell:

Finding No. 2 of the Public Service Commission's November 1, 2010, Order in the above-styled matter requires Big Rivers Electric Corporation to "file a report by September 30 of each year describing its current evaluation of available options for complying with NERC's contingency reserve requirement and its review of the short-term and long-term costs and benefits of continued membership in Midwest ISO." On September 28, 2018, Big Rivers filed a motion to be relieved of the obligation to file such annual reports. On September 30, 2022, Big Rivers filed a motion to convert the case to electronic filing. As these motions are still pending, Big Rivers is filing its next annual report with this letter, via electronic mail.

I certify that on this date a copy of this compliance filing was served on each party of record in the above -styled matter by electronic mail.

Ms. Linda C. Bridwell
September 30, 2025
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Please feel free to contact me should you have any questions regarding this filing.

Sincerely,

/s/ Senthia Santana

Senthia Santana
Associate Attorney
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cc: Service List

BIG RIVERS ELECTRIC CORPORATION
APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
TO TRANSFER FUNCTIONAL CONTROL
OF ITS TRANSMISSION SYSTEM TO
MIDWEST INDEPENDENT TRANSMISSION SYSTEM OPERATOR, INC.
CASE NO. 2010-00043

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Big Rivers Electric Corporation
Midcontinent Independent System Operator, Inc.
Annual Cost/Benefit Update
for Kentucky Public Service Commission
per Finding No. 2 of Commission's November 1, 2010 Order
Case No. 2010-00043
Prepared September 30, 2025

Background

Big Rivers Electric Corporation ("Big Rivers") joined the Midcontinent Independent System Operator, Inc. ("MISO") on December 1, 2010, to meet the mandated Contingency Reserve requirements of the North American Electric Reliability Corporation ("NERC") as approved by the Federal Energy Regulatory Commission. In 2009, Big Rivers commissioned Charles River Associates ("CRA") to conduct an economic assessment of the options available to Big Rivers for the supply of Contingency Reserve. The CRA Analysis was completed in 2010 and concluded that Big Rivers had no viable options at the time for meeting its Contingency Reserve requirement other than with a stand-alone self-supply plan or by joining MISO. Based on CRA's analysis, joining MISO was estimated to be at least \$32 million less costly to Big Rivers than stand-alone self-supply over the five-year period from 2011 to 2015. Big Rivers was approved by MISO for membership in December 2009 and, following approval by the Kentucky Public Service Commission, fully integrated into MISO on December 1, 2010.

Today's Options

Big Rivers believes that the options for meeting its Contingency Reserve requirement largely remain the same as those described in the 2010 analysis performed by CRA and as described in Big Rivers' update to the Commission in September 2024. In addition to joining MISO, CRA analyzed Big Rivers' potential participation in PJM Interconnection LLC ("PJM"), the Regional Transmission Organization ("RTO") that coordinates the movement of wholesale

electricity across 13 states in the mid-Atlantic region of the United States. The same challenges to joining PJM in 2010 also exist today. The most significant and costly challenge is that Big Rivers has no direct interconnections with PJM. Big Rivers is directly interconnected with Louisville Gas and Electric Company (“LG&E/KU”) and while LG&E/KU’s parent company, PP&L Corporation, is a member of PJM, LG&E/KU is not a member of PJM. While East Kentucky Power Corporation (“East Kentucky”) is a member of PJM, Big Rivers is not interconnected with East Kentucky’s system. Accordingly, there has been no change in the status of available options to Big Rivers for possible participation in PJM.

In addition to evaluating PJM as an alternative option, the CRA analysis also evaluated a stand-alone self-supply plan. To meet its NERC requirements on a stand-alone basis, Big Rivers would require a 417 MW of Contingency Reserve based on the loss of its largest single generating unit, the D.B. Wilson Unit 1. The cost of securing this level of reserves continues to be prohibitive and the stand-alone solution remains more expensive than maintaining MISO membership.

Big Rivers’ prior annual cost/benefit updates in this proceeding have noted the rising costs of market participation experienced by Big Rivers and other MISO members. The updates explained that costs are unlikely to decline in the near future, given the scope of major initiatives underway at MISO – including the Long-Range Transmission Plan with an estimated cost of over \$20 billion for the second of five anticipated project tranches; market design modifications associated with the seasonal capacity construct; and the proposed adoption of a reliability-based demand curve. These efforts coupled with broader industry shifts to a changing resource fleet, contributed to increased costs.

As published in the *2024 MISO Value Proposition Annual View*, MISO itself projects that membership costs will continue to increase, particularly in the near term, as MISO adapts to

evolving system needs and a changing resource mix. Staffing expansion at MISO to support these initiatives further contribute to rising costs. Nevertheless, MISO expects the benefit-to-cost ratio for membership to remain favorable at approximately 15:1. Big Rivers continues to monitor closely both its costs and the value it derives from MISO membership to ensure that participation remains in the best interest of its Members-Owners.

As a Transmission Owner member of MISO, whose members are Load Serving Entities (“LSEs”), Big Rivers faces significant challenges associated with MISO’s lengthy and uncertain generation interconnection queue process. At present, the MISO generation queue includes more than 5,000 MW of planned or potential generator interconnections to the Big Rivers system. While MISO’s tariff contemplates completion of Definitive Planning Phase (“DPP”) System Impact Studies within approximately one year, in practice, recent study cycles have extended three to four years or more. Even after multiple rounds of queue reform, Transmission Owners continue to experience repeated delays with some interconnection requests requiring four to five years from initial application to execution of a Generator Interconnection Agreement (“GIA”). These delays materially affect Big Rivers’ planning and procurement of resources needed to reliably serve its Member-Owners.

A recent example is the termination of two solar power purchase agreements between subsidiaries of AES Corporation (predecessor of Community Energy) and Big Rivers, as well as the re-negotiation of the solar power purchase agreement with Unbridled Solar, LLC approved by the Commission in Case No. 2020-00183.¹ In each case, the solar developers refused to honor the contracts, citing in part the significant delays in MISO’s interconnection process.

¹ *In the matter of: Electric Application of Big Rivers Electric Corporation for Approval of Solar Power Contracts, P.S.C. Case No. 2020-00183, Order (Sept. 28, 2020).*

Another example involves the interconnection of the 160 MW solar facility (the “Facility”), developed and owned by Unbridled Solar, LLC. Due to ongoing queue delays, Unbridled Solar entered into a provisional Generator Interconnection Agreement (“PGIA”) with Big Rivers and MISO rather than a non-provisional GIA. Both MISO’s 2024 Annual Energy Resource Interconnection Study (“AERIS”) and Quarterly Operating Limit (“QOL”) analyses confirmed that the Facility could inject the full 160 MWs without creating reliability issues. Once the Facility commenced commercial operation, however, Big Rivers was unable to recognize its capacity in the MISO Planning Resource auction (“PRA”) because a resource with commercial operation status is not permitted to use the ICAP deferral process absent a non-provisional GIA. Thus although Big Rivers was purchasing the full capacity of a fully functional solar facility with confirmed injection rights, absent a waiver, it faced exclusion from PRA.

To remedy this inequity, Big Rivers petitioned FERC for waiver of Sections 69A.3.1.a(3), 69A.3.1.b(3), and 69A.3.1.e of the MISO Tariff. FERC granted the waiver, finding that Big Rivers had acted in good faith in actively pursuing a non-provisional GIA and noting Big Rivers’ assertion that but for delays in the interconnection queue process, which were beyond Big Rivers’ control, a non-provisional GIA would already have been in place. While the waiver ensured that the Facility was included in the 2025/2026 PRA Auction, Big Rivers believes a more wide-reaching solution is necessary and will continue to support MISO’s efforts in addressing the queue backlog.

Big Rivers has supported MISO’s recent efforts to address these challenges, including its revised Expedited Resource Addition Study (“ERAS”) proposal in FERC Docket No. ER25-1674-000. FERC approved the revised ERAS framework in June 2025, creating a “fast-lane” for

targeted projects needed to address resource adequacy and reliability.² However, even with these reforms, it remains challenging to bring new generation on-line. Interconnection delays and unanticipated upgrade costs continue to create uncertainty and hinder the timely addition of new generation needed to serve load.

The magnitude of these upgrade costs is reflected in MISO's 2022 DPP studies, which evaluated 778 total projects across the MISO footprint and identified total Network Upgrade costs of \$82.3 billion. Specifically, MISO determined that the proposed 696 MW combined-cycle gas plant at Big Rivers' Reid EHV Substation would require \$257,694,035.96 in associated Network Upgrades. These escalating costs further complicate Big Rivers' resource planning efforts.

Given these challenges, Big Rivers believes it is essential to preserve flexibility and explore all potential avenues for meeting NERC Contingency Reserve obligations. At present MISO, membership remains the most cost-effective option to satisfy these requirements and Big Rivers will continue to monitor developments and fully leverage its position as a MISO Transmission Owner.

Conclusion

Big Rivers' membership in MISO currently represents the most effective and economic means of meeting mandated Contingency Reserve requirements. Big Rivers will continue to actively engage in MISO stakeholder processes, advocate for further improvements to the

² Midcontinent Independent System Operator, *Expedited Resource Addition Study Attracts Large, Diverse Applicant Pool*, (Aug. 26, 2025), <https://www.misoenergy.org/meet-miso/media-center/2025---news-releases/expedited-resource-addition-study-attracts-large-diverse-applicant-pool>

interconnection process and continue to explore all options to ensure reliable, cost-effective service to its Member-Owners.



Christopher S. Bradley
Vice President System Operations
Big Rivers Electric Corporation

September 30, 2025