

CREDIT OPINION

6 January 2025

Update



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RATINGS

Big Rivers Electric Corporation, KY

Domicile	Kentucky, United States
Long Term Rating	Baa2
Type	Senior Secured Bank Credit Facility - Dom Curr
Outlook	Stable

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Big Rivers Electric Corporation, KY

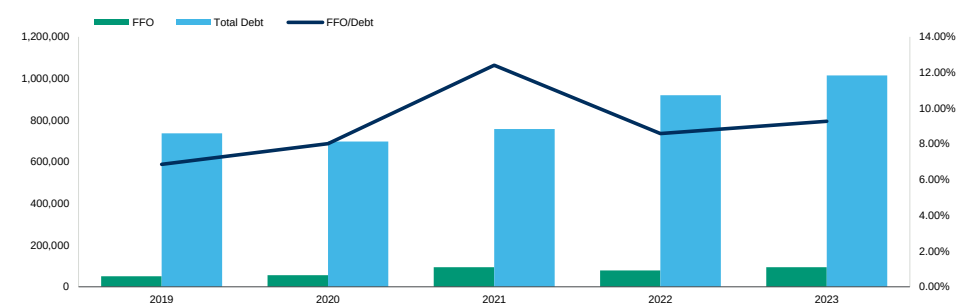
Update to Credit Opinion

Summary

Big Rivers Electric Corporation's ("Big Rivers" or "BREC") (Baa2 stable) credit profile reflects the cooperative's continually strong financial profile and cash flow credit metrics offset by its higher business risk profile and exposure to carbon transition risks. During FY 2023, Big Rivers achieved a three year average funds from operations (FFO) coverage of interest expense of 3.6x and FFO to debt ratio of 10.4% based on Moody's standard adjustments. These credit metrics strongly position Big Rivers within the Baa rating category and reflects Moody's expectation that Big Rivers will likely continue to sustain similar robust credit metrics going forward.

Exhibit 1

Historical FFO, Total Debt, and FFO to Total Debt (\$ in millions)



Source: Moody's Ratings

BREC's credit profile reflects the cooperative's rate regulation by the Kentucky Public Service Commission (KPSC), which is unusual in comparison to many of its peers in the electric cooperative sector that have autonomous rate setting authority. However, Moody's considers the historical regulatory treatment from the KPSC as being credit supportive, and we anticipate that this supportive regulatory environment will continue. BREC also receives funding from the US Department of Agriculture's Rural Utilities Service (RUS) and is subject to its oversight.

BREC's credit profile further reflects its member concentration and relative high exposure to power sales and revenues from large load commodity based industrial customers, whose financial performance can be affected by global economic trends.

The credit profile further recognizes the measures taken by BREC to reduce carbon emissions with the retirement of its coal units and further acknowledges management's successful execution of strategies to better align its power supply portfolio with its changing load profile.

Credit strengths

- » Improved financial performance and key credit metrics that strongly positions Big Rivers within the rating category
- » Credit supportive regulatory treatment from the KPSC that allows for the timely rate recovery of Big Rivers' sizable regulatory assets.
- » Improved contracted sales to industrial loads that creates a better balance between available capacity and BREC's load profile.
- » Reliable net margins and no patronage capital returns to members have created some cushion in the balance sheet to support the financing of its capital spending programs

Credit challenges

- » The lack of autonomous rate setting authority and dependence on maintaining good working relations with KPSC for timely rate recovery of its costs.
- » Maintaining member rates at manageable levels while executing strategies to achieve full and timely recovery of the sizable regulatory asset balance.
- » Effectively managing through historically elevated carbon transition risks as BREC executes plans to reduce its carbon footprint in the coming years.
- » Limited member diversity and relatively high economic dependence on industrial customers within member service territories.

Rating outlook

The stable outlook reflects a prevailing credit supportive regulatory environment, including ongoing support for the recovery of BREC's sizable regulatory assets, improved power supply and demand balance, reduced reliance on coal generation, and the likelihood that Big Rivers can sustain its credit metrics at levels similar to recent financial performance to offset its relatively higher business risk profile.

Factors that could lead to an upgrade

- » Successfully executing the recovery of and reduction in its sizable regulatory assets.
- » Stronger credit metrics to balance its higher business and financial risks.
- » An upgrade could be considered should BREC's FFO coverage of interest and FFO to debt ratios achieve levels greater than 3.0x and in a range of 10% or better, respectively, with the DSC ratio tracking at close to 1.5x or better on a sustained basis.

Factors that could lead to a downgrade

- » A negative rating action could result if there was a shift to a less credit supportive regulatory environment by the KPSC.
- » If Big Rivers were to lose key high load industrial customers.
- » Negative rating pressure would also increase if there were uncertainty regarding the timely recovery of its sizable regulatory assets.
- » The rating could be pressured lower if BREC's FFO to debt and DSC ratios decrease below 6% and 1.2x, respectively, on a sustained basis, or if BREC's liquidity position unexpectedly deteriorates.

Key indicators

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

Exhibit 2

	2019	2020	2021	2022	2023
Times Earned Interest Ratio	1.45	1.27	-1.48	1.21	1.22
Debt Service Coverage (DSC)	1.62	1.61	1.92	1.71	0.71
FFO/Debt	6.86%	8.02%	12.41%	8.58%	9.27%
(FFO+Interest Expense)/Interest Expense	1.99	2.26	2.92	3.00	3.22
Equity/Total Capitalization	41.41%	42.23%	37.67%	33.88%	32.23%

Source: Moody's Ratings

Profile

Big Rivers Electric Corporation (BREC) is an electric generation and transmission cooperative with its headquarters now in the City of Owensboro, Kentucky. BREC is owned by its three-member electric distribution system cooperatives— Jackson Purchase Energy Corporation; Kenergy Corporation; and Meade County Rural Electric Cooperative Corporation. These members are also the owners of BREC. The three members' electric distribution system provide retail electric power and energy to approximately 121,000 residential, commercial, and industrial customers in 22 counties in western Kentucky.

BREC owns an aggregate 936 MW of net generating capacity comprising of three power generating stations, including approximately 519MW of natural gas fired generators and the 417 MW D.B. Wilson coal fired generator. Additionally, BREC's owns about 1,305 miles of transmission lines and 24 substations.

Detailed credit considerations

Regulatory decisions by KPSC have been favorable and credit supportive for Big Rivers

Big Rivers' credit profile reflects its core wholesale power contracts (WPCs) with the three member electric distribution systems that is currently through December 31, 2043. While Big Rivers' board is actively involved in rate setting, Big Rivers and its members are subject to rate regulation by the KPSC. The rate oversight by the KPSC poses unique challenges to the cooperative's business model as the board is unable to set rates unilaterally in comparison to its peers within the electric generation and transmission (G&T) cooperative sector that typically have unilateral rate setting autonomy. That said, this regulatory risk for BREC and its members continues to be mitigated by a history of credit supportive rate decisions from the KPSC.

The KPSC has approved several tariff riders for BREC including a fuel adjustment clause, an environmental surcharge, and the Member Rate Stability Mechanism ("MRSRM"). BREC's MRSRM tariff includes allowances for the recovery in rates of stranded costs related to the early retirement of BREC's coal generation units. The KPSC rate order further established a times interest earned ratio (TIER) based credit mechanism that permits Big Rivers to use 60% of its net margin in excess of a 1.30 TIER to accelerate the amortization of its regulatory assets, with the remaining 40% of net margin in excess of the 1.30 TIER to be used as a member bill credit.

Prior KPSC rate rulings have also included approval of the retail power supply contract for electric service between Meade County and Nucor Steel, wholly-owned by Nucor Corporation (Nucor Baa1 stable). Nucor has constructed a steel plate manufacturing mill that came into service in 2023 and is located within Meade County's service territory. These long-term arrangements add about 200 MW of load to be served by BREC, effectively establishing Nucor as one of Meade County's members.

Regulatory Asset Recovery

BREC has established regulatory assets aggregating about \$384.2 million as of FYE 2023, which is comprised mainly of previously deferred depreciation following the retirement of the Coleman coal plant (balance of \$134.8 million as of FYE 2023), the decommissioning of Reid Unit 1 and Station Two plants (balance of \$79.8 million as of FYE 2023), and costs attributed to the conversion to gas fired generation of the former Robert Green coal plant. Under the terms of the KPSC order in 2021, BREC agreed to a one-time reduction in the balance of the regulatory assets as a charge amounting to approximately \$125 million in depreciation and amortization expenses which adversely impacted the cooperative's TIER ratio in 2021 and reduced its equity capitalization ratio. The KPSC order allows for BREC to recover the remaining regulatory assets by December 31, 2043, which coincides with the current expiration date of its wholesale power agreements with its three members. We view the recovery of this large regulatory asset balance in future rates as being a manageable risk that is supported by the rate authorizations provided to BREC by the KPSC.

Power supply-side strategies implemented to mitigate changing load profile

During the past several years, Big Rivers pursued a strategy to establish a better balance between load demands and resources following a period of having significant excess capacity. The credit profile recognizes the significant progress made by management to create a better balance between its available generation capacity and its load profile. This has been achieved by retiring certain legacy coal generating assets on the generation side and by entering into long-term power supply contracts with several industrial loads to shore up demand, benefitting from the strong economic growth expected in the western Kentucky region. The aforementioned arrangement with Nucor is a good example of this strategy.

Big Rivers' power supply now includes an aggregate 936 MW of owned generating capacity comprising of three power generating stations, including the 454 MW Robert D. Green natural gas fired plant (previously coal generator converted to natural gas generator), 65 MW Robert A. Reid combustion turbine (CT) unit with the ability to burn either fuel oil or natural gas, and the 417 MW D.B. Wilson coal fired generator. Additionally, BREC has about 178 MW of contracted hydro capacity from the Southeastern Power Administration (SEPA) and is expected to procure 160 MW of solar generating capacity through a PPA. The current supply mix provides a better alignment for BREC's member native load to be served through owned generation sources and limits exposure to 3rd party sales.

Significant progress towards decarbonization of the supply stack and reduce carbon transition risks

Big Rivers has significantly reduced its exposure to carbon emissions in its supply stack and reduced its carbon transition risks based on the initiatives undertaken over the past several years. These initiatives reflect the retirement of the 443 MW coal fired Coleman generating plant and its 65 MW Reid Unit 1 coal fired generator effective September 2020. BREC also terminated its operating agreement with Henderson Municipal Power and Light, KY (HMPL: A3 stable) for power procured from HMPL's coal generating station and eliminating its rights to about 187 MW of coal-fired generating capacity from the plant. These supply-side strategies also offset about 435 MW of load lost when the aluminum smelters terminated their contracts with BREC between 2013 and 2024.

Big Rivers has access to hydro power generation through its 178 MW power purchase contract with SEPA. With the aim of increasing its low carbon supply stack and implement renewable generation, Big Rivers received KPSC approval in June 2023 to enter into a 160 MW 20 year fixed price power purchase agreement (PPA) with National Grid Renewables in the Unbridled Solar Project in Henderson and Webster Counties in Kentucky.

Implementation of strategies to phase in long term industrial load

Big Rivers' demand-side strategies have included the replacement of higher risk legacy load exposure to two large aluminum smelters by phasing in long-term contracts for the sale of capacity and energy to more diversified industrial loads and load serving municipal electric distribution entities in Kentucky. BREC has an all-requirements power supply contract with Owensboro Municipal Utilities (OMU: A3 stable) for a peak load of about 180 MW (155 MW net) of capacity through 2026 and a contract for a 100 MW dispatchable capacity block through with the Kentucky Municipal Energy Agency (KYMEA, Baa1 stable) through May 2029.

As mentioned, among the strategy to replace legacy industrial load and concentration is a 20-year full-requirements power supply contract with Nucor Steel which has completed constructing a \$1.7 billion steel plate manufacturing mill within its member (Meade County Rural Electric Cooperative) service territory. The Nucor facility is expected to add significant job growth and supporting supplier and service industry related load that would be beneficial for BREC.

Additional diversification of BREC's industrial load has been achieved with the construction of a new \$500 million paper mill by Pratt Paper, whose load will be served through BREC's distribution member, Kenergy. The Pratt paper mill is expected to be operational by the end of the 4th quarter 2023.

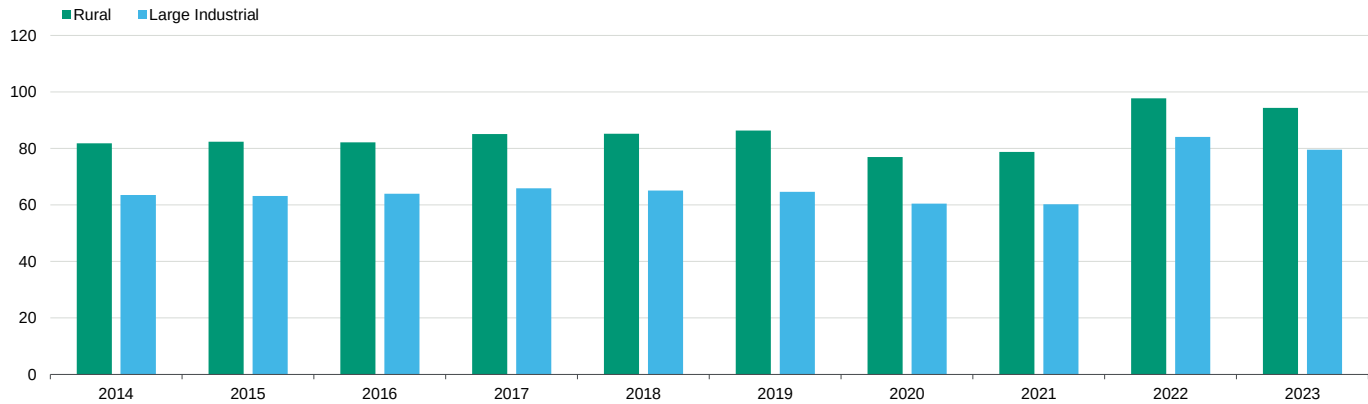
These recent developments enable Big Rivers to become less dependent on the wholesale power market sales for incremental revenues and help diversify its industrial revenue stream, which historically was heavily dependent on the aluminum industry, to one that is less volatile and relatively more predictable.

Maintains a reasonable rate competitive position

Big Rivers' average member rates have remained fairly stable for rural and large industrial customers through 2021. However, BREC as with other peer utilities increased its average rates in 2022 due to higher fuel and purchased power costs that remained during much of 2022 caused by higher natural gas and coal prices that increased power prices. Overall rates were slightly lower in 2023 due to lower

overall softening of commodity prices during 2023. These levels represent a reasonably competitive position for BREC, but not the lowest rates in the region.

Exhibit 3

Historical average member rates

Source: Big Rivers Electric Corporation

Financial performance continues to benefit from regulatory support for recent strategic initiatives of Big Rivers

Big Rivers' credit profile continues to be bolstered by its financial performance and strong credit metrics which are stronger than other similarly rated G&T cooperatives and help offset some of the higher business risk factors including a less diversified member pool, its higher exposure to industrial load and the exposure to rate regulation by the KPSC.

However, the credit supportive outcomes in Big Rivers' recent rate cases, the regulatory support for recovery of its legacy coal fired power plants, as well as other cost reduction and risk mitigation strategies implemented by BREC have collectively helped to improve its financial results and credit profile.

For fiscal years ending 2021-23 (including Moody's standard adjustments), Big Rivers' FFO coverage of interest and FFO to debt ratios showed improvement during the period and averaged 3.6x and 10.4%, respectively. Big Rivers' debt service coverage (DSC) ratio averaged approximately 1.2x for fiscal years 2021-23, inclusive of a substantial principal repayment which occurred during 2023. These credit metrics strongly position Big Rivers within the Baa rating category and reflects Moody's expectation that Big Rivers will likely continue to record similar cash flow metrics over the next two to three years to offset its relatively higher business risk profile.

Near term capital spending and upcoming debt maturities remain manageable

BREC utilizes RUS loan funding and utilizes funding from the CFC to fund its capital spending program and for refinancing of maturing debt.

BREC's capital spending is likely to remain manageable over the upcoming years ranging from \$30 million to about \$50 million annually between 2025 and 2027. A significant portion of this capital spend and near term outlays can be expected to be funded with internal cash flow generation.

Big Rivers utilized cash flow from operations to repay a significant portion of its recent debt maturities including the remaining approximately \$123 million outstanding amount under its RUS 2009 Series B Note in FY 2023. BREC refinanced \$122.8 million of the RUS Series B Note in May 2022 with RUS loans at 3.2%, due December 2043. BREC does not have any significant debt maturities in the upcoming years until 2031 other than annual principal amortization payments that range between approximately \$54 million and \$56 million during 2025 to 2027.

BREC's access to funding sources from the RUS and CFC through its bank line or a provider of long-term debt capital reduce any potential refinancing risk for the cooperative. BREC will be expected to continue accessing RUS funding.

Debt Structure

BREC's senior secured indenture with RUS and all senior secured debt holders, including the lenders under BREC's senior secured syndicated bank credit facility and term loans with CFC, are pari passu in terms of priority of claim and lien on assets.

The debt indenture with the RUS provides Big Rivers with the flexibility to access public debt markets without first obtaining a case specific RUS lien accommodation, while retaining the right to request approval from the RUS for additional direct borrowings under the RUS loan program, if they choose to do so. The added flexibility of the senior secured indenture is deemed as credit positive.

Liquidity analysis

Big Rivers maintains sufficient levels of liquidity by supplementing its internally generated cash flow with lines of credit. BREC has in place a \$150 million syndicated senior secured credit facility with five financial institutions, led by National Rural Utilities Cooperative Finance Corporation (CFC: A2 stable), which matures in June 2026. The revolving credit facility has a one-year extension option of the expiration date subject to lender approval. As of September 30, 2024, Big Rivers had no outstanding balances under the \$150 million line of credit and had approximately \$69 million of cash and short-term investment balance.

Terms of the CFC credit agreement provide a good quality source of liquidity for BREC. The facility does not have any more onerous financial covenants than the financial covenants in existing RUS debt indenture. The indenture and debt agreements require a minimum 1.1x margin for interest (MFI) ratio to be maintained. The line of credit, however, separately require Big Rivers to maintain a minimum equity balance at each fiscal quarter-end based on \$365 million plus 50% of the cooperative's cumulative positive net margins for each of the preceding fiscal years since December 31, 2022. Big Rivers is comfortably in compliance with those covenants, despite the adverse impact to the balance sheet from the writedown of its equity balance in 2021 related to the retirement of its coal plants.

Big Rivers also participates in a cushion of credit program administered by the RUS, which allows BREC to utilize balances to make scheduled principal and interest payments on certain RUS guaranteed Federal Financing Bank (FFB) loans (W8 and X8 loans). As of September 30, 2024, BREC had a balance of approximately \$4.1 million under the RUS cushion of credit program.

ESG considerations

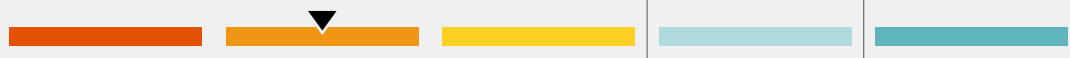
Big Rivers Electric Corporation, KY's ESG credit impact score is CIS-4

Exhibit 4

ESG credit impact score

CIS-4

Score



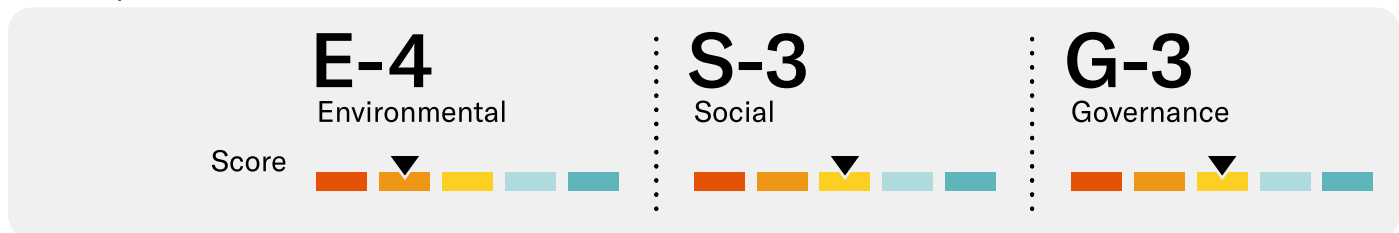
ESG considerations have a discernible impact on the current rating, which is lower than it would have been if ESG risks did not exist. The negative impact of ESG considerations on the rating is higher than for an issuer scored CIS-3.

Source: Moody's Ratings

Big Rivers' **CIS-4** indicates that the rating is lower than it would have otherwise been if certain ESG risk exposures did not exist, including among other things, high carbon transition risk.

Exhibit 5

ESG issuer profile scores



Source: Moody's Ratings

Environmental

Big Rivers' **E-4** reflects the cooperative's high exposure to carbon transition risk, moderate exposure to physical climate risks and its exposure to waste and pollution risks given the operations of its coal generation facilities. However, Moody's recognizes the progress made to date by retiring its legacy coal generation plants and its overall decarbonization efforts to reduce carbon transition risks. While historically BREC had been depending on coal-fired generation plants to meet in excess of 90% of its members' energy supply needs, the reliance on coal fired generation has reduced substantially in recent years due to proactive steps taken by BREC's board and management to reduce exposure to coal and diversify its energy supply portfolio. These measures include the retirement of several coal generation units including the 443 MW Coleman plant and the 65 MW Reid Unit 1. BREC also successfully converted its 454 MW Robert Green coal plant to burn natural gas, while also adding some 160 MW of renewable (solar) resources to its supply mix through power purchase agreements including its PPA with SEPA that procures about 178 MW from hydro power. Overall, BREC's ownership in the only remaining 417 MW D.B. Wilson coal plant represents about 33% of its overall 1,274 MW supply resources (45% of owned generation). The recently executed measures have significantly reduced BREC's carbon footprint and reduced carbon transition risks. However, coal generation continues to represent 50 to 70% of its energy supply mix depending on market power purchase levels in its supply mix and which is reflected in the **E-4** issuer profile score. BREC's environmental risk profile also reflects its moderate exposure to physical climate risks due to the increasing frequency and severity of extreme weather events that pose potential threats to fuel supply infrastructure, transmission and distribution networks, thereby increasing costs to its members. Offsetting these risks are its neutral to low exposure for water management and natural capital risks.

Social

Big Rivers' **S-3** score reflects the cooperative's exposure to demographic and societal trends, as heightened public concern regarding carbon emissions could lead to more stringent environmental rules and increased costs to its members. However, this exposure is balanced in part by investments made by BREC and other steps taken to reduce its carbon emissions in a cost-effective way to minimize impact on members' rates, while also maintaining strong reliability of service. Our view of BREC's social risks also considers low exposure to health and safety, responsible production, customer relations and human capital related risks.

Governance

Big Rivers' **G-3** score primarily reflects its higher exposure to financial policy and risk management. Unlike most of its peers, BREC is subject to the regulatory jurisdiction of a state utility commission which could expose it to delays in or less than full recovery of its costs of providing service. Big Rivers actively manages this risk by maintaining a strong and transparent relationship with the KPSC and its staff and resulting in generally credit supportive outcomes. BREC is less exposed to other governance considerations including management credibility, organization and board structure, compliance and reporting risk factors, which are deemed to be broadly in line with other G&T cooperatives, and to the transparent relationship that it has with key stakeholders.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Structural considerations

N/A.

Rating methodology and scorecard factors

Moody's evaluates Big Rivers under the U.S. Electric G&T Cooperatives Methodology. The scorecard-indicated outcome for Big Rivers' senior most obligations under the Methodology is currently Baa2, which is consistent with Big Rivers' senior secured rating of Baa2.

Exhibit 6

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Big Rivers Electric Corporation, KY				
U.S. Electric Generation & Transmission Cooperatives Industry Scorecard [1][2]			Current FY 12/31/2023	
Factor 1: Long-Term Wholesale Power Supply Contracts and Regulatory Status (20.0%)			Measure	Score
a) % Member Load Served under Regulatory Status			Baa	Baa
Factor 2: Rate Flexibility (20.0%)				
a) Board Involvement / Variable Cost Adjustment Mechanisms			Baa	Baa
b) Purchased Power / Total MWh Sales (%)			43.3%	Ba
c) New Build Exposure (% Net PP&E)			A	A
d) Potential for Rate Shock Exposure			B	B
Factor 3: Member / Owner Profile (10.0%)				
a) Residential Sales / Total Sales (%)			39.7%	Ba
b) Members' Consolidated Equity / Capitalization (%)			38.1%	
Factor 4: 3-Year Average G&T Financial Metrics (40.0%)				
a) TIER (3 Year Avg)			0.5x	B
b) DSC (3 Year Avg)			1.2x	Baa
c) FFO / Debt (3 Year Avg)			9.9%	A
d) (FFO + Interest) / Interest Expense (3 Year Avg)			3.2x	Aa
e) Equity / Total Capitalization (3 Year Avg)			34.4%	A
Factor 5: G&T Size (10.0%)				
a) Megawatt hour sales (Millions of MWhs)			5.3	Baa
b) Net PP&E (USD Billions)			\$1.0	Baa
Rating:				
a) Scorecard-Indicated Outcome			Baa2	
b) Actual Rating Assigned (Issuer Rating)			Baa2	

Source: Moody's Ratings

Ratings

Exhibit 7

Category	Moody's Rating
BIG RIVERS ELECTRIC CORPORATION, KY	
Outlook	Stable
Sr Sec Bank Credit Facility	Baa2

Source: Moody's Ratings

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