BIG RIVERS ELECTRIC CORPORATION

Financial Statements

December 31, 2018 and 2017

(With Independent Auditors’ Report Thereon)

KPMG LLP
Suite 2600
400 West Market Street
Louisville, KY 40202

Independent Auditors' Report

The Board of Directors and Members
Big Rivers Electric Corporation:

Report on the Financial Statements

We have audited the accompanying financial statements of Big Rivers Electric Corporation, which comprise the balance sheets as of December 31, 2018 and 2017, and the related statements of operations, comprehensive income, equities, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Big Rivers Electric Corporation as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018 in accordance with U.S. generally accepted accounting principles.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated April 19, 2019, on our consideration of Big Rivers Electric Corporation's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Big Rivers Electric Corporation's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Big Rivers Electric Corporation's internal control over financial reporting and compliance.

KPMG LLP

Louisville, Kentucky
April 19, 2019

BIG RIVERS ELECTRIC CORPORATION

Balance Sheets

December 31, 2018 and 2017

(Dollars in thousands)

Assets		**2018**	**2017**
Utility plant – net	$	1,012,709	1,041,766
Restricted investments – Member rate mitigation		691	391
Restricted investments – NRUCFC Capital Term Certificates		33,416	35,164
Other deposits and investments – at cost		20,604	19,278
Current assets:			
Cash and cash equivalents		38,466	55,861
Short-term investments		9,607	9,223
Accounts receivable		33,390	46,397
Fuel inventory		25,028	39,155
Nonfuel inventory		24,864	24,922
Prepaid expenses and other assets		6,961	5,339
Total current assets		138,316	180,897
Deferred charges and other assets:			
Regulatory assets		153,982	117,108
Federal tax receivable		200	2,202
Other		2,968	2,942
Total deferred charges and other assets		157,150	122,252
Total	$	1,362,886	1,399,748
Equities and Liabilities			
Capitalization:			
Equities	$	505,816	490,887
Long-term debt		734,969	776,174
Total capitalization		1,240,785	1,267,061
Current liabilities:			
Current maturities of long-term obligations		26,495	24,988
Line of credit		—	20,000
Purchased power payable		5,334	2,531
Accounts payable		22,748	19,922
Accrued expenses		11,915	8,621
Accrued interest		3,533	4,192
Total current liabilities		70,025	80,254
Deferred credits and other:			
Regulatory liabilities – member rate mitigation		2,031	403
Asset retirement obligations		29,746	28,347
Deferred credits and other		20,299	23,683
Total deferred credits and other		52,076	52,433
Commitments and contingencies (note 13)			
Total	$	1,362,886	1,399,748

See accompanying notes to financial statements.

BIG RIVERS ELECTRIC CORPORATION

Statements of Operations

Years ended December 31, 2018, 2017, and 2016

(Dollars in thousands)

		2018	2017	2016
Operating revenue	$	380,205	407,229	402,590
Total operating revenue		380,205	407,229	402,590
Operating expenses:				
Operations:				
Fuel for electric generation		128,555	126,644	144,148
Power purchased and interchanged		51,910	100,045	80,341
Production, excluding fuel		47,897	42,790	43,730
Transmission and other		34,359	30,763	38,085
Maintenance		47,897	37,053	33,791
Depreciation and amortization		20,709	20,301	19,523
Total operating expenses		331,327	357,596	359,618
Electric operating margin		48,878	49,633	42,972
Interest expense and other:				
Interest		38,568	40,654	40,711
Income tax expense/(benefit)		(12)	7	(6,748)
Other – net		717	744	846
Total interest expense and other		39,273	41,405	34,809
Operating margin		9,605	8,228	8,163
Nonoperating margin:				
Interest income and other		5,625	4,770	4,742
Total nonoperating margin		5,625	4,770	4,742
Net margin	$	15,230	12,998	12,905

See accompanying notes to financial statements.

BIG RIVERS ELECTRIC CORPORATION

Statements of Comprehensive Income

Years ended December 31, 2018, 2017, and 2016

(Dollars in thousands)

		2018	2017	2016
Net margin	$	15,230	12,998	12,905
Other comprehensive income:				
Defined-benefit plans:				
Prior service cost (benefit)		—	(1,077)	1,198
Actuarial gain (loss)		(1,350)	1,938	(2,591)
Amortization of loss		804	376	328
Defined-benefit plans		(546)	1,237	(1,065)
Postretirement benefits other than pensions:				
Prior service cost		(138)	(138)	(138)
Actuarial gain (loss)		413	(1,192)	2,021
Amortization of (gain)		(30)	(170)	(232)
Postretirement benefits other than pensions		245	(1,500)	1,651
Other comprehensive income (loss)		(301)	(263)	586
Comprehensive income	$	14,929	12,735	13,491

See accompanying notes to financial statements.

BIG RIVERS ELECTRIC CORPORATION

Statements of Equities

Years ended December 31, 2018, 2017, and 2016

(Dollars in thousands)

	Total equities	Retained margin	Other equities: Donated capital and memberships	Other equities: Consumers' contributions to debt service	Accumulated other comprehensive income/(loss)
Balance – December 31, 2015	$ 464,661	460,897	764	3,681	(681)
Net margin	12,905	12,905	—	—	—
Pension and postretirement benefit plans	586	—	—	—	586
Balance – December 31, 2016	478,152	473,802	764	3,681	(95)
Net margin	12,998	12,998	—	—	—
Pension and postretirement benefit plans	(263)	—	—	—	(263)
Balance – December 31, 2017	490,887	486,800	764	3,681	(358)
Net margin	15,230	15,230	—	—	—
Pension and postretirement benefit plans	(301)	—	—	—	(301)
Balance – December 31, 2018	$ 505,816	502,030	764	3,681	(659)

See accompanying notes to financial statements.

BIG RIVERS ELECTRIC CORPORATION

Statements of Cash Flows

Years ended December 31, 2018, 2017, and 2016

(Dollars in thousands)

		2018	2017	2016
Cash flows from operating activities:				
Net margin	$	15,230	12,998	12,905
Adjustments to reconcile net margin to net cash provided by operating activities:				
Depreciation and amortization		24,365	24,394	24,497
Interest compounded – RUS Series A Note		26	56	53
Interest compounded – RUS Series B Note		10,300	9,724	9,180
Interest income compounded – RUS Cushion of Credit (Advance Payments Unapplied)		(120)	—	—
Noncash member rate mitigation revenue		(5,525)	(4,292)	(25,116)
Provision for deferred income tax benefit		—	—	6,509
Changes in certain assets and liabilities:				
Accounts receivable		13,007	(8,120)	(6,626)
Inventories		14,186	17,036	22,012
Prepaid expenses and other		(1,621)	1,616	(6,705)
Deferred charges		(3,239)	1,006	(7,026)
Purchased power payable		2,802	1,665	(224)
Accounts payable		2,962	2,964	(5,015)
Accrued expenses		2,634	(930)	683
Federal tax receivable		—	(1,847)	—
Other – net		2,494	10,842	(844)
Net cash provided by (used in) operating activities		77,501	67,112	24,283
Cash flows from investing activities:				
Capital expenditures		(25,716)	(22,936)	(22,812)
Proceeds from restricted investments and deposits		1,097	—	23,872
Purchases of restricted investments and other deposits and investments		—	(5,017)	—
Proceeds of short-term investments		627	2,252	7,883
Purchases of short-term investments		(1,011)	(5,562)	(5,913)
Net cash provided by (used in) investing activities		(25,003)	(31,263)	3,030
Cash flows from financing activities:				
Principal payments on long-term obligations		(93,488)	(37,572)	(21,717)
Proceeds from long-term obligations		43,595	15,000	—
Payments on line of credit		(20,000)	(26,000)	(26,000)
Borrowing on line of credit		—	20,000	26,000
Net cash provided by (used in) financing activities		(69,893)	(28,572)	(21,717)
Net increase/(decrease) in cash and cash equivalents		(17,395)	7,277	5,596
Cash and cash equivalents – beginning of year		55,861	48,584	42,988
Cash and cash equivalents – end of year	$	38,466	55,861	48,584
Supplemental cash flow information:				
Cash paid for interest	$	28,957	31,380	32,072
Cash paid for income taxes		1	1	1
Supplemental schedule of non-cash activities:				
Change in regulatory assets associated with asset retirement obligations	$	5,294	23,408	1,088
Change in regulatory assets associated with utility plant		26,417	26,336	26,310

See accompanying notes to financial statements.

(1) Organization and Summary of Significant Accounting Policies

(a) General Information

Big Rivers Electric Corporation ("Big Rivers" or the "Company"), an electric generation and transmission cooperative, supplies wholesale power to its three member distribution cooperatives (Jackson Purchase Energy Corporation, Kenergy Corp., and Meade County Rural Electric Cooperative Corporation) under all requirements contracts. Big Rivers also markets power to nonmember utilities, power marketers, and the Midcontinent Independent System Operator (MISO). The members provide electric power and energy to industrial, residential, and commercial customers located in portions of 22 western Kentucky counties. The wholesale power contracts with the members remain in effect until December 31, 2043. Rates to Big Rivers' members are established by the Kentucky Public Service Commission (KPSC) and are subject to approval by the Rural Utilities Service (RUS). The financial statements of Big Rivers include the provisions of the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 980, Regulated Operations, and give recognition to the ratemaking and accounting practices of the KPSC and RUS.

(b) Estimates

The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and disclosure of contingent assets and liabilities. The estimates and assumptions used in the accompanying financial statements are based upon management's evaluation of the relevant facts and circumstances as of the date of the financial statements. Actual results may differ from those estimates.

(c) System of Accounts

Big Rivers maintains its accounting records in accordance with the Uniform System of Accounts as prescribed by the RUS Bulletin 1767B-1, as adopted by the KPSC. These regulatory agencies retain authority and periodically issue orders on various accounting and ratemaking matters. Adjustments to RUS accounting have been made to make the financial statements consistent with generally accepted accounting principles in the United States of America.

(d) Revenue Recognition

Revenues generated from the Company's wholesale power sales are based on month-end meter readings and are recognized as earned when electricity is delivered. Capacity revenues are recognized in the period in which the Company provides capacity to a counterparty.

(e) Utility Plant and Depreciation

Utility plant is recorded at original cost, which includes the cost of contracted services, materials, labor, and overhead. In accordance with FASB ASC 835-20, *Interest – Capitalization of Interest,* the Company also includes capitalized interest on projects with an estimated total cost of $250 or more before consideration of such cost. The interest capitalized is determined by applying the effective rate of Big Rivers' weighted average debt to the accumulated expenditures for qualifying projects included in construction in progress. Replacements of depreciable property units, except minor replacements, are charged to utility plant.

(Dollars in thousands)

Depreciation of utility plant in service is recorded using the straight-line method over the estimated remaining service lives, as approved by the RUS and KPSC. During 2012, a depreciation study was completed to evaluate the remaining economic lives of the Company's assets and establish new depreciation rates. The study was approved by the RUS in 2012 and by the KPSC in 2014, with the rates becoming effective February 1, 2014. The annual composite depreciation rates used to compute depreciation expense were as follows:

Electric plant	0.35%–25.38%
Transmission plant	1.36%–2.29%
General plant	3.76%–9.88%

For 2018, 2017, and 2016, the average composite depreciation rates were 2.52%, 2.45%, and 2.39%, respectively. At the time plant is disposed of, the original cost plus cost of removal less salvage value of such plant is charged to accumulated depreciation, as required by the RUS.

(f) Impairment Review of Long-Lived Assets

Long-lived assets are reviewed as facts and circumstances indicate that the carrying amount may be impaired. FASB ASC 360, *Property, Plant, and Equipment*, requires the evaluation of impairment by comparing an asset's carrying value to the estimated future cash flows the asset is expected to generate over its remaining life. If this evaluation were to conclude that the future cash flows were not sufficient to recover the carrying value of the asset, an impairment charge would be recorded based on the difference between the asset's carrying amount and its fair value (less costs to sell for assets to be disposed of by sale) as a charge to net margin.

(g) Asset Retirement Obligations

FASB ASC 410-20, *Asset Retirement and Environmental Obligations – Asset Retirement Obligations*, requires legal obligations associated with the retirement of long-lived assets to be recognized at fair value when incurred and capitalized as part of the related long-lived asset. The liability is accreted each period based on the credit-adjusted risk-free rate of return that existed when the liability, or portion thereof, was initially measured. The period accretion is recognized as an increase in the carrying amount of the liability, and the capitalized cost is depreciated over the useful life of the related asset. When the asset is retired, the entity settles the obligation for its recorded amount or incurs a gain or loss.

Big Rivers has recorded liabilities in its financial statements for asset retirement obligations (AROs) related to the requirements of the U.S. Environmental Protection Agency's (EPA) Disposal of Coal Combustion Residuals from Electric Utilities Rule ("CCR Final Rule") and Effluent Limitations Guidelines Rule ("ELG Final Rule") for the coal ash ponds located at its Green Station and the City of Henderson's Station Two ("Station Two") generating units. The CCR Final Rule was published in the Federal Register on April 17, 2015 and provides a comprehensive set of requirements for the safe disposal of CCRs, commonly known as coal ash, from coal-fired power plants. The ELG Final Rule was published in the Federal Register on November 3, 2015, and sets limits on the levels of toxic metals in wastewater that can be discharged from power plants. See Note 3 for further discussion of the Company's AROs.

(h) Inventory

Inventories are carried at average cost and include coal, petroleum coke, lime, limestone, oil and gas used for electric generation, and materials and supplies used for utility operations. Purchased emission allowances are recorded in inventory at actual cost by each vintage year. Allowances issued by the EPA are recorded at zero cost by each vintage year. Total purchased and EPA issued allowances are carried in inventory at a weighted average cost by each vintage year. Issuances of allowances are accounted for on a vintage basis using a monthly weighted average cost.

(i) Restricted Investments

Certain investments are restricted under KPSC order to establish certain reserve funds for Member rate mitigation. These investments are classified as held-to-maturity and are carried at amortized cost. Additionally, Big Rivers was required to purchase investments in National Rural Utilities Cooperative Finance Corporation's (CFC) Capital Term Certificates (CTCs) in connection with a 2012 secured term loan agreement with CFC (Note 8), which are also classified as held-to-maturity.

(j) Cash and Cash Equivalents

Big Rivers considers all short-term, highly liquid investments with original maturities of three months or less to be cash equivalents.

(k) Short-Term Investments

Short-term investments include certificates of deposits (CDs) held for investment and investments in debt securities with original maturities greater than three months and less than one year.

(l) Regulatory Assets and Liabilities

FASB ASC 980-10 applies to regulated entities for which rates are designed to recover the costs of providing service. In accordance with this topic, certain items that would normally be reflected in the statement of operations are deferred on the balance sheet. Regulatory assets represent probable future revenues associated with certain incurred costs, which will be recovered from customers through the rate-making process. Regulatory assets are reduced during the period(s) in which the related costs are recovered through rates or when future recovery is no longer probable. Conversely, regulatory liabilities represent future reductions in revenues associated with amounts that are to be credited, or refunded, to members through the regulated rate-making process. Regulatory liabilities are reduced during the period(s) in which the related amounts are refunded to members through rates or when future refunding of the amounts is no longer probable.

(m) Other Deposits and Investments

Other deposits and investments consist primarily of patronage capital, cash collateral/margin call deposits, investments in associated organizations, and deferred compensation.

(n) Income Taxes

Big Rivers was formed as a tax-exempt cooperative organization as described in Internal Revenue Code Section 501(c)(12). To retain tax-exempt status under this section, at least 85% of Big Rivers' annual income must be generated from transactions with the Company's members. In 1983, sales to nonmembers resulted in Big Rivers failing to meet the 85% requirement. Until Big Rivers can meet the 85% member income requirement, the Company will not be eligible for tax-exempt status and will be treated as a taxable cooperative.

As a taxable cooperative, Big Rivers is entitled to exclude the amount of patronage allocations to members from taxable income. Income and expenses related to nonpatronage-sourced operations are taxable to Big Rivers. Big Rivers files a federal income tax return and certain state income tax returns.

Under the provisions of FASB ASC 740, *Income Taxes*, Big Rivers is required to record deferred tax assets and liabilities for temporary differences between amounts reported for financial reporting purposes and amounts reported for income tax purposes. Deferred tax assets and liabilities are determined based upon these temporary differences using enacted tax rates for the year in which these differences are expected to reverse. Deferred income tax expense or benefit is based on the change in assets and liabilities from period to period, subject to an ongoing assessment of realization. Tax benefits associated with income tax positions taken, or expected to be taken, in a tax return are recorded only when the more-likely-than-not recognition threshold is satisfied and measured at the largest amount of benefit that is greater than 50% likely of being realized upon settlement.

(o) Patronage Capital

As provided in the Company's bylaws, Big Rivers accounts for each year's patronage-sourced income, both operating and nonoperating, on a patronage basis. Notwithstanding any other provision of the bylaws, the amount to be allocated as patronage capital for a given year shall not be less than the greater of regular taxable patronage-sourced income or alternative minimum taxable patronage-sourced income.

(p) Derivatives

Management has reviewed the requirements of FASB ASC 815, *Derivatives and Hedging*, and has determined that certain contracts the Company is party to may meet the definition of a derivative under FASB ASC 815. The Company has elected the Normal Purchase and Normal Sale exception for these contracts, and therefore, the contracts are not required to be recognized at fair value in the financial statements.

(Continued)

(q) Fair Value Measurements

FASB ASC 820, *Fair Value Measurement*, defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal, or most advantageous, market for the asset or liability in an orderly transaction between market participants at the measurement date. ASC 820 establishes a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs when possible. The three levels of inputs used to measure fair value are as follows:

- Level 1 – quoted prices in active markets for identical assets or liabilities;
- Level 2 – observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data; and
- Level 3 – unobservable inputs that are supported by little or no market activity and that are significant to the fair values of the assets or liabilities, including certain pricing models, discounted cash flow methodologies, and similar techniques that use significant unobservable inputs.

(r) Deferred Loan Costs

The Company capitalizes costs incurred in connection with long-term debt. These costs are amortized on various bases over the term of the respective debt financing agreements.

In accordance with Accounting Standards Update (ASU) 2015-03, deferred loan costs related to a recognized debt liability are presented on the balance sheet as a direct deduction from the carrying amount of the related debt liability instead of being presented as an asset.

(s) Deferred Credits and Other

Deferred credits and other includes employee related benefits and capacity revenue sales billed but not yet earned. Employee related benefits include, but are not limited to, pension and post-retirement benefit costs and amounted to $17,013 and $17,737 at December 31, 2018 and 2017, respectively. Deferred capacity revenue, which will be recognized within the next year, amounted to $2,878 and $5,341 at December 31, 2018 and 2017, respectively.

(t) New Accounting Guidance

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* (ASU 2014-09). The main principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to its customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 will supersede the current revenue recognition requirements as set forth in FASB ASC 605, *Revenue Recognition,* and most industry-specific guidance. In August 2015, the FASB issued ASC 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date* to provide a one year delay in the effective date of ASU 2014-09. ASU 2014-09 will be effective for the Company for annual reporting periods ending after December 15, 2018. The Company is currently assessing the impact of adopting this guidance.

(Dollars in thousands)

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* (ASU 2016-02). The main principle of this revised accounting guidance requires that lessees recognize all leases (other than leases with a term of twelve months or less) on the balance sheet as lease liabilities, based upon the present value of the lease payments, with corresponding right of use assets. ASU 2016-02 also makes targeted changes to other aspects of the current guidance, including the lease classification criteria and the lessor accounting model. The amendments in ASU 2016-02 will be effective for the Company for annual reporting periods ending after December 15, 2019. The Company is currently assessing the impact of adopting this guidance.

(2) Utility Plant

At December 31, 2018 and 2017, utility plant is summarized as follows:

		2018	2017
Classified plant in service:			
Production plant	$	1,822,536	1,818,203
Transmission plant		290,335	287,098
General plant		53,302	51,419
Other		292	292
		2,166,465	2,157,012
Less accumulated depreciation		1,187,688	1,138,133
		978,777	1,018,879
Construction in progress		33,932	22,887
Utility plant – net	$	1,012,709	1,041,766

Big Rivers' secured long-term debt obligations and 2015 Syndicated Senior Secured Credit Agreement, as amended September 19, 2017, are secured under Big Rivers' Indenture dated as of July 1, 2009, as supplemented and amended (the "Indenture"), between Big Rivers and U.S. Bank National Association, as trustee (the "Indenture Trustee"). Obligations are secured under the Indenture by a mortgage lien on substantially all of Big Rivers' owned tangible, and certain intangible, properties including Big Rivers' production, transmission, general, and other Utility Plant. See Note 4 for further discussion of Big Rivers' Debt and Other Long-Term Obligations secured under its Indenture.

Interest capitalized for the years ended December 31, 2018 and 2017, was $56 and $143, respectively.

The Company has identified certain legal obligations, as defined in FASB ASC 410, *Asset Retirement and Environmental Obligations*, associated with the retirement of long-lived assets that require the recognition of a liability. See Note 3 for further discussion of the Company's asset retirement obligations.

As of December 31, 2018 and 2017, the Company had an estimated $59,996 and $57,301, respectively, related to nonlegal removal costs included in accumulated depreciation as required by the RUS.

(Dollars in thousands)

(3) Asset Retirement Obligations

The Company has AROs arising from legal obligations associated with the retirements of certain long-lived assets. The liabilities were initially measured at fair value and subsequently adjusted for accretion expense and changes in estimated future cash flows. The corresponding asset retirement costs are capitalized as part of the carrying amount of the related long-lived assets and depreciated over their remaining useful lives. The following table presents the activity for the ARO liabilities for the years ended December 31, 2018 and 2017:

		2018		2017	
ARO balance at beginning of year	$	28,347		7,279	
Changes in estimated timing or cost		—		20,235	(a)
Accretion expense		1,399	(b)	833	(b)
ARO balance at end of year	$	29,746		28,347	

(a) Separate studies, completed by independent engineering firms during 2017, provided updated cost estimates for the eventual closures of the ash ponds located at Big Rivers' Green Station and the City of Henderson's Station Two, for compliance with federal regulations, including the EPA's CCR Final Rule and ELG Final Rule, for which Big Rivers initially recognized ARO liabilities in 2015. The present value of the updated cost estimates to close the Green Station and the Station Two ash ponds, per the 2017 studies, was $20,235 higher than the original cost estimate used as the basis for the initial ARO liability recognized in 2015. Accordingly, in 2017, Big Rivers recorded adjustments to its ARO liabilities to reflect these increased cost estimates.

(b) The 2018 and 2017 annual ARO accretion expense of $1,399 and $833, respectively, was deferred and included in the Regulatory Assets amount reported on the Company's balance sheet as of December 31, 2018 and 2017, respectively. These amounts will be amortized and recognized as expense during the period(s) in which they are recovered through rates.

(Dollars in thousands)

(4) Debt and Other Long-Term Obligations

A detail of long-term debt at December 31, 2018 and 2017 is as follows:

		2018	2017
CFC Refinance Promissory Note, Series 2012B, serial note pricing, 4.30% effective interest rate, final maturity date of May 2032	$	227,578	240,013
RUS 2009 Series B Promissory Note, stated amount of $245,530, no stated interest rate, 5.80% imputed interest rate, maturing December 2023		184,117	173,816
CoBank Promissory Note, Series 2012A, 4.30% fixed interest rate, final maturity date of June 2032		181,271	190,647
County of Ohio, Kentucky, promissory note, 6.0% fixed interest rate, maturing in July 2031		83,300	83,300
CFC Equity Note, Series 2012B, 5.35% fixed interest rate, final maturity date of May 2032		33,998	35,675
2018 RUS Guaranteed FFB Loan, W8, 2.828% fixed interest rate, final maturity date of January 2033		25,630	—
2018 RUS Guaranteed FFB Loan, X8, 2.935% fixed interest rate, final maturity date of December 2043		17,965	—
CFC Refinance Promissory Note, Series 2017B, 3.69% fixed interest rate, final maturity date of October 2020		13,500	15,000
RUS Series A Promissory Note, 5.75% stated interest rate, with a 5.84% imputed interest rate, original maturity date of July 2021		—	65,274
Total long-term debt		767,359	803,725
Less current maturities		26,495	24,988
Less unamortized deferred debt issuance costs		2,575	2,563
Less advance payments unapplied – RUS cushion of credit		3,320	—
Total long-term debt – net of current maturities, deferred debt issuance costs, and advance payments	$	734,969	776,174

(Dollars in thousands)

The following are scheduled maturities of long-term debt at December 31:

		Amount
Year:		
2019	$	26,495
2020		39,673
2021		28,281
2022		30,073
2023		215,503
Thereafter		427,334
Total	$	767,359

(a) National Rural Utilities Cooperative Finance Corporation (CFC) Refinance and Equity Promissory Notes, 2012B

In July 2012, Big Rivers issued new debt with CFC in the form of a secured term loan in the amount of $302,000 (the "Refinance Note") and a CFC Equity Note in the amount of $43,156. The Refinance Note is secured under Big Rivers' Indenture, dated July 1, 2009 between the Company and U.S. Bank National Association, and consists of twenty individual notes with different fixed interest rates ranging from 3.05% to 5.35%. The Refinance Note has an effective interest rate of 4.30% and a final maturity date of May 2032.

The Equity Note has a fixed interest rate of 5.35% and a final maturity date of May 2032. The proceeds of the CFC Equity Note were used to purchase interest-bearing CTCs, as required in connection with the Refinance Note (Note 8).

(b) RUS Notes

On July 15, 2009, Big Rivers' previous RUS debt was replaced with the RUS 2009 Promissory Note Series A (the "RUS Series A Note") and the RUS 2009 Promissory Note Series B (the "RUS Series B Note").

In April 2018, Big Rivers prepaid the RUS Series A Note in full, using available general funds, when the total outstanding principal balance was $65,300. The RUS Series A Note had a stated interest rate of 5.75%, was recorded at an imputed interest rate of 5.84%, and was secured under Big Rivers' Indenture. The original maturity date of the RUS Series A Note was July 2021.

The RUS Series B Note has no stated interest rate, is recorded at an imputed interest rate of 5.80%, and is secured under Big Rivers' Indenture. The $245,530 stated amount of the RUS Series B Note is due December 2023.

(c) CoBank, ACB (CoBank) Promissory Note, Series 2012A

In July 2012, Big Rivers issued new debt with CoBank in the form of a secured term loan in the amount of $235,000, which is secured under Big Rivers' Indenture. The loan has a fixed interest rate of 4.30% and a final maturity date of June 2032.

(d) Pollution Control Bonds

In June 2010, the County of Ohio, Kentucky, issued $83,300 of Pollution Control Refunding Revenue Bonds, Series 2010A ("Series 2010A Bonds"), the proceeds of which are supported by a promissory note from Big Rivers, which bears the same interest rate as the bonds and is secured under Big Rivers' Indenture. These bonds bear interest at a fixed rate of 6.00% and mature in July 2031.

(e) 2018 RUS Guaranteed FFB Loan, W8

In April 2018, Big Rivers received a $25,630 loan from the Federal Financing Bank (FFB) (the "W8 Loan") which is guaranteed by the RUS and secured under Big Rivers' Indenture. The W8 Loan is for long-term financing of capital projects included in Big Rivers' 2012 Environmental Compliance Plan (ECP) to comply with the EPA's Mercury and Air Toxics Standards (MATS) rule. These capital projects were completed in 2016 and were originally funded with Big Rivers' general funds. Accordingly, the proceeds of the W8 Loan were used to replenish Big Rivers' general funds. The W8 Loan has a fixed interest rate of 2.828%, which includes a 0.125% RUS administration fee, and has a final maturity date of January 2033.

(f) 2018 RUS Guaranteed FFB Loan, X8

In April 2018, Big Rivers received a $17,965 loan from the FFB, (the "X8 Loan") which is guaranteed by the RUS and secured under Big Rivers' Indenture. The X8 Loan is for long-term financing of capital projects included in Big Rivers' 2013-2015 Transmission Construction Work Plan, which were completed in 2017 and were originally funded with Big Rivers' general funds. Accordingly, the proceeds of the X8 Loan were used to replenish Big Rivers' general funds. The X8 Loan has a fixed interest rate of 2.935%, which includes a 0.125% RUS administration fee, and has a final maturity date of December 2043.

(g) CFC Refinance Promissory Note, Series 2017B

In October 2017, Big Rivers borrowed $15,000 from CFC at a fixed interest rate of 3.69%, the proceeds of which were used to prepay a portion of the RUS Series A Note. The CFC note is secured under Big Rivers' Indenture and has a final maturity date of October 2020.

(h) Line of Credit

On March 5, 2015, Big Rivers entered into a $130,000 Syndicated Senior Secured Credit Agreement (the "2015 Agreement") with CFC, CoBank, Fifth Third Bank, KeyBank National Association, and Regions Bank. In conjunction with the 2015 Agreement, Big Rivers issued secured promissory notes (the "Series 2015A Notes"), equal to each lender's commitment, which are secured under Big Rivers' Indenture.

On September 19, 2017, the 2015 Agreement was amended to, among other things, reduce the total facility amount from $130,000 to $100,000, and extend the maturity date from March 5, 2018 to September 18, 2020.

As of December 31, 2018, Big Rivers had no outstanding borrowings under the 2015 Agreement and $7,7729 in issued letters of credit outstanding, which reduced its available borrowing capacity under the 2015 Agreement from $100,000 to $92,271.

As of December 31, 2017, Big Rivers had $20,000 in outstanding borrowings under the 2015 Agreement and $7,729 in issued letters of credit outstanding, which together reduced its available borrowing capacity under the 2015 Agreement from $100,000 to $72,271.

(i) RUS Cushion of Credit

In 2018, Big Rivers began participating in the cushion of credit program administered by the RUS in conjunction with the execution of the 2018 W8 and X8 RUS Guaranteed FFB Loans. Under the cushion of credit program, RUS borrowers may make voluntary irrevocable deposits into the cushion of credit account which, during 2018, accrued interest at an annual rate of 5.0%. Per the terms of the RUS' commitment to guarantee Big Rivers' W8 and X8 Loans, Big Rivers agreed to make an initial deposit of $3,200 to the cushion of credit account upon receipt of the loan funds and to make additional deposits, as needed, so that the balance at the beginning of each year going forward is equal to or greater than the annual payments due on the W8 and X8 Loans during the year.

Big Rivers' amounts in the cushion of credit account (deposits and accrued interest) may only be used to make scheduled principal and interest payments on the W8 and X8 Loans. As of December 31, 2018, Big Rivers' balance in the RUS cushion of credit account was $3,320, which is included on the Company's balance sheet as a reduction to long-term debt.

(j) Covenants

Big Rivers is in compliance with all debt covenants associated with both its long-term and short-term debt obligations. The Company's Indenture and other debt agreements require that a Margins for Interest Ratio (MFIR) of at least 1.10 be maintained for each fiscal year. The 2015 Agreement requires that Big Rivers, throughout the duration of the agreement, maintain a minimum Members' Equities balance at each fiscal quarter-end and year-end of $375,000 plus 50% of the Company's cumulative positive net margins for each of the preceding fiscal years, beginning with the fiscal year ended December 31, 2015. Big Rivers' MFIR for the fiscal year ended December 31, 2018 was 1.39-, and it's Members' Equities balance was $505,816.

An MFIR of less than 1.10, per the Indenture and other debt agreements, may result in the following actions, restrictions, or consequences: Big Rivers may not secure additional debt under the Indenture; the Company must seek rates that are reasonably expected to yield a 1.10 MFIR; the Company must provide a written plan satisfactory to the RUS setting forth actions to be taken to achieve the specified MFIR on a timely basis; an event of default may occur; interest rates may increase; and its line of credit may be terminated with an acceleration of any outstanding amounts becoming due immediately.

In accordance with the Amended and Consolidated Loan Contract between Big Rivers and the United States of America (acting by and through the RUS Administrator), Big Rivers provided notification to the RUS Administrator, via letter dated February 7, 2013, of a failure to maintain two Credit Ratings of Investment Grade. In order to remain compliant under the Amended and Consolidated Loan Contract, in March 2013, the Company, prepared and presented to the RUS, its Corrective Action Plan setting forth the actions to be taken by management, that are reasonably expected to achieve two Credit Ratings of Investment Grade. The Company regularly updates the RUS on actions taken to date related to its Corrective Action Plan.

(5) Rate Matters

The rates charged to Big Rivers' members consist of a demand charge per kilowatt (kW) and an energy charge per kilowatt-hour (kWh) consumed as approved by the KPSC. The rates include specific demand and energy charges for its members' two classes of customers, the large industrial customers and the rural customers, under its jurisdiction. For the large industrial customers, the demand charge is generally based on each customer's maximum demand during the current month. For the rural customers, per KPSC approval, the demand charge is based on Maximum Adjusted Net Local Load (as defined in Big Rivers' tariff).

The Company has certain KPSC approved tariff riders; including a fuel adjustment clause and an environmental surcharge. The net effect of these tariffs is recognized as revenue on a monthly basis with an offset to the regulatory liability – member rate mitigation described below.

The net impact of the tariff riders to members' rates is currently mitigated by a Member Rate Stability Mechanism (MRSM) that is held by Big Rivers as restricted investments. An offsetting regulatory liability – member rate mitigation reflects the obligation associated with the funding of these reserve accounts.

Big Rivers as wholesale power supplier, and Kenergy Corp. ("Kenergy") as retail power supplier, served two aluminum smelters, Century Aluminum Company ("Century") and Alcan Primary Products Corporation ("Alcan") under their respective Retail Service Agreements with Kenergy. On August 20, 2012, Big Rivers and Kenergy received a letter from Century serving Notice of Termination of its Retail Service Agreement with Kenergy. As a result of Century's notification of termination, the Company filed an application with the KPSC, on January 15, 2013, requesting authority to adjust its rates for wholesale electric service (Case No. 2012-00535). The KPSC entered an order on October 29, 2013, granting Big Rivers an annual revenue increase of $54,227, effective August 20, 2013. In its order, the KPSC excluded the Coleman plant depreciation from rate recovery at this time. The KPSC directed the Company to defer this depreciation expense and record the deferred amounts in a regulatory asset account. The KPSC's order indicated this action was being taken due to the planned temporary idling of Coleman, the length of time the plant will be idled, and the impact of the rate increase on customers. As of December 31, 2018, cumulative depreciation expense of $31,418 was deferred for the Coleman plant, which management believes is probable of recovery in future rates.

The wholesale rate increase granted by the KPSC in Case No. 2012-00535 resulted in a base wholesale rate increase of approximately: 21.9% for rural customers; 11.8% for large industrial customers; and 11.2% for the remaining aluminum smelter (Century Aluminum Sebree LLC, formerly Alcan Primary Products Corporation).

(Continued)

On January 30, 2013, Alcan provided a Notice of Termination of its Kenergy Retail Service Agreement to Big Rivers and Kenergy. As a result of Alcan's notification of termination, the Company filed an application with the KPSC, on June 28, 2013, requesting authority to adjust its rates for wholesale electric service in the amount of $70,397 (Case No. 2013-00199). This requested amount was later revised to $71,223 in the Company's rebuttal testimony filed December 17, 2013. The Company proposed to temporarily offset this rate increase by utilization of the MRSM. The Company also proposed to use transmission revenues from both smelters to replenish the Economic Reserve Fund. An evidentiary hearing was held by the KPSC in January 2014. The KPSC entered an order on April 25, 2014, granting Big Rivers an annual revenue increase of $36,160, effective February 1, 2014. In its order, the KPSC approved Big Rivers' 2012 Depreciation Study, but excluded Wilson plant depreciation from rate recovery at this time. The KPSC directed the Company to defer the Wilson depreciation expense and record in a regulatory asset account, similar to the Coleman depreciation expense deferral per the KPSC's order in Case No. 2012-00535. As of December 31, 2018, cumulative depreciation expense of $99,949 was deferred for the Wilson plant, which management believes is probable of recovery in future rates. The KPSC also approved Big Rivers' proposal to temporarily offset the rate increase by utilization of the MRSM. The KPSC further granted Big Rivers' proposed accounting treatment for transmission revenues related to the Hawesville smelter but included the test year transmission revenues related to the Sebree smelter in the determination of Big Rivers' revenue requirement. The net effect of this accounting treatment was the recognition of revenue on a monthly basis with an offset to the applicable regulatory liability accounts as the reserve funds were used to offset the impact of the base rate increase on the members' monthly bills. The wholesale rate increase granted by the KPSC in Case No. 2013-00199 resulted in a base wholesale rate increase of approximately 16.3% for rural customers and 13.7% for large industrial customers.

On February 5, 2015, the KPSC ordered a review of Big Rivers' fuel adjustment clause (FAC) for the two-year period ending October 31, 2014 (Case No. 2014-00455). On February 19, 2015, the KPSC entered an order consolidating the instant case with the open six-month FAC review case (Case No. 2014-00230), making all parties to that case parties of the instant case. On May 26, 2015, Big Rivers entered into a Stipulation and Recommendation Agreement with the intervenors in the case whereby Big Rivers would credit $311 each month through its FAC to its Members for a period of up to fifteen months. Big Rivers filed the Stipulation and Recommendation Agreement with the KPSC on May 29, 2015. On July 27, 2015, the KPSC approved the Stipulation and Recommendation Agreement. On October 23, 2015, the RUS accepted Big Rivers' proposed monthly credit of $311 to the Members for a period of up to fifteen months. Big Rivers began including the credit in the FAC filing for the October 2015 expense month, which was applied to members' bills for service delivered during November 2015. The final credit was for the December 2016 expense month, which was applied to members' bills for service delivered during January 2017.

Effective July 17, 2009, the KPSC approved the implementation of the Non-Fuel Adjustment Clause-Purchased Power Adjustment (Non-FAC PPA) which is a rate mechanism allowing Big Rivers to recover certain costs of purchased power that are not recoverable through its FAC. An accrual is recorded monthly to a regulatory asset or liability account based on the difference between the actual purchased power costs recoverable through the Non-FAC PPA and the purchased power base cost included in base rates. The balance in the regulatory asset or liability account as of June 30 each year is billed or refunded to members during the following twelve-month period beginning September 1 through August 31 of the following year.

The CCR Final Rule requires Big Rivers to address the eventual permanent closures of its coal ash ponds. Big Rivers believes it will face significant liabilities with respect to the treatment of the ash ponds at its Green Station and the City of Henderson’s Station Two generating stations upon those stations’ retirements from service or closures of the ash ponds. In accordance with FASB ASC 410-20, *Asset Retirement and Environmental Obligations – Asset Retirement Obligations* and under the RUS Uniform System of Accounts, Big Rivers initially recognized its coal ash pond AROs at fair value and subsequently adjusted for accretion expense as of December 31, 2018 (Note 3).

On October 6, 2015, Big Rivers filed an application with the KPSC (Case No. 2015-00333), requesting authority to establish regulatory assets for the deferral of certain expenses it would incur for compliance with the CCR Final Rule, including accretion and depreciation expense related to the AROs and other incremental expenses. Big Rivers management believes it is probable that the regulatory assets will be recoverable through appropriate rate mechanisms in the future. The KPSC issued an order in Case No. 2015-00333 on January 5, 2016, approving the accounting treatment requested by Big Rivers to establish regulatory assets for 2016 and subsequent years. As of December 31, 2018, the total amount of CCR-related expenses deferred and included in Regulatory Assets on the Company’s balance sheet was $1,068.

On April 4, 2014, Big Rivers filed the Nebraska Consortium contracts with the KPSC (Case No. 2014-00134). Big Rivers entered into a Stipulation and Recommendation (the “Stipulation”) between Big Rivers, the Office of the Attorney General, and the Kentucky Industrial Utility Customers (KIUC). The KPSC issued an order on July 21, 2015 approving the contracts and the Stipulation. The Stipulation stated that Nebraska margins would flow back to Big Rivers’ members through the MRSM tariff if, for the previous year, Big Rivers’ actual margins are greater than the margins at the revenue requirement Times Interest Earned Ratio (TIER), the Nebraska margins are greater than zero, and the average cash balance for the last three calendar months are greater then $60,000 (the “Cash Balance Threshold”). Each January, Big Rivers determines if these requirements were met for the previous calendar year. If the requirements were met, Big Rivers will deposit into the Economic Reserve, for twelve consecutive months, one-twelfth of the lesser of the portion of the Nebraska margins for the previous calendar year that would reduce Big Rivers’ actual TIER to the revenue requirement TIER and the positive difference between the average cash balance and the Cash Balance Threshold. For the year ended December 31, 2018, Big Rivers met the requirements and will flow Nebraska margins of $1,332 through the MRSM beginning in February 2019.

(Dollars in thousands)

On May 1, 2018, Big Rivers filed an application with the KPSC (Case No. 2018-00146) asking the KPSC to find that Station Two was no longer economic and that certain of the Station Two contracts had terminated; to allow Big Rivers to continue to operate Station Two under the terms of the Station Two contracts for a period up to May 31, 2019; and for authority to establish a regulatory asset for the costs associated with the Station Two contract termination. On August 29, 2018, the KPSC entered an order (i) finding that the Station Two units were no longer capable of the normal, continuous, reliable operation for the economically competitive production of electricity; (ii) finding that the Station Two contracts, except for the Joint Facilities Agreement, have therefore terminiated pursuant to their own terms; (iii) granting Big Rivers' request for authority to continue to operate Station Two under terms of the Station Two contracts for a period up to May 31, 2019; and (iv) reserving a ruling on Big Rivers' request for authority to establish a Station Two regulatory asset. The remaining issues in this case were resolved with a Settlement Agreement between the Office of the Attorney General, the KIUC, and Big Rivers. The Settlement Agreement provided that the KPSC would approve the Station Two regulatory asset, that Big Rivers would establish a Station Two Depreciation Credit, starting in the month that Station Two is retired, to reduce customer bills based on the revenues Big Rivers would receive associated with depreciation expense on Station Two, that Big Rivers would establish a TIER Credit to reduce existing regulatory assets in the event Big Rivers achieves a TIER in excess of 1.45 in 2019 or 2020, and that in Big Rivers' next general rate case, the intervenors would support Big Rivers' recovery of the Station Two, Wilson plant, and, conditionally, the Coleman plant regulatory assets. On October 23, 2018, the KPSC issued a final order approving the Settlement Agreement in full. RUS approved the Settlement Agreement on February 22, 2019. On February 26, 2019, Big Rivers filed revised tariff sheets with the KPSC to incorporate the Station Two Depreciation Credit. That credit will take affect the month following the KPSC's acceptance of the revised tariff sheets.

In connection with the rate matters discussed above, the following tables provide a summary of Regulatory Assets and Liabilities reflected in the Balance Sheet as of December 31, 2018 and 2017:

		Regulatory assets	
		2018	2017
Coleman plant deferred depreciation	$	31,418	25,554
Wilson plant deferred depreciation		99,949	79,395
Rate case expense and other		676	677
Non-FAC PPA		8,293	5,965
Asset retirement obligations		10,272	4,979
Environmental costs (CCR)		1,068	538
Station Two contract termination		2,306	—
Total regulatory assets	$	153,982	117,108

		Regulatory liabilities	
		2018	2017
Economic reserve-member rate mitigation	$	2,031	403
Total regulatory liabilities	$	2,031	403

(Dollars in thousands)

(6) Income Taxes

At December 31, 2018, Big Rivers had a Non-Patron Net Operating Loss (NOL) Carryforward of approximately $16,925 expiring at various times between 2029 and 2038 which was entirely offset by a full valuation allowance.

At December 31, 2018, the Company also had an Alternative Minimum Tax (AMT) Credit Carryforward of $3,462. Big Rivers claimed an accelerated AMT credit of $3,275 on its 2017 federal tax return in lieu of bonus depreciation under Internal Revenue Code (IRC) Sec. 168(k)(4). The Company expects to claim an accelerated AMT credit of $107 on its 2018 federal tax return.

On December 22, 2017, the U.S. government enacted comprehensive Federal tax legislation commonly referred to as the Tax Cuts and Jobs Act of 2017 (the "Tax Act"). The Tax Act significantly modified the U.S. corporate income tax system by, among other things, reducing the corporate income tax rate from 35% to 21% for tax years beginning after December 31, 2017. The income tax effects of changes in tax laws are recognized in the period when enacted. In addition to the reduction to the corporate tax rate, the Tax Act also repealed AMT as well as IRC Section 168(k)(4). For tax years beginning in 2018, 2019, and 2020, to the extent that AMT credit carryovers exceed regular tax liability (as reduced by certain other credits), 50% of the excess AMT credit carryovers are refundable. Any remaining AMT credits will be fully refundable in 2021. The Tax Act also requires deferred AMT refunds previously reported on the balance sheet in Other Deferred Charges to be reported as a long-term receivable. At December 31, 2018 and 2017, Big Rivers reported $200 and $2,202, respectively, as Federal Tax Receivable.

Due to the full valuation allowance against the remaining net deferred tax assets, the Tax Act had no impact on Big Rivers' 2018 tax expense.

The components of the net deferred tax assets as of December 31, 2018 and 2017 were as follows:

		2018	2017
Deferred tax assets:			
Net operating loss carryforward	$	4,223	4,383
Alternative minimum tax credit carryforwards		—	—
Fixed asset basis difference		707	3,495
Total deferred tax assets		4,930	7,878
Deferred tax liabilities:			
RUS Series B Note		(3,343)	(3,449)
Bond refunding costs		(67)	(75)
Total deferred tax liabilities		(3,410)	(3,524)
Net deferred tax asset (prevaluation allowance)		1,520	4,354
Valuation allowance		(1,520)	(4,354)
Net deferred tax asset	$	—	—

(Dollars in thousands)

A reconciliation of the Company's effective tax rate for 2018, 2017, and 2016 is as follows:

	2018	2017	2016
Federal rate	21.0%	35.0%	35.0%
State rate – net of federal benefit	4.0	4.7	3.9
Permanent differences	0.3	0.4	1.0
Patronage allocation to members	(25.3)	(40.2)	(39.9)
Tax benefit of operating loss carryforwards and other	—	—	—
Alternative minimum tax credit recovery	(0.3)	—	(109.6)
Effective tax rate	(0.3)%	(0.1)%	(109.6)%

The Company files a federal income tax return, as well as certain state income tax returns. The years currently open for federal income tax examination are 2015 through 2017. The major state tax jurisdiction currently open for income tax examination is Kentucky for years 2014 through 2017. The Company has not recorded any unrecognized tax benefits or liabilities related to federal or state income taxes.

The Company classifies interest and penalties as an operating expense on the statement of operations and accrued expenses on the balance sheet. No material interest or penalties have been recorded during 2018, 2017, or 2016.

(7) Pension Plans

(a) Defined-Benefit Plans

Big Rivers has a noncontributory defined-benefit pension plan covering substantially all employees who meet minimum age and service requirements and who were employed by the Company prior to the plan closure dates cited below. The plan provides benefits based on the participants' years of service and the five highest consecutive years' compensation during the last ten years of employment. Big Rivers' policy is to fund such plan in accordance with the requirements of the Employee Retirement Income Security Act of 1974.

Prior to January 1, 2014, Big Rivers had two separate defined-benefit pension plans. The salaried employees' defined-benefit plan was closed to new entrants effective January 1, 2008, and the bargaining employees' defined-benefit plan was closed to new hires effective November 1, 2008. The Company simultaneously established base contribution accounts in the defined-contribution thrift and 401(k) savings plans, which were renamed as the retirement savings plans.. The base contribution account for an eligible employee, which is one who meets the minimum age and service requirements, but for whom membership in the defined-benefit plan is closed, is funded by employer contributions based on graduated percentages of the employee's pay, depending on his or her age.

(Dollars in thousands)

In order to meet minimum participation requirements, Big Rivers' salaried employees defined benefit plan was merged into the bargaining employees defined benefit plan. The merger was effective January 1, 2014 for purposes of Internal Revenue Code and effective December 31, 2014 for all other purposes. Effective January 1, 2017, participation was frozen in the merged plan for highly compensated employees in order to comply with IRS code section 401(a)(26).

The Company has adopted FASB ASC 715, *Compensation – Retirement Benefits*, including the requirement to recognize the funded status of its pension plan and other postretirement plans (Note 11 – Postretirement Benefits Other than Pensions). ASC 715 defines the funded status of a defined-benefit pension plan as the fair value of its assets less its projected benefit obligation, which includes projected salary increases and defines the funded status of any other postretirement plan as the fair value of its assets less its accumulated postretirement benefit obligation.

ASC 715 also requires an employer to measure the funded status of a plan as of the date of its year-end balance sheet and requires disclosure in the notes to the financial statements of certain additional information related to net periodic benefit costs for the next fiscal year. The Company's pension and other postretirement benefit plans are measured as of December 31, 2018 and 2017.

The following provides an overview of the Company's noncontributory defined-benefit pension plan.

A reconciliation of the Company's benefit obligations of its noncontributory defined-benefit pension plan at December 31, 2018 and 2017 is as follows:

		2018	2017
Benefit obligation – beginning of period	$	22,176	21,282
Service cost – benefits earned during the period		766	798
Interest cost on projected benefit obligation		762	801
Plan amendment		—	1,077
Benefits paid		(2,304)	(1,451)
Actuarial (gain)		(438)	(331)
Benefit obligation – end of period	$	20,962	22,176

Big Rivers' defined-benefit pension plan provides retirees and terminated employees with a lump-sum payment option. Benefits paid in 2018 include lump-sum payments totaling $2,264 – the result of four retirees or terminated employees electing the lump-sum payment option. Benefits paid in 2017 include lump-sum payments totaling $1,407 – the result of one Qualified Domestic Relations Order and four retirees or terminated employees electing the lump-sum payment option.

The accumulated benefit obligation for the defined-benefit pension plan was $16,934 and $17,743 at December 31, 2018 and 2017, respectively.

(Dollars in thousands)

A reconciliation of the Company's pension plan assets at December 31, 2018 and 2017 is as follows:

		2018	2017
Fair value of plan assets – beginning of period	$	19,851	18,434
Employer contributions		1,971	—
Actual return on plan assets		(545)	2,868
Benefits paid		(2,304)	(1,451)
Fair value of plan assets – end of period	$	18,973	19,851

The funded status of the Company's pension plan at December 31, 2018 and 2017 is as follows:

		2018	2017
Benefit obligation – end of period	$	(20,962)	(22,176)
Fair value of plan assets – end of period		18,973	19,851
Funded status	$	(1,989)	(2,325)

Components of net periodic pension costs for the years ended December 31, 2018, 2017, and 2016 were as follows:

		2018	2017	2016
Service cost	$	766	798	907
Interest cost		762	801	816
Expected return on plan assets		(1,243)	(1,262)	(1,289)
Amortization of prior service cost		(33)	(33)	—
Amortization of actuarial loss		304	409	328
Settlement loss		533	—	—
Net periodic benefit cost	$	1,089	713	762

(Dollars in thousands)

A reconciliation of the pension plan amounts in accumulated other comprehensive income at December 31, 2018 and 2017 is as follows:

		2018	2017
Prior service cost	$	55	88
Unamortized actuarial loss		(4,716)	(4,203)
Accumulated other comprehensive income	$	(4,661)	(4,115)

In 2019, $33 of prior service credit and $326 of actuarial loss is expected to be amortized to periodic pension benefit cost.

The recognized adjustments to other comprehensive income at December 31, 2018 and 2017 are as follows:

		2018	2017
Prior service cost	$	—	1,077
Unamortized actuarial gain/(loss)		546	(2,314)
Other comprehensive (income)/loss	$	546	(1,237)

At December 31, 2018 and 2017, amounts recognized in the balance sheets were as follows:

		2018	2017
Deferred credits and other	$	(1,989)	(2,325)

Assumptions used to develop the projected benefit obligation and determine the net periodic benefit cost were as follows:

	2018	2017	2016
Discount rate – projected benefit obligation	4.12%	3.44%	3.80%
Discount rate – net periodic benefit cost	3.44	3.80	4.19
Rates of increase in compensation levels	4.00	4.00	4.00
Expected long-term rate of return on assets	6.50	7.00	7.25

(Dollars in thousands)

The expected long-term rate of return on plan assets for determining net periodic pension cost for each fiscal year is chosen by the Company from a best estimate range determined by applying anticipated long-term returns and long-term volatility for various asset categories to the target asset allocation of the plan. The expected long-term rate of return on assets is based on the median expected rate of return for a passively-managed portfolio plus the incremental return from active management.

Big Rivers utilizes a third-party investment manager for the plan assets, and has communicated thereto the Company's Retirement Plan Investment Policy, including a target asset allocation mix of 50% U.S. equities (an acceptable range of 45%–55%), 15% international equities (an acceptable range of 10%–20%), and 35% fixed income (an acceptable range of 30%–40%). As of December 31, 2018 and 2017, the investment allocation was 54% and 55%, respectively, in U.S. equities, 11% and 11%, respectively, in international equities, and 35% and 34%, respectively, in fixed income. The objective of the investment program seeks to (a) maximize return on investment, (b) minimize volatility, (c) minimize Company contributions, and (d) provide the employee benefit in accordance with the plan. The portfolio is well diversified and of high quality. The average quality of the fixed income investments must be "A" or better. The equity portfolio must also be of investment grade quality. The performance of the investment manager is reviewed semiannually.

At December 31, 2018 and 2017, the fair value of Big Rivers' defined-benefit pension plan assets by asset category are as follows:

	Level 1	Level 2	December 31, 2018
Cash and money market	$ 932	—	932
Equity securities:			
Common stock	6,939	—	6,939
Preferred stock	425	—	425
Mutual funds	5,478	—	5,478
Fixed:			
Tax exempt bonds and notes	—	2,426	2,426
Corporate bonds and notes	—	2,773	2,773
	$ 13,774	5,199	18,973

(Dollars in thousands)

		Level 1	Level 2	December 31, 2017
Cash and money market	$	965	—	965
Equity securities:				
Common stock		8,610	—	8,610
Preferred stock		464	—	464
Mutual funds		4,498	—	4,498
Fixed:				
U.S. Government agency bonds		—	300	300
Tax exempt bonds and notes		—	2,649	2,649
Corporate bonds and notes		—	2,365	2,365
	$	14,537	5,314	19,851

Expected retiree pension benefit payments projected to be required during the years following 2018 are as follows:

		Amount
Year ending December 31:		
2019	$	1,153
2020		1,462
2021		2,059
2022		2,412
2023		2,470
Thereafter		10,176
Total	$	19,732

(b) Defined-Contribution Plans

Big Rivers has two defined-contribution retirement plans covering substantially all employees who meet minimum age and service requirements. Each plan has a thrift and 401(k) savings section allowing employees to contribute up to 75% of pay on a pretax and/or after-tax basis, with employer matching contributions equal to 60% of the first 6% contributed by the employee on a pretax basis.

A base contribution retirement section was added and the plan name changed from Thrift and 401(k) Savings to Retirement Savings, effective January 1, 2008, for the salaried plan and November 1, 2008, for the bargaining plan. The base contribution account is funded by employer contributions based on graduated percentages of pay, depending on the employee's age.

The Company's expense under these plans was $5,124, $5,087, and $4,862 for the years ended December 31, 2018, 2017 and 2016, respectively.

(Continued)

(Dollars in thousands)

(c) Deferred Compensation Plan

Big Rivers sponsors a nonqualified deferred compensation plan for its eligible employees who are members of a select group of management or highly compensated employees. The purpose of the plan is to allow participants to receive contributions or make deferrals that they could not receive or make under the salaried employees qualified defined-contribution retirement savings plan (formerly, the thrift and 401(k) savings plan) as a result of nondiscrimination rules and other limitations applicable to the qualified plan under the Internal Revenue Code. The nonqualified plan also allows a participant to defer a percentage of his or her pay on a pretax basis.

The nonqualified deferred compensation plan is unfunded, but the Company has chosen to finance its obligations under the plan, including any employee deferrals, through a rabbi trust. The trust assets remain a part of the Company's general assets, subject to the claims of its creditors. The 2018 employer contribution was $136 and deferred compensation expense was $136. As of December 31, 2018, the trust asset was $623 and the deferred liability was $623.

(8) Restricted Investments

The amortized costs and fair values (Level 1 measurement) of Big Rivers' restricted investments held for Member rate mitigation at December 31, 2018 and 2017 were as follows:

	2018		2017	
	Amortized costs	**Fair values**	**Amortized costs**	**Fair values**
Debt securities:				
U.S. Treasury – Money Market	$ 691	691	391	391
Total	$ 691	691	391	391

There were no gross unrealized gains or losses on restricted investments at December 31, 2018 and 2017.

	2018		2017	
	Gains	**Losses**	**Gains**	**Losses**
Debt securities:				
U.S. Treasury – Money Market	$ —	—	—	—
Total	$ —	—	—	—

(Dollars in thousands)

Debt securities at December 31, 2018 and 2017 mature, according to their contractual terms, as follows (actual maturities may differ due to call or prepayment rights):

		2018		2017	
		Amortized costs	**Fair values**	**Amortized costs**	**Fair values**
In one year or less	$	691	691	391	391
Total	$	691	691	391	391

Gross unrealized losses on investments and the fair values of the related securities, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position at December 31, 2018 and 2017 were as follows:

		2018		2017	
		Less than 12 months		**Less than 12 months**	
		Losses	**Fair values**	**Losses**	**Fair values**
Debt securities:					
U.S. Treasury – Money Market	$	—	691	—	391
Total	$	—	691	—	391

None of the Company's restricted investments held for Member rate mitigation were in an unrealized loss position as of December 31, 2018 or 2017.

In conjunction with the CFC $302,000 secured term loan (Note 4), Big Rivers was required to invest in CFC Capital Term Certificates (CTCs) equal to 14.29% of the Refinance Note. Proceeds of the Equity Note were used to purchase the investments in CTCs as required under the loan agreement. The interest rate on the CTCs is fixed at 4.28% and is equal to 80% of the Equity Note rate of 5.35%. The CTCs cannot be traded in the market, and therefore, a value other than their outstanding principal amount cannot be determined. The Company's investment in these CTCs at December 31, 2018 and 2017 was $33,416 and $35,164, respectively.

(Dollars in thousands)

(9) Short-Term Investments

At December 31, 2018, the Company's short-term investments included $4,987 of investments in debt securities and $4,620 of investments in certificates of deposits (CDs), which are both included in the Company's balance sheet at amortized cost. At December 31, 2017, the Company's short-term investments included $4,798 of investments in debt securities and $4,425 of investments in CDs, which are both included in the Company's balance sheet at amortized cost. The investments in debt securities are classified as held-to-maturity, based on management's intent and ability to hold them to maturity. Both CDs and investments in debt securities are included in "Cash and Cash Equivalents" (if the orginal maturity date is less than or equal to three months) or "Short-term-Iinvestments" (if the original maturity date is greater than three months but less than one year).

The amortized costs and fair values (Level 1 measurement) of Big Rivers' short-term investments at December 31, 2018 and 2017, were as follows:

		2018		2017	
		Amortized costs	Fair values	Amortized costs	Fair values
Debt securities:					
Corporate notes	$	1,215	1,219	1,448	1,446
U.S. Treasuries		3,390	3,408	2,427	2,427
U.S. Government agency		382	384	923	923
Total debt securities		4,987	5,011	4,798	4,796
Other:					
Certificates of deposit		4,620	4,615	4,425	4,420
Total short-term investments	$	9,607	9,626	9,223	9,216

(Dollars in thousands)

Gross unrealized gains and losses on short-term investments at December 31, 2018 and 2017, were as follows:

	2018		2017	
	Gains	**Losses**	**Gains**	**Losses**
Debt securities:				
Corporate notes	$ 4	—	—	(2)
U.S. Treasuries	18	—		—
U.S. government agency	2	—	—	—
Total debt securities	24	—	—	(2)
Other:				
Certificates of deposit	—	(5)	—	(5)
Total short-term investments	$ 24	(5)	—	(7)

(10) Fair Value of Other Financial Instruments

FASB ASC 820 defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measures. It applies under other accounting standards that require or permit fair value measurements and does not require any new fair value measurements.

The carrying value of accounts receivable and accounts payable approximate fair value due to their short maturity. At December 31, 2018 and 2017, the Company's cash and cash equivalents included short-term investments in an institutional U.S. government money market portfolio account classified as trading securities under ASC 320, *Investments – Debt and Equity Securities*, that were recorded at fair value which was determined using quoted market prices for identical assets without regard to valuation adjustment or block discount (a Level 1 measure), as follows:

	2018	2017
Institutional U.S. government money market portfolio	$ 35,606	52,283

It was not practical to estimate the fair value of patronage capital included within other deposits and investments due to these being untraded companies.

(Continued)

(Dollars in thousands)

Big Rivers' long-term debt at December 31, 2018, consisted of CFC notes totaling $275,076, a CoBank note in the amount of $181,271, an RUS note totaling $184,117, RUS guaranteed FFB loans totaling $43,595, and fixed-rate pollution control bonds in the amount of $83,300 (Note 4). The CFC, CoBank, RUS and FFB debt cannot be traded in the market, and therefore, a value other than their outstanding principal amounts cannot be determined. At December 31, 2018, the fair value of Big Rivers' fixed-rate Series 2010A Bonds, was determined based on quoted prices available for the most recent trades of those bonds occurring in the dealer market on or near the balance sheet date (Level 1 measure) and totaled $82,717.

(11) Postretirement Benefits Other than Pensions

Big Rivers provides certain postretirement medical benefits for retired employees and their spouses. Generally, except for generation bargaining retirees, Big Rivers pays 85% of the premium cost for all retirees age 62 to 65. The Company pays 25% of the premium cost for spouses age 55 to 61. Beginning at age 65, the Company pays 25% of the premium cost if the retiree is enrolled in Medicare Part B. For each generation bargaining retiree, Big Rivers establishes a retiree medical account at retirement equal to $1.25 per year of service up to 30 years. The account balance is credited with interest based on the 10-year treasury rate subject to a minimum of 4% and a maximum of 7%. The account is to be used for the sole purpose of paying the premium cost for the retiree and spouse.

The discount rates used in computing the postretirement benefit obligation and net periodic benefit cost were as follows:

	2018	2017	2016
Discount rate – projected benefit obligation	4.34%	3.66%	4.21%
Discount rate – net periodic benefit cost	3.66	4.21	4.35

The healthcare cost trend rate assumptions as of December 31, 2018 and 2017 were as follows:

	2018	2017
Initial trend rate	6.24%	6.49%
Ultimate trend rate	4.50	4.50
Year ultimate trend is reached	2038	2038

(Continued)

(Dollars in thousands)

A one-percentage-point change in assumed healthcare cost trend rates would have the following effects:

		2018	2017
One-percentage-point decrease:			
Effect on total service and interest cost components	$	(136)	(119)
Effect on year-end benefit obligation		(1,265)	(1,394)
One-percentage-point increase:			
Effect on total service and interest cost components	$	175	153
Effect on year-end benefit obligation		1,553	1,734

A reconciliation of the Company's benefit obligations of its postretirement plan at December 31, 2018 and 2017 is as follows:

		2018	2017
Benefit obligation – beginning of period	$	14,348	13,230
Service cost – benefits earned during the period		551	475
Interest cost on projected benefit obligation		530	551
Participant contributions		288	272
Benefits paid		(1,412)	(1,372)
Actuarial loss (gain)		(413)	1,192
Benefit obligation – end of period	$	13,892	14,348

Big Rivers revised the eligibility requirements for postretirement medical with regard to age and service. Beginning January 1, 2013, eligibility for retirement is age 62 with 10 years of service. The service requirement is waived for active employees on December 31, 2012 who will not have 10 years of service at age 62. A reconciliation of the Company's postretirement plan assets at December 31, 2018 and 2017 is as follows:

		2018	2017
Fair value of plan assets – beginning of period	$	—	—
Employer contributions		1,124	1,100
Participant contributions		288	272
Benefits paid		(1,412)	(1,372)
Fair value of plan assets – end of period	$	—	—

(Dollars in thousands)

The funded status of the Company's postretirement plan at December 31, 2018 and 2017 is as follows:

		2018	2017
Benefit obligation – end of period	$	(13,892)	(14,348)
Fair value of plan assets – end of period		—	—
Funded status	$	(13,892)	(14,348)

The components of net periodic postretirement benefit costs for the years ended December 31, 2018, 2017, and 2016 were as follows:

		2018	2017	2016
Service cost	$	551	475	461
Interest cost		530	551	552
Amortization of prior service cost		(138)	(138)	(138)
Amortization of gain		(30)	(170)	(232)
Net periodic benefit cost	$	913	718	643

A reconciliation of the postretirement plan amounts in accumulated other comprehensive income at December 31, 2018 and 2017 is as follows:

		2018	2017
Prior service credit	$	1,018	1,156
Unamortized actuarial gain		2,981	2,599
Accumulated other comprehensive income	$	3,999	3,755

In 2019, $138 of prior service cost and $125 of actuarial gain is expected to be amortized to periodic benefit cost.

The recognized adjustments to other comprehensive loss at December 31, 2018 and 2017 are as follows:

		2018	2017
Prior service cost	$	(138)	(138)
Unamortized actuarial gain (loss)		413	(1,192)
Amortization of net gain		(30)	(170)
Other comprehensive income/(loss)	$	245	(1,500)

(Dollars in thousands)

At December 31, 2018 and 2017, amounts recognized in the balance sheets were as follows:

		2018	2017
Accounts payable	$	(1,151)	(1,087)
Deferred credits and other		(12,741)	(13,261)
Net amount recognized	$	(13,892)	(14,348)

Expected retiree benefit payments projected to be required during the years following 2018 are as follows:

		Amount
Year:		
2019	$	1,151
2020		1,095
2021		1,177
2022		1,232
2023		1,185
Thereafter		5,032
Total	$	10,872

In addition to the postretirement plan discussed above, Big Rivers has another postretirement benefit plan, which vests a portion of accrued sick leave benefits to salaried employees upon retirement or death. To the extent an employee’s sick leave hour balance exceeds 480 hours, such excess hours are paid at 20% of the employee’s base hourly rate at the time of retirement or death. The accumulated obligation recorded for the postretirement sick leave benefit is $682 and $631 at December 31, 2018 and 2017, respectively. The postretirement expense recorded was $72, $83, and $93, for 2018, 2017, and 2016, respectively, and the benefits paid were $21, $5, and $0 for 2018, 2017, and 2016, respectively.

(12) Related Parties

For the years ended December 31, 2018, 2017, and 2016, Big Rivers had tariff sales to its members of $263,792, $248,389, and $250,045, respectively. In addition, for the years ended December 31, 2018, 2017, and 2016, Big Rivers had certain sales to Kenergy for the Domtar Paper Co. load of $3,833, $2,336, and $2,694, respectively.

At December 31, 2018 and 2017, Big Rivers had accounts receivable from its members of $21,826 and $23,639, respectively.

(Continued)

(13) Commitments and Contingencies

Big Rivers is involved in ongoing litigation with the City of Henderson Utility Commission doing business as Henderson Municipal Power and Light (collectively, HMP&L) in which Big Rivers is seeking damages from HMP&L relating to HMP&L's refusal to pay the costs associated with Excess Henderson Energy produced at HMP&L's Station Two generating station. In December 2017, Big Rivers and HMP&L entered into an agreement to settle claims HMP&L brought relating to Excess Henderson Energy.

On May 1, 2018, the contracts under which Big Rivers was operating HMP&L's Station Two generating station terminated as a result of the Station Two units no longer being capable of the economically competitive production of electricity (Note 5). To allow HMP&L time to make alternate arrangements for its power supply, Big Rivers continued to operate the units under the terms of the Station Two contracts until the units were retired on January 31, 2019. The termination of the Station Two contracts has given rise to disputes between the parties, including a declaratory judgment action HMP&L has filed relating to the interpretation of the deed to the real estate on which the Station Two units were constructed. The Company believes there will be no material adverse effect to its financial statements when the litigation and disputes with HMP&L are resolved.

Big Rivers is involved in other litigation arising in the normal course of business. While the results of such litigation cannot be predicted with certainty, management, based upon advice of counsel, believes that the final outcome will not have a material adverse effect on the financial statements.

(14) Subsequent Events

See Note 13 relating to the retirement of Station Two.

See Note 5 relating to the Station Two Depreciation Credit, which Big Rivers anticipates will begin in April 2019.

Management evaluated subsequent events up to and including April 19, 2019, the date the financial statements were available to be issued.