GREAT RIVER ENERGY®

2018 ANNUAL REPORT

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GREAT RIVER ENERGY IS A NOT-FOR-PROFIT ELECTRIC COOPERATIVE THAT SERVES APPROXIMATELY 700,000 MEMBERS, OR 1.7 MILLION PEOPLE, THROUGH THE 28 ELECTRIC COOPERATIVES THAT COLLECTIVELY OWN GREAT RIVER ENERGY. THE COOPERATIVE PROCURES AND MAINTAINS AN EVOLVING PORTFOLIO OF POWER SUPPLY AND TRANSMISSION RESOURCES IN ORDER TO DELIVER RELIABLE AND AFFORDABLE WHOLESALE ELECTRICITY TO ITS MEMBERSHIP THROUGH PARTICIPATION IN THE REGIONAL ENERGY MARKET.

TO OUR STAKEHOLDERS

When Great River Energy was formed by Cooperative Power and United Power Association 20 years ago, the cooperative members of those two companies came together with a shared vision of where they wanted to be.

We have strived to be true to that vision.

2018 was a significant year in the 20-year history of Great River Energy. We achieved our longstanding goal to return patronage capital to our member-owner cooperatives. This milestone was the culmination of a plan our board of directors established, and our members endorsed, more than 15 years ago.

A decision was made to return patronage capital to our members only after strengthening our balance sheet to 20 percent equity. We achieved this important financial measure by methodically budgeting for modest margins and achieving or outperforming those budgets through cost control and strategic decisions regarding our power supply portfolio. We reached 20 percent equity two years ahead of schedule and will return $15 million in patronage capital to members in 2019.

Our members' patience will be rewarded for years to come with annual payments of patronage capital.

We have the right resources for today, and ambitious plans

Nearly 15 years of experience with renewable energy has given us a deep understanding of the economics and operation of wind energy as a generation technology. After accomplishing Minnesota's 25 percent renewable energy goal in 2017– eight years ahead of schedule – we decided to push ourselves further.

In 2018, our board established a goal to provide 50 percent renewable energy to our members by 2030, and we are doing so because our members want it. We are already implementing a plan to accomplish this goal.

As a company, we emit 38 percent less carbon dioxide than we did in 2005. We were able to do this by reducing our carbon-emitting resources and adding renewables without sacrificing affordability and reliability.

Our rate projections are stable for a decade

Great River Energy's wholesale electric rates remain well below the weighted regional average. More importantly, our rates are stable.

We expect rate increases significantly below the anticipated rate of inflation for a decade. That starts in 2019, when our wholesale rates are budgeted to decline.

Electricity is the smart choice

Great River Energy and our member-owner cooperatives provide an essential service, and we are working together to help businesses and households use it in new and beneficial ways.

The modern grid we envisioned years ago is becoming real, as new software and connectivity are improving service, reducing costs and enabling new uses of electricity. And, we are ushering in a new generation of electric technology in homes, businesses and on the roadways.

Above all, we are a cooperative

The people of Minnesota and Wisconsin created our member-owner cooperatives. Those cooperatives created Great River Energy.

Our ultimate success is determined by how well we serve our members. Our mission – and the sole reason we exist – is to serve them with reliable, affordable and environmentally responsible energy.

Bob Bruckbauer

Great River Energy Board Chair

David Saggau

Great River Energy President and Chief Executive Officer

A HISTORIC FINANCIAL YEAR

2018 was among the most financially successful years in Great River Energy's history. The cooperative's initial margin calculation of $70 million was more than triple the budgeted margin of $23 million. Excess margins were used to provide a cash refund to members, defer revenue to offset future rates and write off non-productive assets on the balance sheet.

These financial results were due to strong sales among member-owner cooperatives, cost controls at Great River Energy and strategic decisions regarding the power supply portfolio. Year-end energy sales were 2.3 percent higher than budget.

Great River Energy reached 20 percent equity in 2018 and is now delivering on its cooperative promise by returning $15 million to member-owner cooperatives in 2019.

20% EQUITY

$10M RETURNED TO MEMBERS

$25.8M TO WRITE OFF NON-PRODUCTIVE ASSETS ON THE BALANCE SHEET

TOTAL ASSETS $3.9B

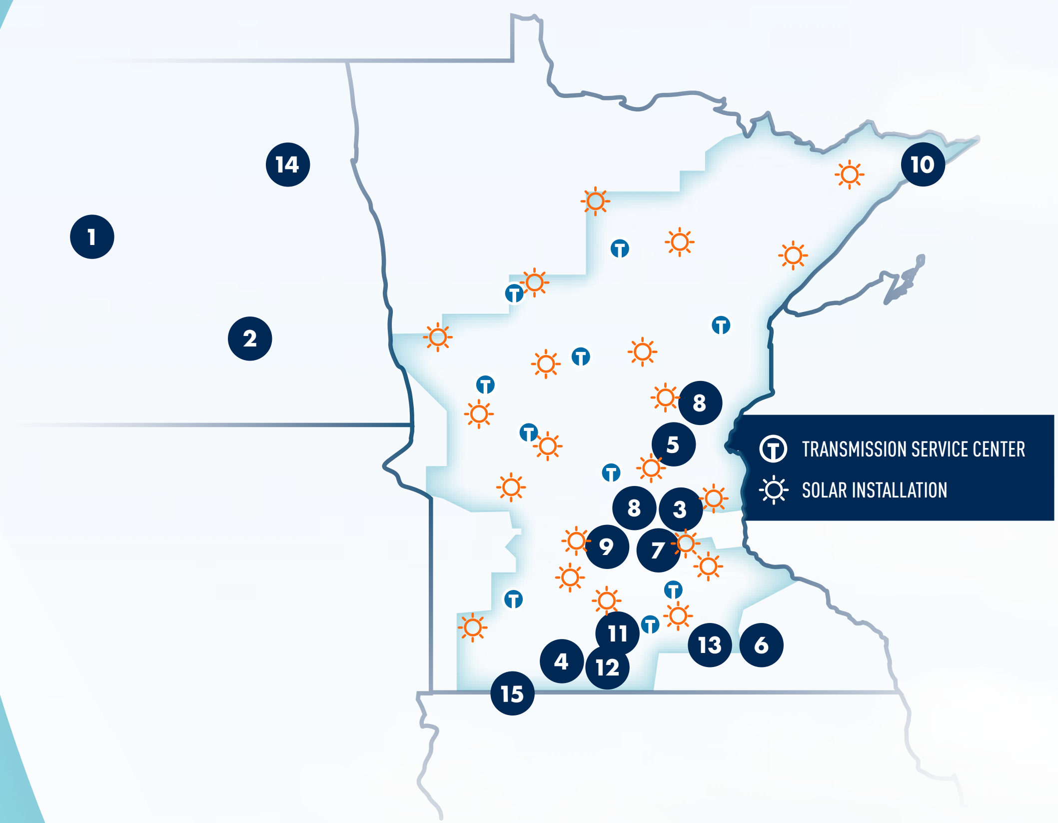
700,000 NO. OF MEMBER ACCOUNTS

$10M OF REVENUE DEFERRED TO OFFSET FUTURE RATES

11,942,000 MEGAWATT-HOURS SOLD TO MEMBERS

OUR RESOURCE PORTFOLIO

Great River Energy generates or procures electricity from power plants, wind farms, solar installations and hydroelectric dams, then transmits that electricity over hundreds of miles of high-voltage transmission lines. Every resource shown here plays a critical role in supplying reliable energy to Great River Energy's 28 member-owner cooperatives.



1 Coal Creek Station
Generating capability: 1,144 MW
Fuel: Lignite coal and DryFine™ lignite coal

2 Spiritwood Station
Generating capability: 99 MW*
Fuel: DryFine lignite coal and natural gas

3 Elk River Peaking Station
Generating capability: 192 MW (summer)
Fuel: Natural gas; backup, fuel oil

4 Lakefield Junction Station
Generating capability: 495 MW (summer)
Fuel: Natural gas; backup, fuel oil

5 Cambridge Station
Generating capability: 170 MW (summer)
Fuel: Fuel oil (Unit 1), and natural gas (Unit 2)

6 Pleasant Valley Station
Generating capability: 421MW (summer)
Fuel: Natural gas; backup, fuel oil

7 St. Bonifacius Station
Generating capability: 58 MW (summer)
Fuel: Fuel oil

8 Rock Lake Station
Generating capability: 20 MW (summer)
Fuel: Fuel oil

9 Maple Lake Station
Generating capability: 20 MW (summer)
Fuel: Fuel oil

10 Arrowhead Emergency Generating Station
Generating capability: 18 MW*
Fuel: Fuel oil

11 Trimont Wind
Purchase: 100 MW*

12 Elm Creek Wind
Purchase: 99 MW*

13 Prairie Star Wind
Purchase:101 MW*

14 Ashtabula II Wind
Purchase: 51 MW*

15 Endeavor I Wind
Purchase:100 MW*

Other renewable energy
200 MW* (summer) from Manitoba Hydro
12 MW* from two wind farms.
Approximately 3 MW* from
21 solar installations.

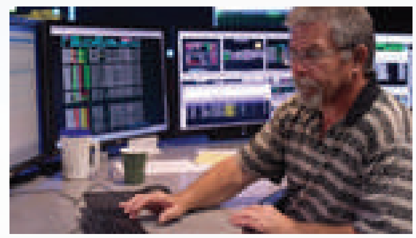
Generating capability based on summer generating capability for 2019-2020 planning year.

**Nameplate generating capacity*

Great River Energy established interim renewable energy goals in order to make progress on the way to 50 percent renewables.

CLEAN AND COMPETITIVE

Strategic additions of wind energy and improvements at generation facilities have left Great River Energy with a power supply portfolio that is flexible, efficient and increasingly renewable.



50% 2030

After achieving Minnesota's 25 percent renewable energy standard eight years ahead of schedule, Great River Energy set a more ambitious goal: 50 percent renewables by 2030.

Increasing renewables can present advantages to cooperatives for attracting and retaining business as well as meeting the expectations of members who value renewable energy.

Great River Energy has spent more than a decade positioning its portfolio, lowering costs and reducing dependence on coal as a fuel source, while improving the overall flexibility of its generation portfolio.

These measures have resulted in a 38 percent reduction in Great River Energy's carbon dioxide emissions since 2005.

Future plans earn state's support

Great River Energy's plans for its generation portfolio were affirmed in 2018 when the Minnesota Public Utilities Commission accepted its integrated resource plan. The plan detailed how Great River Energy will reliably and cost-effectively meet its member-owner cooperatives' energy needs for the next 15 years.

Long-running resource retired

Great River Energy retired its Elk River Resource Recovery Project, a renewable, waste-to-energy resource. Because the project was not competitive in the regional energy market, Great River Energy's board of directors determined it would be in the best interest of members to retire the project.

TRANSMISSION STAYS A STEP AHEAD

Thoughtful planning and investment in Great River Energy's transmission system assures that consumer-members' electricity remains reliable, even as sweeping changes are occurring in the way electricity is generated.

Transmission planning has traditionally been driven by load growth. Over time, projects are increasingly spurred by power plant retirements and renewable energy additions.

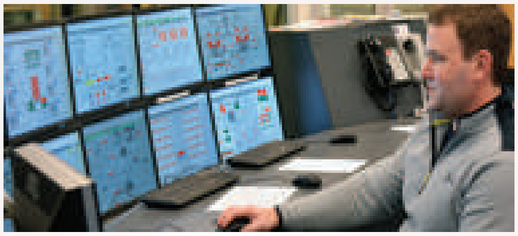
Great River Energy is collaborating with its member-owner cooperatives and other utilities to identify areas where transmission might be needed over the next 10 years. Great River Energy is also working with the regional grid operator, MISO, to study the long-term effects of renewable energy growth in the Midwest.

Grid modernization has also enabled new ways to keep electricity reliable that are shaking long-held views of transmission. Situations that traditionally would be addressed through large transmission projects can at times be addressed through emerging grid capabilities, such as load management, distributed energy resources and innovative solutions on the local distribution grid.

THE BEST AT WHAT THEY DO

When a June storm took down a critical coal conveyor at a Great River Energy power plant, a team of employees came up with an immediate fix (rerouting trucks), then a short-term solution (a temporary conveyor system), before rebuilding the system stronger than ever.

What could have been a major setback resulted in minimal operational and financial effects thanks to the dedicated team at Great River Energy and the Falkirk Mine.



Expertise leads to new opportunities

When Minnesota's largest county sought an operator for a unique energy facility, Great River Energy got the call. A new Great River Energy subsidiary signed a short-term contract to operate the Hennepin Energy Recovery Center, a waste-to-energy facility in downtown Minneapolis. After just a few months of operation, the agreement was extended. GRE HERC Services, LLC, will continue operating the facility through the end of 2025.

Million-dollar partnership spurs small business growth

A partnership formed between Great River Energy and The Entrepreneur Fund will benefit small businesses and entrepreneurs in the two organizations' shared service areas with a $1 million program loan provided by Great River Energy.

As a cooperative, Great River Energy is committed to helping its member-owner cooperatives foster economic development in their communities by working closely with statewide and regional organizations like The Entrepreneur Fund.

Reinvesting in critical asset

Great River Energy spent seven years laying the groundwork for an upgrade of its high-voltage, direct-current system between North Dakota and Minnesota. In the spring of 2019, conversion equipment – the equipment that converts alternating-current power to direct-current power and vice versa – is being replaced with today's technology.

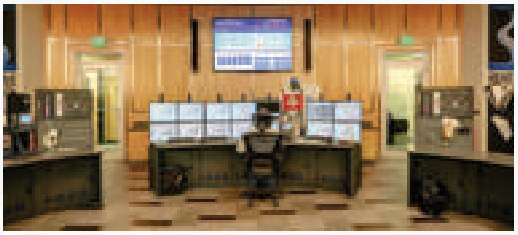
The project is one of the biggest capital projects Great River Energy has undertaken in recent years. It is expected to produce returns for the cooperative by extending the life of the system, maintaining reliability and improving efficiency.

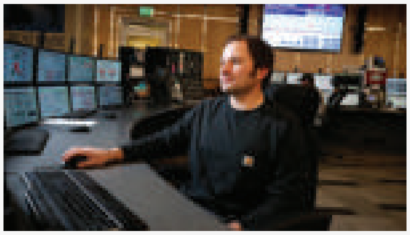
Jayme Diffely, leader of plant operations at Great River Energy's Coal Creek Station power plant, *coordinates activities related to the safe and reliable operation of the power plant. The plant operates around the clock, generating enough electricity to power 600,000 homes.*

***Great River Energy Senior Marketing Specialist Tara Collins (right) shows Runestone Electric Association member Sheila Schilling** how to operate and charge an electric vehicle. Schilling won the use of a Tesla Model S electric vehicle through a contest designed to introduce cooperative members to electric vehicles.*

MOVING IN THE RIGHT DIRECTION

Financial strength, an innovative spirit and engaged members fuel Great River Energy and its member-owner cooperatives' ambitious plans to improve the way they serve families, businesses and schools in cooperative communities.





Supporting smart energy use

There was a time – almost 100 years ago – when electric cooperatives passed out light bulbs to help members see the conveniences possible through electric service. Today, co-ops are educating members about efficient air conditioning and offering test drives in electric vehicles.

Cooperatives participated in the 2018 "Electrify Your Ride" sweepstakes, which awarded winning members with a week-long electric vehicle test drive. Members from Great River Energy member-owners East Central Energy and Runestone Electric Association got the keys to an electric vehicle to see how it could fit in their daily lives.

Driven to save members money

Great River Energy employees finding better ways to do their jobs resulted in savings and avoided costs of $33 million. This was the second highest annual total achieved as part of Great River Energy's business improvement culture. The company rewards employees for challenging well-worn methods and trying new things. Business improvements have resulted in more than $300 million in savings for Great River Energy's member-owner cooperatives since 2002.

More than 20 years ago, a few employees dreamt up a way to eliminate the cost and environmental effects of disposing of ash that results from generating electricity with coal.

They discovered it could be sold into the concrete market, which not only eliminated the expense but produced revenue. In 2018, cumulative sales and cost savings related to fly ash topped $100 million.

A great place to work

Great River Energy was again certified as a great workplace by the Great Place to Work® Institute. A confidential employee survey revealed that 89 percent of employees say Great River Energy is a great place to work.

This certification honors employers of all sizes and industries from across the United States. The accolade not only measures whether employee experiences are positive, it also certifies that peoples' experiences are consistent across the organization, regardless of gender, race/ethnicity, job role or other personal characteristics.

2018 FINANCIALS

FINANCIAL HIGHLIGHTS

(DOLLARS IN MILLIONS)	2018	2017	CHANGE
OPERATIONS			
Revenues	$ 1,039.8	$ 1,016.3	$ 23.5
Purchased Power	$ 163.0	$ 177.3	$ (14.3)
Purchased Power-deferred charge write-off	$ 25.8	$ -	$ 25.8
Fuel	$ 215.1	$ 204.1	$ 11.0
Other Operating Expenses	$ 331.6	$ 328.5	$ 3.1
Depreciation and Amortization	$ 160.0	$ 156.9	$ 3.1
Interest Expense	$ 131.2	$ 133.0	$ (1.8)
Other Income	$ 9.9	$ 6.5	$ 3.4
Nonutility Operations, excluding noncontrolling interest	$ 1.1	$ 11.2	$ (10.1)
Net Margin Attributable to GRE	$ 24.1	$ 34.2	$ (10.1)
FINANCIAL POSITION			
Electric Plant	$ 4,518.9	$ 4,573.8	$ (54.9)
Utility Plant – net	$ 2,764.2	$ 2,776.6	$ (12.4)
Deferred Charges	$ 369.1	$ 414.5	$ (45.4)
Cash and Cash Equivalents	$ 276.8	$ 322.9	$ (46.1)
Total Assets	$ 3,933.8	$ 4,062.2	$ (128.4)
Long-term Obligations	$ 2,456.8	$ 2,624.7	$ (167.9)
Members' Capital	$ 652.8	$ 628.6	$ 24.2
Equity to Capitalization Ratio	20.5%	19.0%	1.5%

GREAT RIVER ENERGY

FINANCIAL DISCUSSION AND ANALYSIS

Great River Energy's (GRE) financial position benefited from what was not only a strong financial performance in 2018, but the strongest financial performance to date. Utility operating revenues once again exceeded $1.0 billion due to increased member sales and strong other operating revenues. These strong sales, and favorable operating expense variances, produced a very positive net margin heading into the end of 2018. As a result, the board of directors approved returning $10.0 million in December as a member bill credit, deferring another $10.0 million of member electric revenue as a regulatory liability, and writing off $25.8 million of deferred charges on the balance sheet. Without the bill credit, deferral, and write-off, GRE's 2018 margin would have been $70.0 million. Positive actual variances versus budget from fuel expenses, purchase power contracts, member unit sales, and market prices from sales in the Midcontinent Independent System Operator (MISO) market resulted in a power cost adjustment (PCA) credit of $17.9 million back to GRE's members for 2018. With the strong financial performance of 2018, GRE's equity to capitalization ratio ended the year at 20.5 percent, achieving its target of 20.0 percent two years ahead of schedule. This paved the way for GRE's first return of patronage capital back to its members of $15.2 million in 2019. GRE's financial statements remain solid and positively position the cooperative for the future.

MARGINS

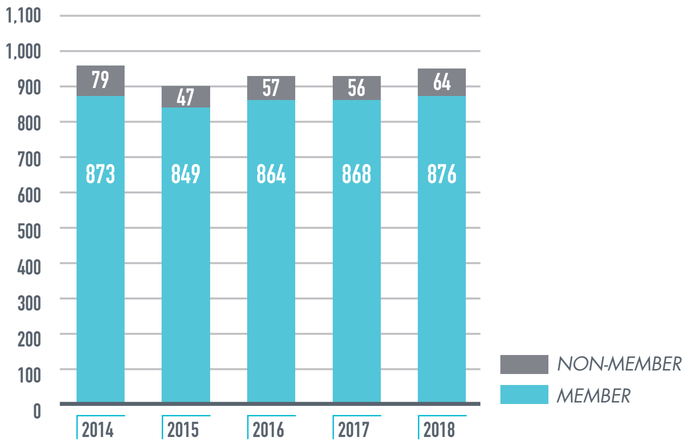
Net margin attributable to GRE for the year ended December 31, 2018, was $24.1 million and includes the net income from Midwest AgEnergy Group (MAG) of $0.9 million and other equity method investments. This compares to a budget of $23.0 million for 2018. GRE's Indenture requires the maintenance of a margin-for-interest (MFI) ratio of 1.1x, excluding the operating results of subsidiaries and equity method investments. GRE's net utility margin, which is used to calculate the MFI ratio, was $23.0 million for 2018, resulting in an MFI ratio of 1.17x. GRE's board of directors targeted a debt service coverage (DSC) ratio of 1.17x when setting member rates for 2018. GRE's 2018 operations produced a DSC ratio of 1.22x.

ELECTRIC REVENUE

Electric revenue increased $16.1 million or 1.7 percent to $940.1 million in 2018 from $924.0 million in 2017. Electric revenue from member cooperatives was $875.7 million during 2018, an increase of $7.4 million or 0.9 percent from $868.3 million in 2017. The increase was directly related to a 2.6 percent increase in member megawatt hour (MWh) sales and a 3.7 percent increase in megawatt (MW) sales. GRE credited $10.0 million on member December bills and deferred member electric revenue of $10.0 million, which was collected from members in 2018, under regulatory accounting. GRE deferred member electric revenue of $17.9 million as a regulatory liability in 2017. GRE issued a PCA credit of $17.9 million in 2018 and a PCA charge of $5.9 million in 2017. The PCA allows GRE to credit or collect differences between actual and budgeted results in MISO market activity, purchased power, non-member revenue, and fuel. The 2018 PCA credit was primarily due to favorable budget variances in fuel expense, purchase power contracts, member unit sales, and MISO generation revenue as market pricing was higher than budgeted. This was partially offset by an unfavorable budget variance in the MISO market load purchase expenses.

Electric revenue from non-members increased $8.7 million or 15.6 percent to $64.4 million in 2018 from $55.7 million in 2017. Energy sales increased $6.3 million and demand sales increased

ELECTRIC REVENUE BILLED
(DOLLARS IN MILLIONS)



$2.4 million compared to 2017. Non-member MWh sales decreased 14.2 percent; however, this was offset by an increase in the average market price for energy of 35.4 percent to $31.78/MWh in 2018.

OTHER OPERATING REVENUE

Other operating revenue increased $7.3 million or 7.9 percent to $99.7 million in 2018 from $92.4 million in 2017. The increase was primarily due to increased transmission revenue from the MISO market and inter-utility transmission agreements of $5.8 million. This was the result of increased load served by GRE's transmission assets in MISO and a positive variance between the 2017 and 2018 MISO revenue requirement true-up.

OPERATING EXPENSES

Total operating expenses for 2018 were $895.5 million, an increase of $28.7 million or 3.3 percent from $866.8 million in 2017.

Purchased power decreased $14.3 million or 8.1 percent to $163.0 million in 2018 from $177.3 million in 2017. This was driven by decreased wind and hydro-electric MWh output in 2018 compared to 2017, offset partially by increased MISO market purchases.

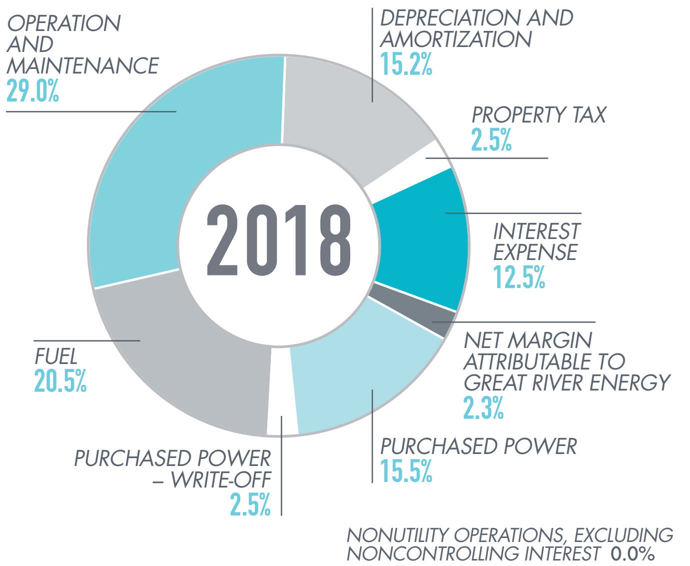
As a result of its historic financial performance in 2018, GRE wrote off $25.8 million of the Genoa 3 contract settlement deferred asset as a charge to purchased power in accordance with regulatory accounting requirements.

Fuel expense increased $11.0 million or 5.4 percent to $215.1 million in 2018 from $204.1 million in 2017. Fuel expense at the baseload facilities increased $4.8 million or 2.4 percent in 2018 compared to 2017. Baseload generation was 11.6 percent higher due to there being no scheduled major outages at Coal Creek Station (CCS) during 2018. Despite the higher baseload output (9,500 gigawatt-hours [GWhs] in 2018 compared to 8,500 GWhs in 2017), the average cost per GWh was 8.2 percent lower. Fuel expense at the peaking plants increased $6.2 million or 76.9 percent in 2018 compared to 2017. Peaking generation was 100.9 percent higher in 2018 compared to 2017 (333 GWhs in 2018 compared to 166 GWhs in 2017); however, this was achieved at a rate per GWh that was 11.9 percent less, driven by lower average natural gas prices ($2.96/MMBtu in 2018 compared to $3.32/MMBtu in 2017).

Operation and maintenance expense increased $6.2 million or 2.1 percent to $304.9 million in 2018 from $298.7 million in 2017. Transmission operation and maintenance expense increased $6.9 million due largely to an increase in GRE's share of expenses associated with regional and area transmission projects owned by others within the MISO territory, as well as an increase in transmission expenses to serve member load under inter-utility transmission agreements. General and administrative expense increased $3.2 million in 2018 compared to 2017 due to inflationary increases, increased benefit contributions, and increases in hardware and software purchases and maintenance. These increases were offset by a decrease in generation operation and maintenance expenses of $4.0 million in 2018 compared to 2017 due to the retirement of Stanton Station during 2017.

Depreciation and amortization increased $3.1 million or 2.0 percent to $160.0 million in 2018 from $156.9 million in 2017. The increase is due primarily to the impact of projects being placed in service during 2018 and additional accretion expense for CCS asset retirement obligations (ARO).

EXPENSES AND MARGIN



OTHER INCOME (EXPENSE)

Interest expense – net of amounts capitalized decreased $1.8 million or 1.4 percent to $131.2 million in 2018 from $133.0 million in 2017. Interest incurred on GRE's long-term obligations decreased primarily as a result of no borrowings on the syndicated credit facility during 2018. Capitalized interest increased $1.1 million to $6.2 million for 2018 due to larger multi-year construction projects in process during the year.

NONUTILITY OPERATIONS

Nonutility operating revenue and expense represent the operations of MAG, a subsidiary of GRE. MAG's operating income represents the operations of its two biorefinery plants, Blue Flint Ethanol and Dakota Spirit AgEnergy. MAG's operating income was $1.2 million and $14.4 million for the years ended December 31, 2018 and 2017, respectively, of which $0.9 million and $11.3 million, respectively, was attributable to GRE. These results include the one-time write-off charge of $1.4 million of debt issuance costs related to their refinancing of long-term debt in 2018.

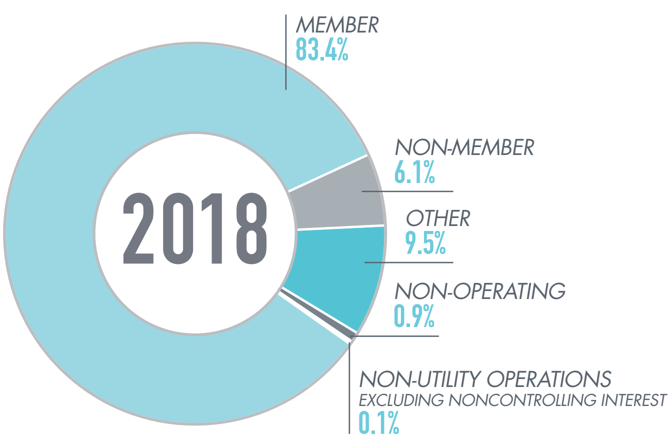
In January 2011, GRE entered into agreements with North Dakota Refined Coal LLC (NDRC) and its subsidiaries for the lease and operation of GRE's DryFining™ facility. Although GRE does not have any ownership interest in NDRC, it represents a variable interest entity of GRE and is consolidated in the financial statements. NDRC recognized a net loss of $16.0 million and $19.1 million for the years ended December 31, 2018 and 2017, respectively.

NONCONTROLLING INTEREST

GRE owns 78.43 percent of MAG and has reflected the third-party investors' 21.57 percent share of MAG's operating income as noncontrolling interest.

Because GRE does not have any ownership interest, NDRC's entire net loss is reflected as noncontrolling interest.

REVENUES

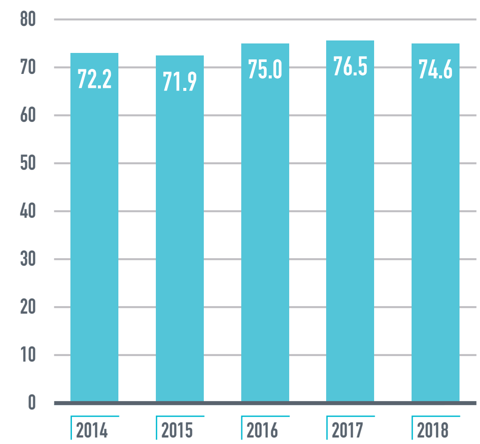


MEMBER RATE

GRE's 2018 member billed rate was 74.55 mills/kilowatt-hour (kWh) compared to 76.48 mills/kWh in 2017. The budgeted average member rates were 76.41 mills/kWh and 75.84 mills/kWh for 2018 and 2017, respectively. The decrease in the 2018 actual average member rate compared to 2017 was due to a decrease in the 2018 blended average rate collected of 2.5 percent, and the impact of a $17.9 million PCA credit in 2018 compared to a $5.9 million PCA charge in 2017. The 2018 and 2017 member billed rates exclude the bill credits issued to members of $10.0 million in 2018 and $6.0 million in 2017.

MEMBER AVERAGE RATE PER kWh

excluding WAPA | mills per kWh



BALANCE SHEET REVIEW

GRE's total consolidated assets were $3.9 billion in 2018, a decrease of $128.4 million year-over-year from 2017.

Utility plant—net decreased $12.4 million year-over-year from 2017 to $2.8 billion in 2018. Utility plant decreased primarily as a result of the depreciation of existing plant assets outpacing new plant additions. This decrease was offset partially by an increase in construction work in progress.

Nonutility plant and equipment—net decreased $9.8 million to $166.8 million in 2018 from $176.6 million in 2017 due to the depreciation of MAG's plant assets, partially offset by 2018 additions.

Other assets and investments decreased $45.9 million to $444.9 million in 2018 from $490.8 million in 2017. Deferred charges—contract termination decreased $25.8 million due to the write-off of a portion of the Genoa 3 contract deferred asset. Deferred charges—financing related decreased $10.5 million due to the amortization of settled hedges and the change in fair value of open interest rate hedges. Deferred charges—other decreased $12.0 million due to the amortization of CCS outage expenses, postretirement benefit plan settlement, and the decrease in the net deferred tax liability. These decreases were offset partially by a net increase in deferred charges—plant retirement due to the accrual of estimated decommissioning costs for the Elk River Resource Recovery Project, which is expected to discontinue operations in March 2019.

Current assets decreased $60.3 million to $557.9 million in 2018 from $618.2 million in 2017. Cash and cash equivalents decreased $46.1 million due to cash used for plant additions and repayment of long-term obligations exceeding cash provided by operating activities. Accounts receivable—members decreased $22.2 million due to decreased sales in November and December 2018 when compared with the same period in 2017. These decreases were offset partially by increases in accounts receivable—others as a result of increases at MAG and the inclusion of GRE HERC Services, LLC (HERC) in 2018.

Members' capital increased $24.1 million to $652.8 million in 2018 as a result of the 2018 net margin attributable to GRE. GRE's equity to capitalization ratio (excluding MAG and NDRC) was 20.5 percent at the end of 2018.

Noncontrolling interest—subsidiary represents the capital attributable to MAG's third-party investors, which own 21.57 percent of MAG.

Noncontrolling interest—variable interest entity represents the capital attributable to NDRC.

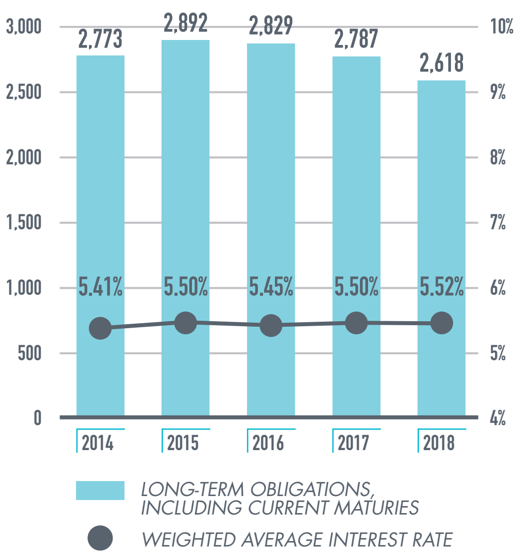
Other noncurrent liabilities increased $1.4 million to $140.6 million in 2018 from $139.2 million in 2017. This increase was due primarily to the accretion of AROs of $3.9 million, offset partially by decreases in Falkirk mine's pension obligation and a decrease in MAG's deferred revenue.

Regulatory liabilities increased $8.8 million to $63.6 million in 2018 from $54.8 million in 2017. This increase was due to the deferral of $10.0 million of member electric revenue in 2018, offset partially by the amortization of other regulatory liabilities of $0.7 million and a decrease of $0.5 million in the regulatory liability associated with the fair value of derivative assets for financial transmission rights.

Long-term obligations decreased $167.9 million to $2.5 billion in 2018. The decrease is due to principal payments made during the year of $138.2 million from GRE, $12.6 million from Falkirk, and a net decrease in MAG's long-term obligations of $27.7 million due to scheduled and unscheduled principal payments made throughout 2018.

LONG-TERM DEBT

(DOLLARS IN MILLIONS)



Current liabilities decreased $10.1 million to $431.3 million in 2018 from $441.4 million in 2017. Property and other taxes decreased $5.1 million due primarily to decreased property tax rates in Minnesota. Derivative instruments decreased $6.0 million primarily due to a decrease in the mark-to-market valuation of certain interest rate derivative instruments in a liability position at year end 2018. Accrued interest payable decreased $4.3 million due to decreased principal outstanding on long-term obligations. These decreases were offset by an increase in accounts payable of $4.5 million and an increase in notes payable to members of $2.6 million. The accounts payable increase was primarily due to an increase from MAG and the inclusion of HERC, while the increase in notes payable to members is due to member investments in the member investment program outpacing withdrawals.

LIQUIDITY POSITION AND FINANCING

Excluding subsidiaries, GRE's year-end 2018 unrestricted available liquidity of $674.3 million was comprised of cash and cash equivalents of $257.3 million and unused capacity on its existing unsecured credit facilities of $417.0 million. GRE's unsecured credit facilities include a $400.0 million revolving credit agreement that expires in May 2021 and a $30.0 million line of credit with CoBank ACB (CoBank) that expires in October 2019. GRE uses its unsecured credit facilities for general working capital and for financing its construction program. GRE has the option to increase the aggregate amount of credit extended to $525.0 million under the revolving credit agreement, subject to certain terms and conditions.

Construction borrowings on the unsecured credit facilities are repaid periodically with issuances of long-term secured debt under GRE's Indenture of Mortgage, Security Agreement and Financing Statement. Since GRE's 2007 prepayment of its debt under the RUS Mortgage with the issuance of the $1.3 billion Series 2007A bonds, GRE has issued an additional $2.35 billion of secured debt.

GRE last issued long-term debt in 2017, which was used to reduce its borrowings on the revolving credit facility. Since then, no borrowings have been made on the revolving credit facility. Utilizing existing available cash and cash equivalents, budgeted internally generated funds, and planned short-term borrowings under credit facilities, GRE anticipates being able to fund planned additions and upgrades to existing generation, transmission, and other general plant facilities until the next forecasted debt issuance.

GRE's financial position continues to strengthen. GRE has kept member rates competitive within the region, maintained its investment grade credit ratings, sustained its strong liquidity, and was able to achieve its target of an equity to capitalization ratio of 20.0 percent by 2020 two years ahead of schedule with a 20.5 percent ratio at December 31, 2018. Because of this accomplishment, GRE is slated to return $15.2 million of patronage capital to its members in 2019. GRE is pleased with the historic 2018 financial results and believes it is well positioned to continue achieving its future financial and operational goals.

MANAGEMENT REPORT

TO THE BOARD OF DIRECTORS AND MEMBERS OF GREAT RIVER ENERGY:

Management is responsible for the fairness and accuracy of the financial information presented in this annual report. The accompanying financial statements have been prepared in accordance with generally accepted accounting principles, using management's best estimates and judgments where appropriate. Great River Energy maintains an internal accounting control system that provides reasonable assurance of the integrity and reliability of the financial statements and the protection of assets from loss or unauthorized use or disposition. Directors, who are not employees, make up the Finance and Audit Committee of the Board of Directors. The committee meets regularly with management and independent public accountants to review and discuss Great River Energy's internal accounting controls and financial reports. The independent public accountants have free access to the committee and the board of directors, without management present, to discuss the findings of their audits.

David Saggau
President and CEO
Great River Energy
Maple Grove, Minnesota
April 4, 2019

INDEPENDENT AUDITORS' REPORT

TO THE BOARD OF DIRECTORS OF GREAT RIVER ENERGY

Maple Grove, Minnesota

We have audited the accompanying consolidated financial statements of Great River Energy (the "Company"), which comprise the consolidated balance sheets as of December 31, 2018 and 2017, and the related consolidated statements of operations and comprehensive income, changes in capital, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated 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 consolidated financial statements based on our audits. We did not audit the consolidated financial statements of Midwest AgEnergy (MAG), a consolidated subsidiary, or The Falkirk Mining Company (Falkirk), a variable interest entity, whose statements reflect total assets constituting 5% and 6% of consolidated total assets as of December 31, 2018 and 2017, respectively, and total operating revenues constituting 20%, 20%, and 18% of consolidated total operating revenues for each of the three years in the period ended December 31, 2018. Those statements were audited by other auditors, whose reports have been furnished to us, and our opinion, insofar as it relates to the amounts included for MAG and Falkirk, is based solely on the reports of the other auditors. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the consolidated 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 Company'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 consolidated 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, based on our audit and the reports of the other auditors, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Great River Energy as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in accordance with accounting principles generally accepted in the United States of America.

Deloitte & Touche LLP

Minneapolis, Minnesota
April 4, 2019

CONSOLIDATED BALANCE SHEETS

AS OF DECEMBER 31, 2018 AND 2017 (IN THOUSANDS)

ASSETS	2018	2017
UTILITY PLANT:		
Electric plant	$ 4,518,851	$ 4,573,762
Coal mine plant	322,407	334,517
Plant to be retired—net of accumulated depreciation	35,138	-
Construction work in progress	164,432	97,058
Less accumulated depreciation and amortization	(2,276,628)	(2,228,724)
Utility plant—net	2,764,200	2,776,613
NONUTILITY PLANT AND EQUIPMENT—Net	166,835	176,629
OTHER ASSETS AND INVESTMENTS:		
Restricted investments—deferred compensation	11,682	14,120
Other investments	31,754	30,996
Deferred charges:		
Financing related	106,996	117,503
Contract settlement	59,567	85,406
Plant retirements	66,132	63,125
Other	136,430	148,459
Other long-term assets	32,324	31,150
Total other assets and investments	444,885	490,759
CURRENT ASSETS:		
Cash and cash equivalents	276,772	322,883
Restricted cash	2,743	3,304
Accounts receivable:		
Members	126,196	148,433
Others	31,956	22,114
Inventories:		
Materials and supplies	64,013	60,966
Fuel	19,855	22,184
Other	19,762	19,608
Prepaids and other current assets	11,589	15,260
Derivative instruments	4,984	3,448
Total current assets	557,870	618,200
TOTAL	$ 3,933,790	$ 4,062,201

CONTINUED

CONSOLIDATED BALANCE SHEETS

AS OF DECEMBER 31, 2018 AND 2017 (IN THOUSANDS)

CAPITAL AND LIABILITIES	2018	2017
CAPITAL:		
Members:		
Patronage capital	$ 651,552	$ 627,415
Memberships	3	3
Additional paid-in capital—subsidiary—MAG	1,195	1,195
Total members' capital	652,750	628,613
Noncontrolling interest:		
Subsidiary—MAG	24,421	24,086
Variable interest entity—NDRC	150,948	131,268
Total noncontrolling interest	175,369	155,354
Total capital	828,119	783,967
OTHER NONCURRENT LIABILITIES	140,568	139,201
REGULATORY LIABILITIES	63,634	54,811
LONG-TERM OBLIGATIONS—Less current portion	2,456,760	2,624,684
DEFERRED COMPENSATION	11,682	14,120
DEFERRED INCOME TAXES	1,715	4,008
COMMITMENTS AND CONTINGENCIES		
CURRENT LIABILITIES:		
Current portion of long-term obligations	161,217	162,674
Notes payable to members	34,679	32,063
Accounts payable	72,047	67,570
Property and other taxes	21,970	27,083
Other accrued liabilities and notes payable	65,758	66,167
Accrued interest payable	57,213	61,466
Derivative instruments	18,428	24,387
Total current liabilities	431,312	441,410
TOTAL	$ 3,933,790	$ 4,062,201

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS. *CONCLUDED*

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME

FOR THE YEARS ENDED DECEMBER 31, 2018, 2017, AND 2016 (IN THOUSANDS)

UTILITY OPERATIONS	2018	2017	2016
UTILITY OPERATING REVENUE:			
Electric revenue	$ 940,054	$ 923,916	$ 920,625
Other operating revenue	99,735	92,369	101,447
Total utility operating revenue	1,039,789	1,016,285	1,022,072
UTILITY OPERATING EXPENSES:			
Purchased power	162,996	177,278	144,753
Purchased power—deferred charge write-off	25,840	-	-
Fuel	215,096	204,074	219,859
Operation and maintenance	304,892	298,704	316,174
Depreciation and amortization	160,033	156,941	144,586
Property and other taxes	26,635	29,822	30,730
Total utility operating expenses	895,492	866,819	856,102
UTILITY OPERATING MARGIN	144,297	149,466	165,970
OTHER INCOME (EXPENSE):			
Other income—net	4,707	3,962	3,777
Interest income	5,215	2,573	1,643
Interest expense—net of amounts capitalized	(131,219)	(133,001)	(137,845)
Other expense—net	(121,297)	(126,466)	(132,425)
NET UTILITY MARGIN	23,000	23,000	33,545
NONUTILITY OPERATIONS:			
Operating revenue	256,104	253,948	246,120
Operating expense	253,494	239,542	239,900
Loss on debt extinguishment	1,372	-	-
Operating income	1,238	14,406	6,220
Income (loss) from equity method investments	234	(94)	(22)
Loss from variable interest entity—NDRC	(16,022)	(19,102)	(18,215)
Total nonutility operations	(14,550)	(4,790)	(12,017)
NET MARGIN AND COMPREHENSIVE INCOME, INCLUDING NONCONTROLLING INTEREST	8,450	18,210	21,528
NONCONTROLLING INTEREST:			
Subsidiary—MAG	(335)	(3,127)	(1,361)
Variable interest entity—NDRC	16,022	19,102	18,215
Total noncontrolling interest	15,687	15,975	16,854
NET MARGIN AND COMPREHENSIVE INCOME ATTRIBUTABLE TO GREAT RIVER ENERGY	$ 24,137	$ 34,185	$ 38,382

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.

CONSOLIDATED STATEMENTS OF CHANGES IN CAPITAL

FOR THE YEARS ENDED DECEMBER 31, 2018, 2017, AND 2016 (IN THOUSANDS)

	Patronage Capital	Memberships	Additional Paid-in Capital	Noncontrolling Interest: Subsidiary—MAG	Noncontrolling Interest: Variable Interest Entity—NDRC	Total Capital
BALANCE—January 1, 2016	$ 554,848	$ 3	$ 1,195	$ 19,598	$ 96,955	$ 672,599
Net margin (loss) and comprehensive income (loss)	38,382	-	-	1,361	(18,215)	21,528
Capital contributed by noncontrolling interest	-	-	-	-	46,263	46,263
Capital distributed to noncontrolling interest	-	-	-	-	(10,565)	(10,565)
Dividends paid by noncontrolling interest	-	-	-	-	(792)	(792)
BALANCE—December 31, 2016	$ 593,230	$ 3	$ 1,195	$ 20,959	$ 113,646	$ 729,033
Net margin (loss) and comprehensive income (loss)	34,185	-	-	3,127	(19,102)	18,210
Capital contributed by noncontrolling interest	-	-	-	-	45,050	45,050
Capital distributed to noncontrolling interest	-	-	-	-	(7,520)	(7,520)
Dividends paid by noncontrolling interest	-	-	-	-	(806)	(806)
BALANCE—December 31, 2017	$ 627,415	$ 3	$ 1,195	$ 24,086	$ 131,268	$ 783,967
Net margin (loss) and comprehensive income (loss)	24,137	-	-	335	(16,022)	8,450
Capital contributed by noncontrolling interest	-	-	-	-	50,753	50,753
Capital distributed to noncontrolling interest	-	-	-	-	(14,061)	(14,061)
Dividends paid by noncontrolling interest	-	-	-	-	(990)	(990)
BALANCE—December 31, 2018	$ 651,552	$ 3	$ 1,195	$ 24,421	$ 150,948	$ 828,119

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.

CONSOLIDATED STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2018, 2017, AND 2016 (IN THOUSANDS)

	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net margin, including noncontrolling interest	$ 8,450	$ 18,210	$ 21,528
Adjustments to reconcile net margin to net cash provided by operating activities:			
Depreciation and amortization:			
Included in depreciation and amortization	160,033	156,941	144,586
Included in fuel and interest	30,091	31,908	29,761
Included in operation and maintenance	13,382	13,382	15,748
Included in nonutility operating expense	11,583	11,374	11,168
(Income) loss from equity method investments	(234)	94	22
Patronage credits earned from investments	(2,207)	(2,152)	(2,127)
Deferred charges	22,840	(37,413)	(29,152)
Regulatory liabilities	10,000	17,944	12,000
Changes in working capital (excluding cash, investments, and borrowings):			
Accounts and long-term receivables	12,477	7,996	(23,413)
Inventory and other assets	694	(8,166)	10,295
Accounts payable, taxes, and other accrued expenses	(19,640)	(28,691)	10,965
Accrued interest	(4,253)	775	(2,587)
Noncurrent liabilities	(7,386)	4,599	1,877
Net cash provided by operating activities	235,830	186,801	200,671
CASH FLOWS FROM INVESTING ACTIVITIES:			
Utility plant additions	(149,770)	(127,003)	(150,403)
Nonutility plant and equipment additions	(1,353)	(6,954)	(3,266)
Proceeds from sale of property	219	531	638
Investment in equity method investments	(1,000)	-	-
Redemption of patronage capital from investments	1,449	1,405	1,335
Net cash used in investing activities	(150,455)	(132,021)	(151,696)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of long-term obligations	78,570	625,000	375,000
Repayments of long-term obligations	(247,978)	(676,124)	(444,440)
Cost of new debt issuances, leases, and interest rate hedging instruments	(957)	(3,412)	(1,200)
Notes received from (paid to) members—net	2,616	4,876	(3,356)
Variable interest entity—NDRC:			
Capital contributed by noncontrolling interest	50,753	45,050	46,263
Capital distributed to noncontrolling interest	(14,061)	(7,520)	(10,565)
Dividends paid by noncontrolling interest	(990)	(806)	(792)
Net cash used in financing activities	(132,047)	(12,936)	(39,090)
NET (DECREASE) INCREASE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH	(46,672)	41,844	9,885
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH—Beginning of year	326,187	284,343	274,458
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH—End of year	$ 279,515	$ 326,187	$ 284,343

AS OF DECEMBER 31, 2018 AND 2017, AND FOR THE YEARS ENDED DECEMBER 31, 2018, 2017, AND 2016

1. ORGANIZATION

Organization—Great River Energy (GRE) is a Minnesota electric generation and transmission cooperative corporation providing wholesale electric service to member distribution cooperatives engaged in the retail sale of electricity to member consumers in Minnesota and a small section of Wisconsin. This service is provided in accordance with the terms of the power purchase and transmission service contracts between GRE and the members. These contracts have expiration dates of December 31, 2045, and December 31, 2050, respectively.

Basis of Accounting—The consolidated financial statements are prepared on the accrual basis of accounting and include the accounts of GRE as well as the following entities:

Entity	Relationship
The Falkirk Mining Company (Falkirk)	Variable interest entity
North Dakota Refined Coal LLC (NDRC)	Variable interest entity
Midwest AgEnergy Group, LLC (MAG)	Subsidiary of GRE
Blue Flint Ethanol LLC (Blue Flint)	Subsidiary of MAG
Dakota Spirit AgEnergy, LLC (DSA)	Subsidiary of MAG

As of December 31, 2017, DSA was a subsidiary of Dakota Spirit AgEnergy, LLC (DSAF), which was a subsidiary of MAG. In 2018, MAG completed a reorganization of subsidiaries under common control and dissolved DSAF. DSA is now a direct subsidiary of MAG.

The consolidation of NDRC also includes NDRC's wholly owned subsidiaries, North Dakota Refined Coal Project Company A LLC and North Dakota Refined Coal Project Company B LLC.

All intercompany balances and transactions have been eliminated in consolidation, except for the steam sales between GRE and MAG discussed within Note 1.

Falkirk—GRE has an agreement with Falkirk for the development and operation of a lignite coal mine. Falkirk is the coal supplier for the Coal Creek Station (CCS), GRE's facility located near Underwood, North Dakota, and Spiritwood Station (SWS), GRE's facility located near Jamestown, North Dakota. Falkirk is a wholly owned subsidiary of the North American Coal Corporation (NACC), which is a wholly owned subsidiary of NACCO Industries, Inc. Falkirk is principally engaged in lignite mining through the operation of a surface mine in North Dakota.

GRE is required to provide financing for all costs associated with the mine development and operation. Accounting principles generally accepted in the United States of America (GAAP) require GRE to consolidate Falkirk in its financial statements since Falkirk qualifies as a variable interest entity for which GRE is the primary beneficiary. The coal purchase price includes all costs incurred by Falkirk for development and operation of the mine, including the following (in thousands):

	2018	2017	2016
Interest expense	$ 956	$ 1,436	$ 1,827
Income tax expense	2,462	5,259	2,733
Net income	13,879	9,841	12,175

These costs are part of the contract cost of coal purchased under the coal sales agreement and included in fuel expense on the consolidated statements of operations and comprehensive income. Accordingly, the net effect of consolidating the income statement of Falkirk had no impact on GRE's margin for the years ended December 31, 2018, 2017, and 2016.

Assets and liabilities of Falkirk included in the consolidated balance sheets as of December 31, 2018 and 2017, after intercompany eliminations, are as follows (in thousands):

	2018	2017
Coal mine plant	$ 283,102	$ 286,212
Construction work in progress	703	774
Accumulated depreciation and amortization	(168,289)	(171,511)
Deferred charges	14,915	12,951
Other long-term assets	8,227	9,555
Materials and supplies inventory	20,138	19,542
Fuel inventory	5,462	8,426
Other current assets	2,850	1,149
Other noncurrent liabilities	25,748	27,790
Long-term obligations	27,403	33,127
Current liabilities	29,258	27,133

NDRC—Beginning on January 21, 2011, GRE has an agreement with NDRC, or its wholly owned subsidiaries, for the lease and operation of the DryFining facility at CCS. NDRC purchases coal from GRE under fixed pricing, refines the coal in the DryFining facility, and sells the refined coal to GRE under fixed pricing. GRE provides certain other services to NDRC under fee arrangements. The lease and related agreements have a 16-year term; however, included in the participation agreement is a purchase option to buy out the remaining term of the transaction on January 31, 2020. GAAP requires GRE to consolidate NDRC in its financial statements since NDRC qualifies as a variable interest entity for which GRE is the primary beneficiary. NDRC entered into an operating and maintenance agreement with NoDak Energy Services LLC (NoDak) to perform the day-to-day operation and maintenance of the DryFining facility. NoDak qualifies as a variable interest entity for which NDRC is the primary beneficiary. As a result, GRE is also consolidating NoDak as part of NDRC. The utility fuel operating expense in the consolidated statements of operations and comprehensive income includes a net benefit to GRE of $10.5 million, $14.2 million, and $13.4 million for the years ended December 31, 2018, 2017, and 2016, respectively, related to this agreement. This includes the revenue from the lease and other agreements partially offset by the costs incurred for the purchase of refined coal from NDRC. The net loss incurred by NDRC of $16.0 million, $19.1 million, and $18.2 million for the years ended December 31, 2018, 2017, and 2016, respectively, is reported as nonutility operations in the consolidated statements of operations and comprehensive income and is all attributed to the noncontrolling interest owners.

The agreements include various operational metrics, such as minimum requirements on the tons of refined coal purchased by GRE and the achievement of qualified emission reductions. In the event that the operational metrics are not met over the life of the transaction, GRE may be required to pay specified amounts to NDRC at transaction termination. No liability has been recorded by GRE in the consolidated financial statements related to these operational metrics as of December 31, 2018 and 2017.

Assets and liabilities of NDRC included in the consolidated balance sheets as of December 31, 2018 and 2017, after intercompany eliminations, are as follows (in thousands):

	2018	2017
Cash	$ 8,032	$ 7,767
Prepaids and other current assets	92	70
Current liabilities	813	439

JPM Capital Corporation and WM Refined Coal, LLC hold a 55 percent and 45 percent membership interest, respectively, in NDRC. NoDak is a wholly owned subsidiary of TRU Global Energy Services LLC, a wholly owned subsidiary of NACC.

MAG—GRE is a 78.43 percent owner in MAG. MAG has two wholly owned subsidiaries, Blue Flint and DSA. Blue Flint operates an ethanol biorefinery facility located in Underwood, North Dakota. DSA operates a biorefinery located near Jamestown, North Dakota. Blue Flint and DSA each have a production capacity of approximately 75-80 million gallons of undenatured ethanol per year. Both facilities are dry-mill production facilities that produce and sell ethanol, dry and modified distillers grain, and distillers oil.

Blue Flint purchases steam and water under a long-term contract from CCS, and DSA purchases steam and water under a long-term contract from Spiritwood Station for use in the production of ethanol and related products. Steam and water purchases were $12.9 million, $13.4 million, and $12.6 million for the years ended December 31, 2018, 2017, and 2016, respectively. The sale of steam and water by CCS and Spiritwood Station is recorded as utility other operating revenue, and the purchase by Blue Flint and DSA is recorded as nonutility operating expense. This transaction was not eliminated in consolidation for 2018, 2017, and 2016.

Utility net margin and nonutility operating income as of December 31, 2018, 2017, and 2016, would be as follows had this transaction been eliminated (in thousands):

	2018		2017		2016	
	As Presented	With Elimination	As Presented	With Elimination	As Presented	With Elimination
Net utility margin	$ 23,000	$ 10,084	$ 23,000	$ 9,591	$ 33,545	$ 20,946
Nonutility operating income	1,137	14,053	11,185	24,594	6,220	18,819
Total	$ 24,137	$ 24,137	$ 34,185	$ 34,185	$ 39,765	$ 39,765

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Regulatory Accounting—As the board of directors sets rates on a cost-of-service basis, GRE follows GAAP related to the effects of certain types of regulation, which provide for the reporting of assets and liabilities consistent with the economic effect of the rate structure. As such, regulatory assets are recorded to reflect probable future revenues associated with certain costs that are expected to be recovered from customers through the ratemaking process. Regulatory liabilities are recorded to reflect probable future reductions in revenues associated with amounts that are expected to be credited to customers through the ratemaking process. For further information, see Note 11.

Public Business Entity—GRE believes it meets the definition of a public business entity due to the issuance of debt securities that are traded on an over-the-counter market.

Cash, Cash Equivalents, and Restricted Cash—Cash equivalents include all highly liquid investments with original maturities of three months or less (e.g., money market funds). Certain cash and cash equivalents are classified as investments when they relate to trust funds held for long-term purposes.

Restricted cash represents balances held by MAG that are required for interest reserves as part of the credit agreement for the EB-5 Program Term Note (see Note 5).

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 320)*. The ASU requires restricted cash and restricted cash equivalents be included within cash and cash equivalents when reconciling the beginning of year and end of year total amounts shown on the statement of cash flows. As such, the adoption of this standard requires GRE to include MAG's restricted cash as a cash equivalent on the statement of cash flows. GRE adopted ASU 2016-18 as of January 1, 2018. The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets that sum to the total of the same such amount shown in the consolidated statements of cash flows (in thousands):

	2018	2017	2016	2015
Cash and cash equivalents	$ 276,772	$ 322,883	$ 274,980	$ 268,347
Restricted cash	2,743	3,304	9,363	6,111
Cash, cash equivalents, and restricted cash	$ 279,515	$ 326,187	$ 284,343	$ 274,458

Prior to 2018, GRE had included restricted cash in prepaids and other current assets on the consolidated balance sheets. The December 31, 2017, consolidated balance sheet has been restated in order to conform to the presentation shown above, as follows (in thousands):

2017	As Adjusted	As Originally Reported	Effect of Change
CURRENT ASSETS:			
Restricted cash	$ 3,304	$ -	$ 3,304
Prepaids and other current assets	15,260	18,564	(3,304)
Total current assets	$ 18,564	$ 18,564	$ -

ASU 2016-18 was adopted using a retrospective transition method, which required each comparative period to reflect the application of the amendment in GRE's consolidated statements of cash flows. The following consolidated statements of cash flows reporting lines for the year ended December 31, 2017, and December 31, 2016, were affected by the adoption of this amendment:

For the year ended December 31, 2017	**As Adjusted**	**As Originally Reported**	**Effect of Change**
CASH FLOWS FROM OPERATING ACTIVITIES:			
Adjustments to reconcile net margin to net cash provided by operating activities:			
Changes in working capital (excluding cash, investments, and borrowings):			
Inventory and other assets	$ (8,166)	$ (2,107)	$ (6,059)
Net cash provided by operating activities	186,801	192,860	(6,059)
NET INCREASE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH	41,844	47,903	(6,059)
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH—Beginning of year	284,343	274,980	9,363
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH—End of year	$ 326,187	$ 322,883	$ 3,304

For the year ended December 31, 2016	**As Adjusted**	**As Originally Reported**	**Effect of Change**
CASH FLOWS FROM OPERATING ACTIVITIES:			
Adjustments to reconcile net margin to net cash provided by operating activities:			
Changes in working capital (excluding cash, investments, and borrowings):			
Inventory and other assets	$ 10,295	$ 7,043	$ 3,252
Net cash provided by operating activities	200,671	197,419	3,252
NET INCREASE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH	9,885	6,633	3,252
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH—Beginning of year	274,458	268,347	6,111
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH—End of year	$ 284,343	$ 274,980	$ 9,363

The adoption of ASU 2016-18 had no impact on GRE's consolidated statements of operations and comprehensive income and consolidated statements of changes in capital.

Supplemental Cash Flow Information—Supplemental cash flow information for the years ended December 31, 2018, 2017, and 2016, is as follows (in thousands):

	2018	2017	2016
Supplemental disclosure of cash flow information:			
Cash paid for interest—net of amounts capitalized	$ 143,799	$ 142,334	$ 152,578
Cash paid for taxes—Falkirk	$ 2,359	$ 3,743	$ 2,243
Noncash investing and financing activities:			
Utility and nonutility plant acquisitions included in accounts payable	$ 6,613	$ 9,954	$ 10,140
Utility plant acquired under capital lease—Falkirk	$ 824	$ 5,114	$ 3,794

Interest on borrowed funds in the amount of $6.2 million, $5.1 million, and $3.7 million was capitalized in 2018, 2017, and 2016, respectively, and these amounts are excluded from the cash payments for interest noted above.

Inventories—Fuel inventory is carried at average cost and includes coal, lime, oil, and gas used for electric generation. Other inventory represents corn, chemicals, ethanol, and distillers grain inventory held at MAG. Corn and chemical inventory is stated at the lower of cost (on the first-in, first-out method) or net realizable value. Ethanol and distillers grain inventory is stated at the lower of cost (average monthly cost) or net realizable value. Materials and supplies inventory is stated at lower of average cost or net realizable value.

Emission allowances are also accounted for as fuel inventory and recorded at the lower of cost or net realizable value. The U.S. Environmental Protection Agency (EPA) has requirements limiting the amount of sulfur dioxide and nitrogen oxides that can be emitted from GRE-owned power plants. GRE is allotted allowances under the Acid Rain and the Cross-State Air Pollution Rule Programs for its use. Renewable energy credits (RECs) are either purchased or acquired in the course of generation, or purchased as a result of meeting load obligations, and are recorded as fuel inventory at cost. GRE's allowances and RECs in inventory have a recorded cost of $0.6 million and $0 at December 31, 2018 and 2017, respectively.

Utility Plant—Utility plant is stated at original cost, which includes materials, contract and direct labor, overhead, and interest during construction. Interest charged to construction on borrowed funds are included as a component of utility plant cost and credited to interest expense. The rates applied reflect the actual rates for borrowed funds. Repairs and maintenance are charged to operations as incurred. When generation and transmission assets are retired, sold, or otherwise disposed of, the original cost, plus the cost of removal, less salvage, is charged to accumulated depreciation and the corresponding gain or loss is amortized over the remaining life of the plant. Included in accumulated depreciation are retired assets totaling $(38.4) million and $(40.6) million at December 31, 2018 and 2017, respectively, that will continue to be amortized. Also included in accumulated depreciation are nonlegal or noncontractual costs of removal components in the amount of $53.2 million and $51.5 million for 2018 and 2017, respectively. When other property assets are retired or sold, the cost and related accumulated depreciation are eliminated and any gain or loss is reflected in depreciation expense.

Plant To Be Retired—Net of Accumulated Depreciation—Plant to be retired represents the undepreciated book value of the Elk River Resource Recovery Project (Elk River). Elk River is expected to discontinue operations in March 2019.

Depreciation and Amortization—Depreciation for financial reporting purposes is provided based upon the straight-line method at rates designed to amortize the original cost of properties over their estimated service lives. The effective depreciation rate was 3.2 percent, 3.2 percent, and 3.1 percent for 2018, 2017, and 2016, respectively. The range of useful lives for utility plant is three to 50 years. Coal mine equipment is depreciated or amortized using a straight-line method over the estimated useful lives. Amortization of coal lands and leaseholds is calculated on the units-of-production method based upon estimated recoverable tonnages and is included in utility fuel expense in the consolidated statements of operations and comprehensive income. Amortization expense also includes the accretion expense related to asset retirement obligations and the amortization of deferred charges, except as described in Note 11.

Nonutility Plant and Equipment—Net—Nonutility plant and equipment represents the plant and equipment assets of MAG. Depreciation for financial reporting purposes is provided based upon the straight-line method. The range of useful lives for nonutility plant and equipment is three to 40 years.

A summary of nonutility plant and equipment—net as of December 31, 2018 and 2017, is as follows (in thousands):

	2018	2017
Land improvements	$ 16,166	$ 16,166
Buildings and improvements	36,993	36,964
Plant equipment and other	162,498	159,683
Construction work in progress	121	2,273
Less accumulated depreciation	(48,943)	(38,457)
	$ 166,835	$ 176,629

Recoverability of Long-Lived Assets—GRE reviews its long-lived assets whenever events or changes in circumstances indicate the carrying value of the assets may not be recoverable. GRE determines potential impairment by comparing the carrying value of the asset with the net cash flows expected to be provided by the operating activities of the business or related products. Should the sum of the expected cash flows be less than the carrying values, GRE would determine whether an impairment loss should be recognized. No impairment losses have been identified in the consolidated financial statements.

Income Taxes—GRE accounts for income taxes using the liability method. Under this method, deferred income taxes are recognized for temporary differences between the tax and financial reporting bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. GRE establishes a regulatory asset or liability to account for the difference between GRE's deferred tax assets or liabilities. A regulatory asset or liability associated with deferred income taxes generally represents the future increase or decrease in income taxes payable that will be received or settled through future rate increases.

Members' Patronage Capital—Revenues in excess of current-period costs (net margin attributable to GRE) in any year are designated as assignable margins. These assignable margins are considered capital furnished by the members and are credited to the members' individual accounts. Assignable margins are held by GRE until they are retired and returned, without interest, at the discretion of the board of directors and subject to long-term obligation agreement restrictions (see Note 5). Retained assignable margins are designated as patronage capital in the consolidated balance sheets.

Use of Estimates—The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. The significant estimates in the consolidated financial statements relate to key inputs to actuarial calculations of defined benefit obligations, compensation and benefit accruals, asset retirement obligation liabilities, accrued property and other taxes, useful lives of utility and nonutility plant, recoverability of deferred tax assets, and contingencies and other reserves. Actual results could differ from those estimates.

Revenue Recognition—In May 2014, the Financial Accounting Standards Board (FASB) issued Account Standard Update (ASU) 2014-09, *Revenue from Contracts with Customers (Topic 606)* as modified by subsequently issued ASUs 2015-14, 2016-08, 2016-10, 2016-12, and 2016-20 (collectively ASU 2014-09). ASU 2014-09 superseded existing revenue recognition standards with a single model unless those contracts are within the scope of other standards. The revenue recognition principle in ASU 2014-19 is that an entity should recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those good or services. GRE adopted ASU 2014-09 effective January 1, 2018, using the modified retrospective approach and did not record a cumulative effect adjustment to retained earnings because the adoption did not have a material impact on the timing of revenue recognition as of the adoption date or for the year ended December 31, 2018. ASU 2014-09 also requires expanded disclosures to enable users of the financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. See related disclosures below.

Revenues from Contracts with Customers

The revenues of GRE are primarily derived from providing wholesale electric service to its members. Revenues from contracts with customers represent over 99 percent of all GRE revenues. Below is a disaggregated view of GRE's revenues from contracts with customers as well as other revenues, including their location on the statement of operations and comprehensive income (in thousands):

Year Ended December 31, 2018

Revenue streams	**Electric Revenue**	**Other Operating Revenue**	**Other Income-Net**	**Nonutility Operating Revenue**
Member revenue	$ 875,623	$ -	$ -	$ -
Non-member revenue - MISO	41,446	-	-	-
Non-member revenue	22,985	-	-	-
Transmission revenue - related to others	-	53,806	-	-
Refuse-derived fuel revenue	-	24,799	-	-
Utility plant byproduct revenue	-	19,466	-	-
Other income – net	-	-	4,707	-
Ethanol sales	-	-	-	185,190
Ethanol byproduct revenue	-	-	-	56,802
Other revenue	-	-	-	8,538
Total revenue from contracts with customers	940,054	98,071	4,707	250,530
Interest income	-	-	5,215	-
Lease income	-	1,664	-	-
Realized and unrealized gains on commodity contracts	-	-	-	5,574
Total revenue	$ 940,054	$ 99,735	$ 9,922	$ 256,104
Timing of revenue recognition				
Services transferred over time	$ 940,054	$ 67,723	$ -	$ -
Goods transferred at a point in time	-	30,348	4,707	250,530
Total revenue from contracts with customers	$ 940,054	$ 98,071	$ 4,707	$ 250,530

Electric revenue

Electric revenues consist of wholesale electric power sales to members through the member power purchase and transmission service contracts, to non-members through bilateral contracts, and from participation in the Midcontinent Independent System Operator (MISO) market. All of the electric revenues meet the criteria to be classified as revenue from contracts with customers and are recognized over time as energy is delivered or transmitted. Revenue is recognized based on the metered quantity of electricity delivered or transmitted at the applicable contractual or market rates.

The rate schedules within the member contracts include a power cost adjustment, which allows for increases or decreases in member power billings based upon actual power costs compared to plan for certain categories of revenues and expenses. The power cost adjustment was a credit to GRE members of $17.9 million for 2018, a charge of $5.9 million for 2017, and a credit of $7.5 million for 2016. Credits or charges are recorded as a decrease or increase, respectively, in member revenues and are recorded in electric revenue in the consolidated statements of operations and comprehensive income.

In 2018, 2017, and 2016, GRE deferred the recognition of $10.0 million, $17.9 million, and $12.0 million, respectively, of member electric revenue under regulatory accounting (see Note 11). GRE did not recognize any deferred member electric revenue in the statement of operations and comprehensive income for 2018, 2017, or 2016.

Other operating revenue

Other operating revenue primarily includes: revenue related to the processing plant that transforms municipal solid waste into refuse-derived fuel; revenue received from the transmission of electricity for others under MISO rate tariffs, or under various integrated transmission agreements; and revenue from the sale of utility plant byproducts, such as steam and fly ash. All of these revenue streams meet the criteria to be classified as revenue from contracts with customers. Refuse-derived fuel revenue consists of the fees charged to municipal waste haulers for receiving waste at GRE's processing plant. Revenue is recognized as of a point in time based on the rate per ton of waste received. Fly ash is marketed and sold to external customers by a third party with whom GRE has a marketing agreement. Fly ash revenue is recognized as of the point in time when the third party completes the resale to the external customer. Transmission revenue for others is recognized over time as GRE stands ready to serve the load with its transmission assets per the agreements. Steam revenue is derived from supplying steam to customers located adjacent to CCS and SWS and is recognized over time as the steam is transferred through and measured at the interconnection point.

Other income – net

Other income - net primarily includes income from miscellaneous work performed for others and the operation of an energy recovery plant. The work for others relates to services provided by GRE to its members (or third parties) that is not included in the rate charged for electricity under the member power purchase and transmission service contracts.

Nonutility operating revenue

Nonutility operating revenue represent revenues from MAG consolidated operations. Revenue from the production of ethanol and related byproducts is recognized after ownership transfers to the customers and obligations under the contract are satisfied. Transfer of ownership occurs when the product is shipped and the risk of loss is assumed by the customer. This recognition represents a point in time satisfaction of the performance obligation.

Revenue Recognition Prior to ASU 2014-09

For the years ended December 31, 2017 and 2016, electric revenue is recognized when energy is delivered to GRE's members and non-member organizations. Other operating revenue is recognized as services are provided. Nonutility operating revenue is recognized at the time the title of the goods and all risks of ownership transfer to the customers and settlement price is realizable.

Subsequent Events—GRE has considered subsequent events for recognition or disclosure through April 4, 2019, the date the consolidated financial statements were available to be issued. All material subsequent events have been disclosed in these consolidated financial statements.

3. ACCOUNTING PRONOUNCEMENTS

Recently Adopted

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)*, which amends Topic 230 to add or clarify guidance on the classification of certain cash receipts and payments in the statement of cash flows. GRE adopted ASU 2016-15 as of January 1, 2018. The ASU did not have a material impact on our consolidated statements of cash flows.

In March 2017, the FASB issued ASU 2017-07, *Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.* This amendment disaggregates the accounting for the service cost component of the net periodic benefit cost of an entity's defined pension and other postretirement benefit plans from the other components of the net periodic benefit cost (such as interest expense, recognition of actuarial gain or loss on postretirement benefit obligations and amortization of prior service cost or credit). The service cost component is to be included in the same income statement line item(s) as other compensation costs arising from services rendered during the period. The other components of the net periodic benefit cost are to be included separately from the line item(s) that include service cost and outside of any subtotal of operating income, if one is presented. GRE adopted ASU 2017-07 as of January 1, 2018. The ASU did not have a material impact on our consolidated statements of operations and comprehensive income.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*, which modifies the disclosure requirements in Topic 820 based on the concepts set forth in the disclosure framework project recently undertaken by the FASB. Specifically, the project's objective seeks to improve the effectiveness of the notes to the financial statements by the development of a framework that promotes consistent decision making by the FASB around disclosure requirements, and allows for the appropriate exercise of discretion by reporting entities. GRE adopted ASU 2018-13 as of December 31, 2018. The ASU did not have a material impact to the disclosures in the notes to the consolidated financial statements.

In August 2018, the FASB issued ASU 2018-14, *Compensation – Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans*, which modifies the disclosure requirements in Subtopic 715-20 based on the concepts set forth in the disclosure framework project recently undertaken by the FASB. Specifically, the project's objectives seek to improve the effectiveness of the notes to the financial statements by the development of a framework that promotes consistent decision making by the FASB around disclosure requirements, and allows for the appropriate exercise of discretion by reporting entities. GRE adopted ASU 2018-14 as of December 31, 2018. The ASU did not have a material impact to the disclosures in the notes to the consolidated financial statements.

Recently Issued

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842*). Topic 842 supersedes the lease recognition requirements in ASC 840, *Leases*. Topic 842 affects any entity that enters into a lease, with some specified scope exemptions. The main difference between previous GAAP and Topic 842 is the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. Topic 842 retains a distinction between finance leases and operating leases. The classification criteria for distinguishing between finance leases and operating leases are substantially similar to the classification criteria for distinguishing between capital leases and operating leases in the previous guidance. Topic 842 also requires qualitative and specific quantitative disclosures by lessees and lessors to meet the objective of enabling users of financial statements to assess the amount, timing, and uncertainty of cash flows arising from leases. The amendments in ASU 2016-02 are effective for fiscal years beginning after December 15, 2018. GRE has developed a list of all current leases outstanding, and has determined areas where the amendments in ASU 2016-02 are applicable to its businesses, evaluated transition options and determined the practical expedients it will elect on implementation. GRE will apply the amendments in ASU 2016-02 to its consolidated financial statements in 2019. Other than first-time recognition of these types of operating leases on the consolidated balance sheet, the implementation is not expected to have a significant impact on GRE's consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, *Income Statement – Reporting Comprehensive Income (Topic 220)*. The ASU allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act. This ASU is effective for GRE in 2019. GRE does not believe the adoption of this ASU will have a material effect on the consolidated financial statements as GRE uses regulatory accounting to account for the difference between the accrual based method of accounting for income taxes and the cash based method of accounting for recognizing income tax expense.

In August 2018, the FASB issued ASU 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. The ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by this ASU. GRE is currently evaluating the impact to its consolidated financial statements and will adopt the ASU in 2019.

4. LEASING TRANSACTIONS

Operating Leases—GRE is the lessee on various operating leases for equipment used in its operations. These transactions are governed by the terms of various master lease agreements. The lease term of each leased item is determined at the time it is added to its respective master lease. Original lease terms ranged from 60 to 120 months. Falkirk is the lessee on various short-term operating leases for equipment. MAG is the lessee on operating leases for railroad cars, equipment, and land, with terms expiring at various times through 2027 for the railroad cars and equipment and 2045, with options to renew, for the land. Lease expense was $10.7 million, $10.2 million, and $12.5 million in 2018, 2017, and 2016, respectively.

The schedule of future minimum lease payments as of December 31, 2018, is as follows (in thousands):

Years Ending December 31	MAG	GRE
2019	$ 8,766	$ 1,293
2020	8,481	1,026
2021	6,148	879
2022	3,630	466
2023	2,942	207
Thereafter	26,566	254
	$ 56,533	$ 4,125

Capital Leases—GRE entered into a lease agreement for railroad cars used in the operation of Spiritwood Station. The lease expires in 2020. The gross amount of the lease was $7.6 million, with accumulated amortization of $6.2 million and $5.5 million at December 31, 2018 and 2017, respectively. The principal and interest payments were $1.1 million for years 2018, 2017, and 2016.

Falkirk has also leased certain equipment that is used in mining operations. The gross amount of these leases was $78.8 million and $98.6 million and the accumulated amortization was $42.2 million and $52.4 million as of December 31, 2018 and 2017, respectively. These amounts are recorded in coal mine plant and accumulated depreciation and amortization in the consolidated balance sheets.

The schedule of future minimum lease payments as of December 31, 2018, is as follows (in thousands):

Years Ending December 31	FALKIRK	GRE
2019	$ 13,057	$ 1,056
2020	5,697	263
2021	4,608	-
2022	2,544	-
Total minimum lease payments	25,906	1,319
Amounts representing interest	(710)	(58)
Present value of minimum lease payments	25,196	1,261
Current maturities	(12,693)	(1,000)
Long-term capital lease obligations—net	$ 12,503	$ 261

The current and long-term portions of the capital lease obligations are included in current portion of long-term obligations and long-term obligations, respectively, in the consolidated balance sheets (see Note 5).

5. LONG-TERM OBLIGATIONS

The consolidated long-term obligations as of December 31, 2018 and 2017, are as follows (in thousands):

	2018	2017
First Mortgage Bonds, Series 2007A, 6.254%, due 2019–2038	$ 683,800	$ 739,100
First Mortgage Bonds, Series 2008A, 7.233%, due 2019–2038	337,191	339,673
First Mortgage Bonds, Series 2008B, 3.107%, due 2019–2023	8,333	10,000
First Mortgage Notes, Series 2009A, 5.0% to 7.15%, due 2019–2024	46,500	57,300
First Mortgage Bonds, Series 2009B, 5.81% to 6.94%, due 2019–2031	280,000	300,000
First Mortgage Note, Series 2010A, 4.875%, due 2026	23,000	23,000
First Mortgage Note, Series 2010B, 5.15%, due 2040	50,000	50,000
First Mortgage Bonds, Series 2010D, 4.478%, due 2019–2030	322,500	336,000
First Mortgage Note, Series 2014A, 2.84%, due 2019–2021	40,000	55,000
First Mortgage Note, Series 2014B, LIBOR plus 1.15%, 3.67% at December 31, 2018, due 2033–2038	100,000	100,000
First Mortgage Note, Series 2015A, 3.76%, due 2021-2028	100,000	100,000
First Mortgage Note, Series 2015B, 4.11%, due 2028-2035	100,000	100,000
First Mortgage Note, Series 2015C, 4.62%, due 2036-2044	100,000	100,000
First Mortgage Note, Series 2015D, 4.70%, due 2036-2044	50,000	50,000
First Mortgage Note, Series 2017A, 3.59%, due 2019-2045	285,000	300,000
Department of Energy, 0%, due 2019–2028, 5.2% to 6.1% imputed interest	4,117	4,586
Term Note, LIBOR plus 1.375%	-	1,000
Term Note, 2.35%, due 2019	679	1,584
Term Note, 2.55%, due 2019	581	1,356
Capitalized lease obligations, Spiritwood Station coal cars, 6.9% imputed interest	1,261	2,196
Capitalized lease obligations, Falkirk Mine, 1.2% to 5.9% imputed interest	25,196	38,096
Term Note, Blue Flint, 5.8%, extinguished 2018	-	7,385
Term Note, Blue Flint, LIBOR plus 3.75%, extinguished 2018	-	4,991
Term Note, DSAF, EB-5 Program, 7%, extinguished 2018	-	50,000
Term Note, DSA, LIBOR plus 5.00%, extinguished 2018	-	33,628
Term Note, MAG, 5.92%, due 2019-2028	68,250	-
Other—at various rates and maturities	8,639	6,413
Subtotal	2,635,047	2,811,308
Less unamortized bond issuance costs	(19,369)	(22,195)
Plus deferred lease costs, Falkirk Mine	11,424	8,064
Less unamortized bond discount	(9,125)	(9,819)
	2,617,977	2,787,358
Current maturities	(161,217)	(162,674)
Long-term obligations—net	$ 2,456,760	$ 2,624,684

GRE issues secured debt under an Indenture of Mortgage, Security Agreement, and Financing Statement (Indenture). The Indenture requires GRE to establish and collect rates reasonably expected to yield a specified margins-for-interest level. Under the Indenture, GRE has limitations on the retirement of patronage capital if, after the distribution, an event of default would exist or GRE's members' capital would be less than 20 percent of total long-term debt and members' capital. Substantially all of the tangible assets of GRE and the power purchase and transmission service contracts with the members (see Note 1) are pledged as security under the Indenture.

The fixed interest rate on the First Mortgage Note, Series 2008B resets every five years. The final rate reset occurred in 2018 at a rate of 3.107 percent. The First Mortgage Note, Series 2014B debt agreement has a feature that allows GRE to periodically change how the variable rate is determined or change to a fixed interest rate option, at its election, subject to the applicable provisions in the debt agreement.

GRE has a $400.0 million unsecured revolving credit facility for which National Rural Utilities Cooperative Finance Corporation (CFC) is the administrative agent. This facility expires in May 2021. This facility can be increased, at GRE's option, to $525.0 million subject to certain terms and conditions. At December 31, 2018 and 2017, the outstanding balance was $0 for both years. GRE also has an unsecured line of credit facility with CoBank, ACB (CoBank) for $30.0 million. This facility's terms and conditions are renewable annually, and the principal balance must be paid in full within one business day of expiration, unless unilaterally extended by CoBank. This facility expires in October 2019. There were no amounts outstanding on this facility at December 31, 2018 and 2017.

GRE is subject to a number of customary covenants under the Indenture, other debt agreements, and the revolving credit facility.

In November 2018, MAG obtained financing in the form of a Term Note to consolidate the debt of its subsidiaries. As a result, the Term Notes of Blue Flint, DSAF, and DSA, as well as the Blue Flint revolving line of credit, were extinguished. This resulted in the recognition of a loss on debt extinguishment of $1.4 million for the write off of unamortized financing costs. Substantially all of the assets of MAG are pledged as security for the Term Note. The loan documents contain restrictive covenants on financial ratios, capital expenditures, and net worth. MAG and its subsidiaries were in compliance for the year ended December 31, 2018.

In November 2018, MAG obtained a secured revolving line of credit in the amount of $25.0 million that expires on November 30, 2023. There were no amounts outstanding on this facility at December 31, 2018.

Future maturities on long-term obligations as of December 31, 2018, are as follows (in thousands):

Years Ending December 31		
2019	$	161,217
2020		159,453
2021		162,655
2022		163,717
2023		170,563
Thereafter		1,817,443
	$	2,635,048

6. INVESTMENTS

GRE's investments as of December 31, 2018 and 2017, are as follows (in thousands):

	2018	*2017*
Other investments:		
Capital certificate investments—CFC	$ 19,644	$ 19,644
Cooperative investment patronage allocations	12,110	11,352
Total other investments	31,754	30,996
Restricted investments—investments for deferred compensation	11,682	14,120
	$ 43,436	$ 45,116

The capital certificate investments bear interest at a rate of 5 percent and a portion of them are required under borrowing arrangements with CFC. At December 31, 2018, GRE had no commitments to purchase additional capital certificate investments from CFC. Capital certificate investments are classified as held-to-maturity and reported at amortized cost using the specific identification method.

GRE's cooperative investment patronage allocations are reported at cost plus allocated equities.

GRE's investments held for deferred compensation are reported at fair value (see Note 8).

The investments reported at amortized cost at December 31, 2018 and 2017, are as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
2018				
Long-term investments—held-to-maturity securities—capital certificate investments	$ 19,644	$ -	$ -	$ 19,644
2017				
Long-term investments—held-to-maturity securities—capital certificate investments	$ 19,644	$ -	$ -	$ 19,644

Capital certificate investments have maturities greater than 10 years.

Interest income received on all investments, including cash and cash equivalents, was $5.2 million, $2.6 million, and $1.6 million in 2018, 2017, and 2016, respectively.

7. DERIVATIVE INSTRUMENTS

As part of its risk management program, GRE may periodically use interest rate swaps and swaptions to manage market exposures. Terms and tenor of the swap and swaption agreements are generally structured to match the terms of the risk being managed. Mark-to-market gains and losses related to the interest rate hedging agreements are deferred as regulatory assets or liabilities until the execution of the related debt transaction and the agreements are settled. The amount paid or received at settlement is then deferred as a regulatory asset or liability and amortized to the consolidated statements of operations and comprehensive income as a component of interest expense over the term of the related debt issuance.

GRE is exposed to credit risk as a result of entering into these interest rate hedging agreements. Interest rate hedging contracts entered into by GRE are governed by an International Swap Dealers Association Master Agreement. As of December 31, 2018, all of the counterparties with transaction amounts outstanding under GRE's hedging program are rated investment grade by the major rating agencies. The contractual agreements contain provisions that could require GRE or the counterparty to post collateral or credit support. No amounts have been posted by GRE or the counterparties as of December 31, 2018 and 2017.

See additional information regarding the fair value of these instruments in Note 8 and amounts recorded in deferred charges and regulatory liabilities in Note 11.

GRE enters into contracts for the purchase and sale of commodities for use in its business operations. GAAP requires an evaluation of these contracts to determine whether the contracts are derivatives. Certain contracts that meet the definition of a derivative may be exempted from derivative accounting as normal purchases or normal sales. GRE evaluates all of its contracts at inception to determine if they are derivatives and if they meet the normal purchases or normal sales designation requirements. All of the contracts for the purchase and sale of commodities used in business operations, with a few limited exceptions, qualify for a normal purchases or normal sales designation. The commodity contracts that do not qualify for a normal purchases or normal sales designation are recorded at fair value, and the gains or losses are deferred as regulatory assets or liabilities. The realized gains and losses on settled commodity derivatives, which include exchange-traded futures contracts and financial transmission rights, are recognized as purchased power. See additional information regarding the fair value of these derivatives in Note 8.

MAG enters into derivative transactions to hedge its exposure to commodity price fluctuations. In connection with the execution of forward commodity contracts, MAG normally elects to create a hedging relationship by executing an exchange-traded futures contract as an offsetting position. In this situation, the forward commodity contract is valued at market price until delivery is made against the contract. MAG does not enter into derivative transactions for trading purposes.

MAG's derivative gains (losses) included in the consolidated statements of operations and comprehensive income for the years ended December 31, 2018, 2017, and 2016, are as follows (in thousands):

	2018	2017	2016
Realized and unrealized gains (losses) recognized from undesignated hedges:			
Nonutility operating revenue	$ 5,574	$ 2,949	$ (5,425)
Nonutility operating expenses	5,509	4,361	7,242

MAG is exposed to credit and market risk as a result of entering into these contracts. MAG manages the credit risk by entering into transactions with high-quality counterparties. Futures contracts entered into by MAG are governed by an International Swap Dealers Association Master Agreement. MAG manages market risk associated with commodity price contracts by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken. Actual results could materially differ based on the changes in commodity prices.

The location and fair value of derivative instruments in the consolidated balance sheets as of December 31, 2018 and 2017, are as follows (in thousands):

	Balance Sheet Location	2018	2017
Derivatives in an asset position, none of which are designated as hedging instruments:			
Commodity contracts	Derivative instruments	$ 4,984	$ 3,448
Total derivative instrument assets		$ 4,984	$ 3,448
Derivatives in a liability position, none of which are designated as hedging instruments:			
Interest rate contracts	Derivative instruments	$ 16,280	$ 21,658
Commodity contracts	Derivative instruments	2,148	2,729
Total derivative instrument liabilities		$ 18,428	$ 24,387

8. FAIR VALUE OF FINANCIAL INSTRUMENTS

GAAP establishes a framework for measuring fair value by creating a hierarchy for observable independent market inputs and unobservable market assumptions and provide for required disclosures about fair value measurements. Considerable judgment may be required in interpreting market data used to develop the estimates of fair value. Accordingly, the estimates presented herein are not necessarily indicative of the amounts that could be realized in a current market exchange. The use of different market assumptions and/or estimation methodologies may have a material effect on the estimated fair value.

A description of the inputs used in the valuation of assets and liabilities is as follows:

Level 1—Inputs represent unadjusted quoted prices for identical assets or liabilities exchanged in active markets.

Level 2—Inputs include direct or indirect observable inputs other than Level 1 inputs, such as quoted prices for similar assets or liabilities exchanged in active or inactive markets, quoted prices for identical assets or liabilities exchanged in inactive markets, and other inputs that are considered in fair value determinations of the assets or liabilities.

Level 3—Inputs include unobservable inputs used in the measurement of assets and liabilities. Management is required to use its own assumptions regarding unobservable inputs because there is little, if any, market activity in the assets or liabilities or related observable inputs that can be corroborated at the measurement date.

Assets are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. GRE's policy is to recognize significant transfers between levels at December 31.

A summary of the assets and liabilities at fair value at December 31, 2018 and 2017, set forth by level within the fair value hierarchy, is as follows (in thousands):

	Assets at Fair Value as of December 31, 2018			
	Total	Active Markets for Identical Assets (Level 1)	Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents—money market funds	$ 215,343	$ 215,343	$ -	$ -
Restricted investments—deferred compensation:				
Money market funds	1,333	1,333	-	-
Mutual funds:				
Domestic stock funds	3,039	3,039	-	-
Balanced funds	4,629	4,629	-	-
Fixed income funds	1,135	1,135	-	-
International stock funds	1,546	1,546	-	-
Commodity derivatives	4,984	1,377	3,607	-
Total assets	$ 232,009	$ 228,402	$ 3,607	$ -
Liabilities:				
Interest rate contracts	$ 16,280	$ -	$ 16,280	$ -
Commodity derivatives	2,148	44	2,104	-
Total liabilities	$ 18,428	$ 44	$ 18,384	$ -

	Assets at Fair Value as of December 31, 2017			
	Total	Active Markets for Identical Assets (Level 1)	Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents—money market funds	$ 235,689	$ 235,689	$ -	$ -
Restricted investments—deferred compensation:				
Money market funds	2,054	2,054	-	-
Mutual funds:				
Domestic stock funds	3,781	3,781	-	-
Balanced funds	4,266	4,266	-	-
Fixed income funds	1,720	1,720	-	-
International stock funds	2,298	2,298	-	-
Commodity derivatives	3,448	3,243	205	-
Total assets	$ 253,256	$ 253,051	$ 205	$ -
Liabilities:				
Interest rate contracts	$ 21,658	$ -	$ 21,658	$ -
Commodity derivatives	2,729	195	2,534	-
Total liabilities	$ 24,387	$ 195	$ 24,192	$ -

For the years ended December 31, 2018 and 2017, there were no significant transfers in or out of Levels 1, 2, or 3.

Money Market Accounts—Fair value is determined using quoted prices in active markets for identical assets.

Mutual Funds—Shares of registered investment companies (mutual funds) are categorized as Level 1. They are valued at quoted market prices available on an active clearing exchange for identical assets.

Interest Rate Contracts—Fair value is determined by comparing the difference between the net present value of the cash flows for the swaps at their initial fixed rate and the current market fixed rate. The initial fixed rate is quoted in the swap agreement and the current market fixed rate is corroborated by observable market data and categorized as Level 2.

Commodity Derivatives—Exchange-traded futures contracts and financial transmission rights are valued at active quoted market prices and are categorized as Level 1. Fair value for forward contracts is determined by comparing the difference between the net present value of the cash flows at the initial price and the current market price. The initial price is quoted in the contract and the market price is corroborated by observable market data. These contracts are categorized as Level 2.

GRE continuously monitors the creditworthiness of the counterparties to its derivative contracts and assesses the counterparties' ability to perform on the transactions set forth in the contracts. Liability positions are generally not adjusted as GRE has the ability and intent to perform under each of the contracts. In the instance of asset positions, GRE considers: general market conditions and the observable financial health and outlook of specific counterparties; forward-looking data, such as credit default swaps, when available; and historical default probabilities from credit rating agencies in evaluating the potential impact of nonperformance risk to derivative positions. Given this assessment, when determining the fair value of derivative assets, the impact of considering credit risk was immaterial to the fair value of derivative assets presented in the consolidated balance sheets.

The estimated fair values of financial instruments carried at cost, other than capital leases, at December 31, 2018 and 2017, are as follows and are provided for disclosure purposes only (in thousands):

	2018		2017	
	Carrying Cost	**Fair Value**	**Carrying Cost**	**Fair Value**
Long-term receivables	$ 2,873	$ 3,001	$ 2,158	$ 2,061
Long-term obligations	$ 2,599,465	$ 2,649,482	$ 2,761,197	$ 3,253,915

The estimated fair values of long-term receivables and long-term obligations, other than capital leases, were based on present value models using current rates available for similar issues with similar credit ratings. These fair value measurements would be characterized as Level 2.

The carrying amounts of remaining financial instruments included in current assets and current liabilities approximate their fair value. For other investments—capital certificate investments, the carrying amount is assumed to approximate fair value as these instruments generally must be held as a condition of financing.

9. INCOME TAXES

GRE is a nonprofit taxable cooperative subject to federal and state income taxation and is allowed a deduction for margins allocated to members as patronage capital.

GRE had no federal income tax expense in 2018, 2017, or 2016 due to the utilization of net operating losses in 2018, and net tax loss positions in 2017 and 2016. This net tax loss position was primarily the result of the allocation of margins to members, the retirement of utility plant, and the deduction of certain costs for income tax reporting purposes, which were deferred for financial reporting purposes.

The consolidated deferred income taxes as of December 31, 2018 and 2017, are as follows (in thousands):

	2018	2017
GRE		
Deferred tax assets:		
Net operating loss carryforwards	$ 107,634	$ 123,371
Tax and AMT credit carryforwards	8,786	8,737
Other	38,759	32,943
Total deferred tax assets	155,179	165,051
Deferred tax liabilities:		
Property related	(110,809)	(114,025)
Deferred regulatory assets	(21,609)	(26,005)
Other	(24,476)	(26,614)
Total deferred tax liabilities	(156,894)	(166,644)
Valuation allowance	-	(2,415)
Net deferred tax liability	$ (1,715)	$ (4,008)
Falkirk		
Deferred tax assets	$ 8,912	$ 9,903
Deferred tax liabilities	(7,663)	(7,158)
Net deferred tax asset, reported as deferred charges-other	$ 1,249	$ 2,745

These deferred income taxes result from differences in the recognition of accounting transactions for tax and financial reporting purposes. The primary temporary differences relate to depreciation, the sale and leaseback transaction that originated in 1996 and terminated in 2008, deferred charges, retirement benefits, and certain financial reserves not deductible for tax purposes until paid.

In December 2017, The Tax Cuts and Jobs Act was enacted, which reduced the corporate tax rate to 21 percent effective January 1, 2018. Due to this change in tax law, GRE remeasured its deferred tax assets and deferred tax liabilities, resulting in a decrease of $71.1 million and $73.4 million, respectively, and an increase of $0.4 million to the valuation allowance with a corresponding net reduction to the deferred tax liability and regulatory asset of $1.9 million for the year ended December 31, 2017.

GRE uses regulatory accounting to account for the difference between the accrual based method of accounting for income taxes and the cash based method of accounting for recognizing income tax expense in the consolidated statements of operations and comprehensive income as member rates include actual income taxes paid (see Note 11).

As of December 31, 2018, GRE had a federal and state net operating loss (NOL) of $386.1 million and $403.1 million, respectively, that can be used to offset taxable income in the carryforward period. The federal NOLs expire in varying amounts from 2025 through 2037 and the state NOLs expire in varying amounts from 2023 through 2037. GRE also has a federal tax credit carryforward of $8.5 million and a state prepaid alternative minimum tax (AMT) credit of $0.3 million. The tax credits expire in varying amounts from 2024 through 2038, while the AMT credit has no expiration.

There were no uncertain tax positions that were material to GRE's results of operations or financial position, and GRE does not expect any change to these positions in the next 12 months.

In the ordinary course of business, there is inherent uncertainty in quantifying GRE's income tax positions. GRE assesses its income tax positions and records tax benefits for all years subject to examination based upon management's evaluation of the facts, circumstances, and information available at the reporting dates. For those tax positions where it is more likely than not that a tax benefit will be sustained, GRE records the largest amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit has been recognized in the consolidated financial statements. Where applicable, associated interest and penalties will also be recognized as income tax expense.

GRE is currently under examination by the Internal Revenue Service (IRS) for taxable years 2012, 2013, and 2014. GRE does not anticipate any material adjustments as a result of the IRS audit, and based on the technical merits of positions taken on the 2012, 2013, and 2014 tax returns, believes it is more likely than not that the positions will be sustained.

GRE has determined that its taxable years ended December 31, 2012 through 2018, are still subject to examination under federal tax statutes. In addition, NOL carryforwards dating back to 2005 are subject to review and possible adjustment by taxing authorities. GRE's taxable years ended December 31, 2011 through 2018, are still subject to examination under state tax statutes.

10. PENDING LITIGATION, CONTINGENCIES, AND COMMITMENTS

Midcontinent Independent System Operator (MISO)—GRE is a member of the MISO market, and due to the nature of the market, various disputes and resettlements have taken place and some are still in process. It is the opinion of management that the resolution of the various open MISO disputes and resettlements will not have a material effect on the consolidated financial position, results of operations, or cash flows.

Litigation—GRE is involved in various legal actions arising in the normal course of business. It is the opinion of management that the resolution of such actions will not have a material adverse effect on the consolidated financial position, results of operations, or cash flows.

Future Commitments—GRE is committed to the following estimated expenditures under the various contracts discussed below (in millions):

	2019	2020	2021	2022	2023	THEREAFTER	TOTAL
Wind energy purchases	$ 64.3	$ 103.6	$ 103.0	$ 103.0	$ 97.9	$ 1,513.3	$ 1,985.1
Other purchased power	22.5	22.1	22.8	22.4	20.7	147.4	257.9
Construction contract	33.5	-	-	-	-	-	33.5
Dairyland Power Cooperative	2.5	-	-	-	-	-	2.5
	$ 122.8	$ 125.7	$ 125.8	$ 125.4	$ 118.6	$ 1,660.7	$ 2,279.0

Wind energy purchases—GRE has long-term agreements for the purchase of wind energy from various power suppliers. The agreements have varying terms, and some have extension options. The longest contract term extends to 2045. GRE is obligated to purchase the energy generated from these facilities at fixed prices for the term of the agreements. GRE's expenses for energy purchased under these agreements were $57.6 million, $62.2 million, and $64.7 million for 2018, 2017, and 2016, respectively.

Other purchased power—GRE has long-term agreements for the purchase of energy from various other power suppliers. The agreements have varying terms, with the longest extending to 2045. GRE is obligated to purchase energy at either fixed or variable prices for the term of the agreements. GRE's expenses for energy and transmission purchased under these agreements were $11.2 million, $22.2 million, and $19.5 million for 2018, 2017, and 2016, respectively.

Construction contract—GRE entered into a construction contract with the primary vendor for $134.5 million for the direct current transmission line converter stations refurbishment project. The project commenced in 2016 and will extend through 2021. GRE's expenditures under this agreement were $41.6 million and $33.5 million for 2018 and 2017, respectively.

Dairyland Power Cooperative—GRE had a power agreement with Dairyland Power Cooperative (DPC) to share costs and benefits of a 379 megawatt generating unit (Genoa 3) located near Genoa, Wisconsin. GRE's obligation to purchase energy and capacity through this agreement was terminated through an amendment in 2015. As part of the amendment, GRE entered into a capacity contract with DPC extending through May 2019 at an annual cost of $6.1 million. GRE's expenses for capacity charges under the agreement were $6.1 million, $6.1 million, and $6.1 million for 2018, 2017, and 2016, respectively.

Reclamation Guarantee—Falkirk is required by the North Dakota Public Service Commission (PSC) to carry bonds to cover reclamation of mined lands in the event the surface mining and reclamation permit is revoked. These bonds are released by the PSC after a period of time, generally at least 10 years after final reclamation is complete, and it has been determined that the land has been returned to its approved postmining use. Under the PSC's self-bond program, GRE provides a guarantee for the majority of Falkirk's reclamation obligation. As of December 31, 2018, the aggregated value of this guarantee is $79.8 million. No liability has been recorded in the consolidated financial statements related to this guarantee as of December 31, 2018 and 2017. Falkirk has recorded an asset retirement obligation for the costs to cover final reclamation (see Note 14).

Letters of Credit—GRE has issued a letter of credit for $1.9 million to MISO in connection with its commodity derivatives, two letters of credit totaling $11.0 million related to Spiritwood Station water and infrastructure agreements, and letters of credit totaling $0.1 million for transmission construction projects. No amounts are outstanding as of December 31, 2018 and 2017.

11. DEFERRED CHARGES AND REGULATORY LIABILITIES

Deferred charges as of December 31, 2018 and 2017, are as follows (in thousands):

	2018	2017
Regulatory assets:		
Premiums on refinanced long-term debt	$ 6,674	$ 7,016
Interest rate derivatives	16,280	21,658
Settled interest rate hedging instruments	84,042	88,829
Purchased power contract settlement	59,567	85,406
Plant retirements	66,132	63,125
Postretirement benefit plans	17,570	14,362
Settled postretirement benefit plan	19,547	21,061
Transaction costs related to NDRC	5,668	6,372
Refined coal purchase costs	66,000	66,000
Interest and plant costs	15,113	15,673
Scheduled major outage maintenance	9,159	18,028
Deferred income taxes	1,715	4,008
Other	410	210
Total regulatory assets	367,877	411,748
Other deferred charges	1,248	2,745
Total deferred charges	$ 369,125	$ 414,493
Reported as:		
Deferred charges:		
Financing related	$ 106,996	$ 117,503
Contract settlement	59,567	85,406
Plant retirements	66,132	63,125
Other	136,430	148,459
Total deferred charges	$ 369,125	$ 414,493

Regulatory liabilities as of December 31, 2018 and 2017, are as follows (in thousands):

	2018	2017
Regulatory liabilities:		
Settled interest rate hedging instruments	$ 5,690	$ 5,690
Incentive-based rate treatment	15,802	16,291
Deferred revenue	39,944	29,944
Other	2,198	2,886
Total regulatory liabilities	$ 63,634	$ 54,811

Premiums on Refinanced Long-Term Debt—GRE has refinanced various issues of long-term debt, which resulted in the payment of premiums. This amount will be fully amortized by 2038, the maturity date of the 2007A bonds.

Interest Rate Derivatives—GRE has interest rate swaps that have not been settled as of December 31, 2018 and 2017. A regulatory asset or liability is recorded offsetting the fair value liability or asset, respectively. Once these interest rate derivatives are settled, any deferred regulatory asset or liability will be amortized over the life of the related debt, unless there is no related debt issuance, and then the amortization period will be determined by the board of directors under regulatory accounting.

Settled Interest Rate Hedging Instruments—GRE settled interest rate swaps related to bond issuances, resulting in payments to the swap counterparties. These settled swaps are amortized over the life of the related debt and the amortization is included in interest expense in the consolidated statements of operations and comprehensive income.

During 2013, GRE terminated certain interest rate swaps and a swaption without a related debt issuance for net proceeds of $36.2 million. The net proceeds from this termination were recorded as a regulatory liability and $30.5 million was recognized as other revenue in 2015. GRE plans to recognize the remaining $5.7 million as revenue in 2019.

Purchased Power Contract Settlement— GRE's power agreement with DPC was to remain in effect until the retirement of the unit from service or until the payment in full of all obligations arising from the construction and operation of the unit, whichever was later. Under the agreement, the capacity costs were shared equally by GRE and DPC, and GRE was required to pay additional amounts for actual energy purchased. In 2015, GRE amended the contract to terminate GRE's obligation to purchase energy and capacity from Genoa 3 for a cash payment of $83.5 million. GRE recognized this payment as a regulatory asset of which a portion related to the termination of GRE's obligation to purchase energy and capacity, and another portion related to the settlement of GRE's share of the estimated future costs for the plant decommissioning and demolition. GRE remains obligated for its share of the plant decommissioning and demolition costs, and has recorded an estimate of its share of the final costs as an other noncurrent liability.

In 2018, GRE wrote off $25.8 million of the regulatory asset in accordance with regulatory accounting requirements as a charge to purchased power in the consolidated statements of operations and comprehensive income. The remaining obligation will be amortized over a ten year period beginning in 2019.

Plant Retirements—GRE retired Stanton Station in 2017. Decommissioning and demolition activities are occurring through 2019. Regulatory accounting was approved for the remaining undepreciated net plant value and plant closure costs. The regulatory asset is being amortized through 2028.

During 2018, GRE approved the closure and decommissioning or sale of the Elk River Resource Recovery Project in 2019. Regulatory accounting was approved for the remaining undepreciated net plant value, which is reported as plant to be retired – net of accumulated depreciation in the consolidated balance sheets until actual plant closure or sale. As of December 31, 2018, the regulatory asset represents the estimated additional costs to be incurred as a result of plant closure. At the time of plant closure or sale, the remaining balance in plant to be retired – net of accumulated depreciation will be reclassified to the regulatory asset and will be amortized through 2038.

Postretirement Benefit Plans—GRE and Falkirk have defined benefit pension plans and postretirement medical plans for certain employees. GRE records regulatory assets for the amounts that are normally reported as accumulated other comprehensive income as these amounts will be recovered in future rates. A regulatory asset has been recorded for GRE's plans of $3.9 million and $4.2 million, and Falkirk's plans of $13.7 million and $10.2 million at December 31, 2018 and 2017, respectively. These amounts are adjusted each year as a result of the actuarial remeasurement of the obligations related to these plans.

Settled Postretirement Benefit Plans—During 2016, GRE settled its qualified defined benefit plan, which would have required the recognition of the unamortized actuarial loss as pension expense (see Note 12). GRE recorded $22.7 million related to the settlement as a regulatory asset and it is being amortized over 15 years and included in operation and maintenance expense in the consolidated statements of operations and comprehensive income.

Transaction Costs Related to NDRC—GRE incurred external transaction costs in connection with executing agreements with NDRC, or its subsidiaries, for the sale and purchase of lignite and coal and for the lease of GRE's refined coal processing facility (see Note 1). This amount is being amortized over the life of the facility lease, which is through 2027. The amortization is included as fuel expense in the consolidated statements of operations and comprehensive income.

Refined Coal Purchase Costs—In connection with the facility lease with NDRC and the related refined coal purchase agreement, GRE deferred certain refined coal purchase costs. GRE plans to expense these costs at the time the purchase option is exercised or amortize over the last seven years of the lease agreement in the event the purchase option is not exercised.

Interest and Plant Costs—During 2010 and 2011, GRE deferred facility costs for interest, maintenance, and other costs associated with Spiritwood Station. This amount is being amortized over the useful life of the facility.

Scheduled Major Outage Maintenance—GRE defers scheduled major outage maintenance costs for CCS and amortizes these costs over the maintenance cycle period, which is three years. The amortization is included in operation and maintenance expense in the consolidated statements of operations and comprehensive income.

Deferred Income Taxes—GRE records income tax expense as income taxes are paid; a regulatory asset is recorded for the difference between deferred tax assets and liabilities. The regulatory asset is adjusted each year for changes in income tax timing differences.

Other Deferred Charges—Other deferred charges primarily relate to Falkirk's deferred tax asset.

Incentive-Based Rate Treatment—GRE received approval from the Federal Energy Regulatory Commission for incentive-based rate treatment for the CapX2020 transmission projects and collected a return on investment from MISO while these projects were under construction. GRE recorded amortization expense in an amount equal to the interest capitalized to the project and recorded an offsetting regulatory liability. Now that the project is complete, the regulatory liability is being amortized over the useful life of the underlying assets and recorded as a reduction to depreciation expense.

Deferred Revenue—GRE deferred the recognition of $10.0 million and $17.9 million of member electric revenue during 2018 and 2017, respectively, in accordance with regulatory accounting requirements. This deferred revenue will be recognized in member electric revenue in the future as determined by the board of directors.

Other Regulatory Liabilities—Other regulatory liabilities include the unamortized bond discount on certain borrowings, as well as the liability offset to the fair value determination of certain commodity contracts recorded as derivative instruments.

The regulatory assets and regulatory liabilities are recorded in accordance with regulatory accounting requirements and have all been approved by the board of directors.

12. EMPLOYEE BENEFIT PLANS

GRE offers various benefit plans to its employees. Approximately 24 percent of total employees that receive benefits are represented by two local labor unions under three collective bargaining agreements. Two labor agreements were negotiated in 2018. One expires at the end of 2020 and the second expires at the end of 2022 with wages open for negotiation in 2021 and 2022. The third agreement will terminate in March 2019.

Defined Benefit Plans—GRE has a nonqualified supplemental defined benefit plan covering certain former employees and retirees that is frozen, a qualified defined contribution retirement plan for all employees, and a nonqualified defined contribution plan for certain employees.

Falkirk has a defined benefit plan that covers employees hired before January 1, 2000, and a defined contribution plan for other employees.

Changes in benefit obligations and plan assets for the years ended December 31, 2018 and 2017, and the amounts recognized in the consolidated balance sheets as of December 31, 2018 and 2017, are as follows (in thousands):

	Falkirk		GRE	
	2018	2017	2018	2017
Change in benefit obligation:				
Benefit obligation—beginning of year	$ 67,445	$ 65,464	$ 4,668	$ 4,854
Interest cost	2,337	2,557	157	171
Actuarial (gain) loss	(4,393)	2,464	35	133
Benefits paid	(3,389)	(3,040)	(453)	(490)
Benefit obligation—end of year	62,000	67,445	4,407	4,668
Change in plan assets:				
Fair value of plan assets—beginning of year	70,694	63,627	-	-
Actual return on assets	(3,261)	10,107	-	-
Benefits paid	(3,388)	(3,040)	-	-
Fair value of plan assets—end of year	64,045	70,694	-	-
Funded status—end of year and amount recognized in other long-term assets/(other noncurrent liabilities)	$ 2,045	$ 3,249	$ (4,407)	$ (4,668)

Amounts not yet recognized as components of net periodic cost as of December 31, 2018 and 2017, are as follows (in thousands):

	Falkirk		GRE	
	2018	2017	2018	2017
Transition obligation	$ -	$ -	$ -	$ 18
Accumulated loss	9,940	6,480	2,727	2,896
	$ 9,940	$ 6,480	$ 2,727	$ 2,914

The accumulated benefit obligation for the GRE defined benefit pension plans reflected above was $4.4 million and $4.7 million as of December 31, 2018 and 2017, respectively. The accumulated benefit obligation for the Falkirk defined benefit pension plan was $62.0 million and $67.4 million as of December 31, 2018 and 2017, respectively.

Components of net periodic benefit cost as of December 31, 2018, 2017, and 2016, are as follows (in thousands):

	Falkirk			GRE		
	2018	2017	2016	2018	2017	2016
Interest cost	$ 2,337	$ 2,557	$ 2,742	$ 157	$ 171	$ 1,783
Expected return on assets	(4,819)	(4,614)	(4,434)	-	-	(1,468)
Recognized net actuarial loss	225	175	255	203	170	1,240
Amortization of net transition obligation	-	-	-	18	63	63
Settlement	-	-	-	-	-	23,133
Net periodic benefit cost	$ (2,257)	$ (1,882)	$ (1,437)	$ 378	$ 404	$ 24,751

GRE had a qualified defined benefit plan that covered certain employees. This plan was terminated as of December 31, 2015, freezing all future benefits, and settled in 2016. In 2016, GRE would have recognized net periodic pension benefit cost of $23.1 million related to the settlement of the plan; however, GRE adopted regulatory accounting and established a deferred regulatory asset for $22.7 million (see Note 11). This resulted in a net period benefit cost of $2.1 million recognized in 2016.

The estimated amounts to be amortized from deferred charges related to the benefit obligation into net periodic benefit cost in 2019 are $0.2 million for GRE and less than $0.1 million for Falkirk.

Weighted-average assumptions used to determine benefit obligations as of December 31, 2018 and 2017 are as follows:

	Falkirk		GRE	
	2018	2017	2018	2017
Discount rate	4.20%	3.55%	4.00%	3.35%

Weighted-average assumptions used to determine periodic benefit cost as of December 31, 2018, 2017, and 2016, are as follows:

	Falkirk			GRE		
	2018	2017	2016	2018	2017	2016
Discount rate	3.55 %	4.00 %	4.20 %	3.35 %	3.70 %	3.90 %
Expected return on assets	7.50	7.50	7.50	N/A	N/A	3.50

The Falkirk plan maintains an investment policy that, among other things, establishes a portfolio asset allocation methodology with percentage allocation bands for individual asset classes. This investment policy sets target allocations for the plan assets ranging from approximately 36 percent to 54 percent in domestic equity securities, 16 percent to 24 percent in international equity securities, 30 percent to 40 percent in fixed-income securities, and 0 percent to 10 percent in money market funds. The investment policy further divides investments in equity securities among U.S. and non-U.S. companies. The investment policy provides that investments be reallocated between classes as balances exceed or fall below the appropriate allocation bands.

Falkirk's defined benefit plan investments at December 31, 2018 and 2017, are as follows (in thousands):

	2018	2017
Money market funds	$ 298	$ 262
Domestic equity securities	27,178	33,316
International equity securities	12,442	14,884
Fixed income securities	24,127	22,232
	$ 64,045	$ 70,694

The invested funds are stated at fair value using quoted market prices in active markets for identical assets as the fair value measurement (Level 1). For the years ended December 31, 2018 and 2017, there were no significant transfers in or out of Levels 1, 2, or 3.

To develop the expected long-term rate of return on asset assumptions, GRE and Falkirk considered the historical returns and the future expectations for returns on each asset class, as well as target allocation of the pension portfolio.

The expected future benefits to be paid as of December 31, 2018, are as follows (in thousands):

Years Ending December 31	Falkirk	GRE
2019	$ 3,430	$ 432
2020	3,604	416
2021	3,799	400
2022	3,949	383
2023	4,059	366
2024–2028	20,957	1,565

GRE expects to make a contribution of approximately $0.4 million to the nonqualified supplemental defined benefit plan in 2019 and Falkirk does not expect to make any pension contributions in 2019.

Defined Contribution Plans—GRE makes defined contributions to all employees and matching contributions to all eligible employees under a defined contribution retirement plan. GRE made savings and matching contributions to its defined contribution retirement plan of $11.4 million, $11.0 million, and $10.1 million in 2018, 2017, and 2016, respectively. Falkirk's contributions to the defined contribution pension plan were $2.9 million, $2.7 million, and $2.5 million for 2018, 2017, and 2016, respectively. Falkirk's contributions to a defined contribution savings plan were $2.4 million, $2.2 million, and $2.1 million for 2018, 2017, and 2016, respectively.

Postretirement Medical Benefits—Under a previously offered postretirement benefit plan, certain employees are entitled to participate in the GRE medical insurance plan until they reach age 65. Benefits to the retirees are in the form of monthly payments to cover a portion of the premium charged for participation in the program. Employees retiring from Falkirk also are eligible to participate in Falkirk's medical insurance plan with the benefit in the form of a supplement to the premium. In 2018, Falkirk made changes to the plans offered under the medical insurance plan through an amendment. The change resulted in a decrease to the benefit obligation of $0.5 million.

Costs for the unfunded postretirement medical plan are recognized in the year the employees render service.

Changes in benefit obligations for the years ended December 31, 2018 and 2017, are as follows (in thousands):

	Falkirk		GRE	
	2018	2017	2018	2017
Change in benefit obligation:				
Benefit obligation—beginning of year	$ 5,371	$ 5,794	$ 2,019	$ 2,131
Service cost	59	64	-	2
Interest cost	158	179	66	73
Plan amendments	(501)	-	-	-
Actuarial (gain) loss	(2,247)	(372)	8	22
Benefits paid	(312)	(294)	(267)	(209)
Benefit obligations—end of year	$ 2,528	$ 5,371	$ 1,826	$ 2,019

Amounts recognized in the consolidated balance sheets as of December 31, 2018 and 2017, are as follows (in thousands):

	Falkirk		GRE	
	2018	2017	2018	2017
Current liabilities	$ 419	$ 652	$ 194	$ 199
Other noncurrent liabilities	2,109	4,719	1,632	1,820
	$ 2,528	$ 5,371	$ 1,826	$ 2,019

Amounts not yet recognized as components of net periodic cost as of December 31, 2018 and 2017, are as follows (in thousands):

	Falkirk		GRE	
	2018	2017	2018	2017
Accumulated (gain) loss	$ (3,061)	$ (885)	$ 1,176	$ 1,243
Prior service credit	(501)	-	-	-
	$ (3,562)	$ (885)	$ 1,176	$ 1,243

Components of net periodic cost as of December 31, 2018, 2017, and 2016, are as follows (in thousands):

	Falkirk			GRE		
	2018	2017	2016	2018	2017	2016
Service cost	$ 59	$ 64	$ 108	$ -	$ 2	$ 2
Interest cost	158	179	269	66	73	86
Recognized net actuarial (gain) loss	(71)	-	253	75	75	74
Net periodic cost	$ 146	$ 243	$ 630	$ 141	$ 150	$ 162

The estimated amounts to be amortized from deferred charges into net periodic cost in 2019 are a net cost of less than $0.1 million for GRE and a net gain of $0.7 million for Falkirk.

The discount rates used as of December 31, 2018, 2017, and 2016, are as follows:

	Falkirk			GRE		
	2018	2017	2016	2018	2017	2016
Discount rate used to determine benefit obligations	3.80 %	3.10 %	3.25 %	4.00 %	3.35 %	3.65 %
Discount rate used to determine net periodic benefit cost	3.10 %	3.25 %	3.40 %	3.35 %	3.65 %	3.90 %

The expected future benefit payments to be paid as of December 31, 2018, are as follows (in thousands):

Years Ending December 31	Falkirk	GRE
2019	$ 419	$ 194
2020	409	178
2021	362	171
2022	307	164
2023	291	151
2024–2028	893	628

The effect of a one percentage point change in health care cost trend rates on service and interest costs is not material in relation to the consolidated financial statements taken as a whole.

13. MEMBER RELATED–PARTY TRANSACTIONS

GRE provides electric and other services to its members. GRE received revenue of $876.1 million, $868.7 million, and $864.3 million in 2018, 2017, and 2016, respectively, for these services. GRE received 39.6 percent, 39.5 percent, and 39.9 percent of total member revenue from two members for the years ended December 31, 2018, 2017, and 2016, respectively. GRE had accounts receivable from its members of $126.2 million and $148.4 million at December 31, 2018 and 2017, respectively.

GRE also received various services from the members and paid $11.7 million, $11.6 million, and $10.7 million for these services in 2018, 2017, and 2016, respectively. GRE had accounts payable to the members of $2.1 million and $1.8 million at December 31, 2018 and 2017, respectively.

GRE has notes payable to the members of $34.7 million and $32.1 million at December 31, 2018 and 2017, respectively. These notes relate to funds invested with GRE by the members under a member investment program. These funds are used by GRE to reduce short-term borrowings. The members receive investment earnings based on GRE's blended rate of return for specified investments, adjusted for administrative costs.

14. ASSET RETIREMENT OBLIGATIONS

GAAP requires the recording of liabilities related to asset retirement obligations. An asset retirement obligation is the result of legal or contractual obligations associated with the retirement of a tangible long-lived asset that result from the acquisition, construction, or development and/or the normal operation of a long-lived asset. GRE determines these obligations based on an estimated asset retirement cost adjusted for inflation and projected to the estimated settlement dates, and discounted using a credit-adjusted, risk-free interest rate. GRE allocates the amortization for the offsetting capitalized asset retirement cost to expense using the straight-line method over the remaining useful life of the related long-lived asset being retired.

GRE has recorded obligations related to capping and reclamation of ash disposal sites for certain power plants and obligations related to the disposal of equipment containing polychlorinated biphenyls.

The EPA regulation of coal combustion residuals (CCRs) requires increased groundwater monitoring, reporting, recordkeeping, and posting related information to the Internet. The rule also established requirements related to CCR management, impoundments, landfills, and storage. The rule does allow GRE to continue its byproduct beneficial use program. During 2017, GRE increased its estimated costs to comply with the necessary infrastructure and CCR management modifications for the final ash disposal site closures and monitoring. These additional costs of $24.4 million have been reflected as a change in estimated cash flows to the asset retirement obligation for 2017. New obligations in 2017 result from expanded ash disposal sites.

There were no new obligations or obligations recorded as a result of a change in estimated cash flows recorded during 2018.

Falkirk has recorded an obligation related to the final costs to close its surface mines and reclaim the land disturbed as a result of normal mining operations. There are no assets legally restricted for purpose of settling these obligations.

GRE also has an obligation to retire its direct-current transmission line upon abandonment. This line transmits the energy from CCS in North Dakota to the GRE service territory in Minnesota. GRE has not recorded a liability related to this obligation because the fair value cannot be reasonably estimated due to the retirement date being indefinite at this time.

A reconciliation of the beginning and ending aggregate carrying amount of the obligations as of December 31, 2018 and 2017, is as follows (in thousands):

	2018	2017
Balance—beginning of year	$ 124,073	$ 85,475
New obligations	-	10,829
Obligations recorded as a result of changes in estimated cash flows	-	24,396
Accretion expense	5,253	4,373
Obligations settled	(1,186)	(1,000)
Balance—end of year	$ 128,140	$ 124,073

These obligations are recorded in other noncurrent liabilities in the consolidated balance sheets with the exception of the obligation related to Stanton, which is reported as current other accrued liabilities. The Stanton obligation was $7.3 million and $7.4 million as of December 31, 2018 and 2017, respectively. The obligations settled are the only transactions recognized as a use of cash in the consolidated statements of cash flows.

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