



Helping Communities Shine

2019 Annual Report



Cooperative Energy's mission is to deliver to our Members reliable and affordable energy in a safe and environmentally-responsible manner.

Inherent in this commitment is a set of core values, which guide our everyday activities:

- Member Focus
- Transparency and Responsiveness
- Fiscal, Regulatory and Environmental Compliance
- Safety and Reliability
- Serve as a Trusted and Value-Adding Resource for Member-owners

Competitive Strengths include:

- An Experienced, Skilled Workforce
- A Long-Term Contractual Relationship with Member Systems
- Financial Health, including that of Members
- Long-Range Planning for Cost-Effective Generation Resources

On the cover: (Left to right) Lineman I **Kelvin James**, **Madison Sherman**, daughter of Accountant III **Bryan Sherman**; **Natalie Peterson**, daughter of Corporate Communications Manager **Sara Peterson**



Helping Communities Shine

2019 Annual Report

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Helping Communities Shine

Environmental Analyst **John Ellis**, Batesville Generating Station

ES

A Letter from the CEO



President/CEO Jeff Bowman

Helping communities shine is part of our founding mission as a local electric cooperative. Our service to those we serve through our Member systems goes beyond powering their homes, schools, hospitals, and businesses—our service powers lives statewide. Cooperative Energy has been the source of this community power for our Member systems for 79 years and will continue to be well into the future.

Cooperative Energy helped to shine a light for cleaner communities in 2019 by repowering two of our original generation sources. The conversion of the R.D. Morrow, Sr. Generating Station from a 400 MW coal-fired plant to a 540 MW natural gas-fired plant is underway. It will provide communities across Mississippi with cost-effective, low-emission, reliable generation beginning in 2023.

Likewise, Benndale Station transitioned from an aged, single 16 MW natural gas-fired unit to two modern Wärtsilä 31SG reciprocating engines resulting in 22.7 MW of flexible, quick start, low emission generation. These two projects, among others, will enable Cooperative Energy to keep the lights shining across the state more efficiently, economically, and in a more environmentally-responsible manner than ever before.

Beyond the environment, Cooperative Energy helped to shine a light on the financial vitality of our Member systems and the communities they serve by returning nearly \$5 million in patronage capital to Members in 2019, bringing the total to \$27 million returned to Members since 2015.

The Cooperative Energy Board of Directors further enhanced the financial well-being of our Member systems by billing a slightly lower average Member wholesale rate in 2019 at 73.21 mills/kWh. Our rate to our Members is now lower than the rate one decade ago. The ability of our Board to establish our rates at a consistent level to cover the costs of our business, while ensuring safety, reliability, and environmental responsibility, is another vital way in which Cooperative Energy helps communities and our consumer-members shine.

Back row: (Left to right) Executive Vice President Chief Communications Officer **Christa Bishop**; Member Relations and External Communications Coordinator **Amy Griffin**; Buyer **Kelly Johnson**; Vice President Power Supply **Gary Hutson**; Director Control Systems **Scotty Barron**; Accounting Clerk **Karla Stover**

Front row: (Left to right) **Vivi Bishop**, daughter of **Christa Bishop**; **Mack and Anna Kate Hutson**, son and daughter of **Gary Hutson**; **Gavin Bramlett**, son of **Lauren Pringle**; Treasury & Risk Analyst I **Lauren Pringle**



Mechanic I **Glenn McInnis**, J.T. Dudley, Sr. Generation Complex



Cooperative Energy strives daily to help the communities we serve through our Member systems shine with power that is affordable, reliable, and responsible; however, that is just the beginning of our commitment. As you will see throughout this report, Cooperative Energy, our employees, and our 11 Member systems strive to power the quality of life in these communities and in the lives of the one million Mississippians we, with our Members, are honored to serve.

Jeff Bowman
President/CEO

Communi



Children of Cooperative Energy employees
participating in the inaugural Camp Co-op

nity



In the 1930s, rural America was living in the dark—literally. Electricity had yet to find its way to homes, farms, and businesses in rural areas. Because of this need, rural electric cooperatives were founded with the mission of bringing electricity to rural communities.

Since our inception almost a century ago, electric cooperatives have been guided by a set of values, the Seven Cooperative Principles. Among these principles is concern for the community, and it's a principle that we at Cooperative Energy take very seriously.

When you look around Mississippi, you will see communities in need. We consider it an honor and a privilege to come to work every day knowing that we are improving life for more than 1 million people in our service area—many of whom are friends, family, and neighbors.

To us, community isn't just an area we serve. Community is who we are. It's what defines us. It's why we exist. And that's why we strive every day to help our communities shine.



For the love of the game— and the children



As a child, playing football was Roy Richardson's first love in life. But he truly made his mark on the game when he traded in his pads and helmet for a striped shirt and whistle.

Roy, the coal and utility supervisor at Cooperative Energy's R.D. Morrow, Sr. Generating Station, has been a part of Mississippi high school sports for more than 25 years. He most often officiates Class 5A games, which are comprised of the state's second-largest schools, and has been named lead official in state championship games. As if that weren't enough to keep him busy, he also officiates basketball games, sometimes working three nights a week as well as Saturdays. And the two seasons overlap.

Why does he do it? Because he loves the game and the children who play it. Officiating gives Roy an opportunity to work with children and help shape them into young adults with high character. And for Roy, this is the ultimate reward.



A new home for the Silver Creek bees

Line Foreman Jason Davis' hobby was put to work when Cooperative Energy employees discovered a beehive in one of the circuit breakers at the Silver Creek substation.

Jason, a beekeeper for more than a decade, knew the chances of the bees surviving long-term at Silver Creek were not good. With help from linemen Matt Prentiss and Jason Anderson, Jason went to work to move the bees to a new home where they could thrive.

Jason placed chunks of the honeycomb in trays inside a new bee hive box to lure the queen. Once the queen was captured, the rest of the bees happily followed her into the hive box, allowing Jason to transport the bees to his home in Moselle.

Thanks to this team effort, the Silver Creek bees share the flowers and fresh air with bees from Jason's other hives—and substation employees don't have to worry about stirring up bees when they check the circuit breakers.





Camp Co-op: A fun way to share the cooperative story

Children of Cooperative Energy employees participating in the inaugural Camp Co-op



On June 10 and 11, 2019, Cooperative Energy hosted the inaugural Camp Co-op, a two-day event for employees' children. The camp, which combines industry education and fun, was a trial run for a program that Member systems can implement for their youngest consumer-members.

Nearly 25 children from third through sixth grades attended. The campers learned how electric cooperatives operate and gained exposure to careers in the industry. The children were also treated to bucket truck rides, a Control Center tour, and plenty of games and crafts.

The camp proved to be a great opportunity for employees' children to learn about the electric utility industry in a fun and interactive way. They also learned what electric cooperatives are all about and the vital role they play in the communities they serve.

Because of the success of the pilot program, Cooperative Energy plans to help any interested Member systems offer their own Camp Co-op. The company will provide the template and lesson plans and serve as a resource for the Member systems, helping share the cooperative story with a new generation.



(Left to right): **Josye Goar**, daughter of System Planning Manager **Jason Goar**; **Micah and Evie Sumrall**, daughters of Director of Projects **Dereck Sumrall**



(Left to right): I&E Planner **Robert Evans**, J.T. Dudley, Sr. Generation Complex; System Protection Supervisor **Jason Coleman**; Transmission Planning Engineer I **Nathan Lin**; Human Resources Manager **Crystal Crawford**; Internal Auditor II **Katie Jones**; GIS Administrator II **Tonya Prine**; System Planning Manager **Jason Goar**; Treasury & Risk Analyst II **Melissa Bastine**; Communications/Education Facilitator **Tori Gieger**; Director System Operations **Joe Riels**



Serving communities on the Cooperative Day of Service

Each year, Cooperative Energy teams up with electric cooperatives across the state to serve communities on Martin Luther King, Jr. Day. The Cooperative Day of Service is our way of honoring Dr. King by giving employees an opportunity to volunteer, give back, and make a difference.

This cooperative-led volunteer effort is a joint venture with Member systems Coast Electric, Dixie Electric, Singing River Electric, and Yazoo Valley Electric. Each system invests time and energy into the communities they serve through a broad range of service projects. By joining forces, the cooperatives are able to create a significant statewide impact.

Cooperative Energy employees have volunteered at Christian Services, Inc., Edwards Street Fellowship Center Food Pantry, Edwards Street Fellowship Thrift Store, Give & Take Kitchen, Habitat for Humanity, and the Oseola McCarty Youth Development Center. They have also collected more than 900 items for the Panola County Food Pantry and Kids Hub Child Advocacy Center.



Top photo: (Left to right) Director Communications Systems **Adolfo Bello**; Supply Chain Inventory Supervisor **Prentiss Newman**; Line Foreman **Carl McSwain**

Middle photo: (Left to right) Treasury & Risk Analyst II **Chloe Richards**; Wholesale Services Program Technical Support & Training Coordinator **Mary Lou Powell**

Bottom photo: (Left to right) I&E Planner **Robert Evans**, J.T. Dudley, Sr. Generation Complex; Director System Operations **Joe Riels**

Left photo: Internal Auditor II **Tonia Ware**

Member Systems

1 Coahoma Electric Power Association

8,021 meters served
1,645 miles of line
4.8 meters per mile of line

2 Delta Electric Power Association

28,173 meters served
6,061 miles of line
4.6 meters per mile of line

3 Twin County Electric Power Association

12,074 meters served
2,380 miles of line
5.2 meters per mile of line

4 Yazoo Valley Electric Power Association

10,341 meters served
2,176 miles of line
4.7 meters per mile of line

5 Southwest Electric Cooperative

25,140 meters served
4,195 miles of line
6.1 meters per mile of line

6 Southern Pine Electric Cooperative

68,000 meters served
10,487 miles of line
6.5 meters per mile of line

7 Dixie Electric Power Association

39,398 meters served
4,987 miles of line
7.9 meters per mile of line

8 Magnolia Electric Power

31,925 meters served
4,849 miles of line
6.6 meters per mile of line

9 Pearl River Valley Electric Power Association

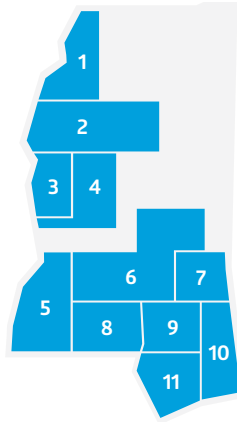
50,400 meters served
6,131 miles of line
8.2 meters per mile of line

10 Singing River Electric Cooperative

74,779 meters served
7,464 miles of line
10 meters per mile of line

11 Coast Electric Power Association

83,925 meters served
6,921 miles of line
12.1 meters per mile of line



Southwest Electric

Southwest Electric is helping build Camp Kamassa, a unique camp for special needs kids. Southwest Electric provided the three-phase power needed for the camp's sophisticated medical equipment.



Yazoo Valley Electric

By offering First Responder Safety Training, Yazoo Valley Electric is ensuring the safety of the people who work so hard to keep us safe.



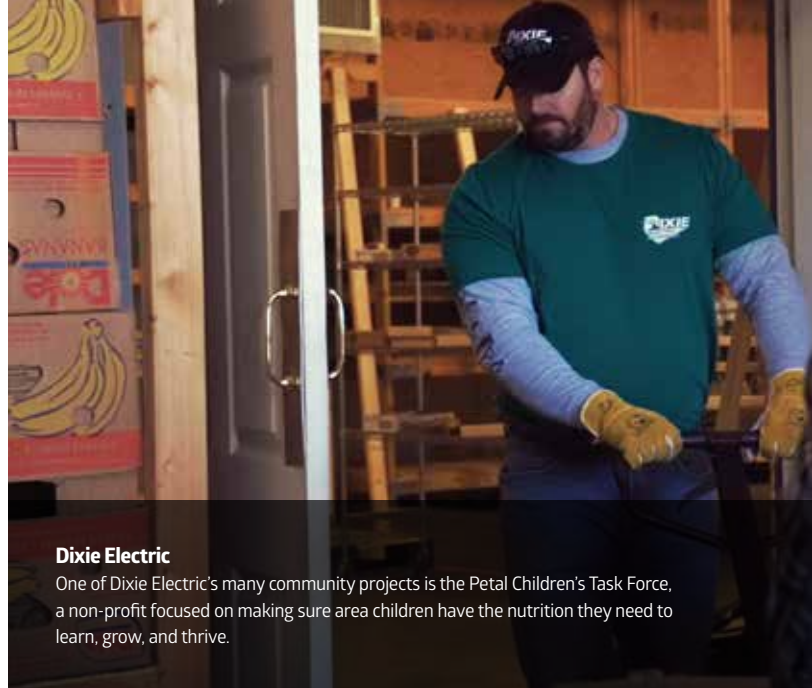
Southern Pine Electric

Through the Adopt-a-School program, Southern Pine Electric employees serve as mentors for children at the William J. Berry Elementary School in the rural community of Heidelberg, Miss.



Pearl River Valley Electric

Pearl River Valley Electric's Roundup for Education program has generated more than \$1.1M in community college scholarships since 2012.



Dixie Electric

One of Dixie Electric's many community projects is the Petal Children's Task Force, a non-profit focused on making sure area children have the nutrition they need to learn, grow, and thrive.



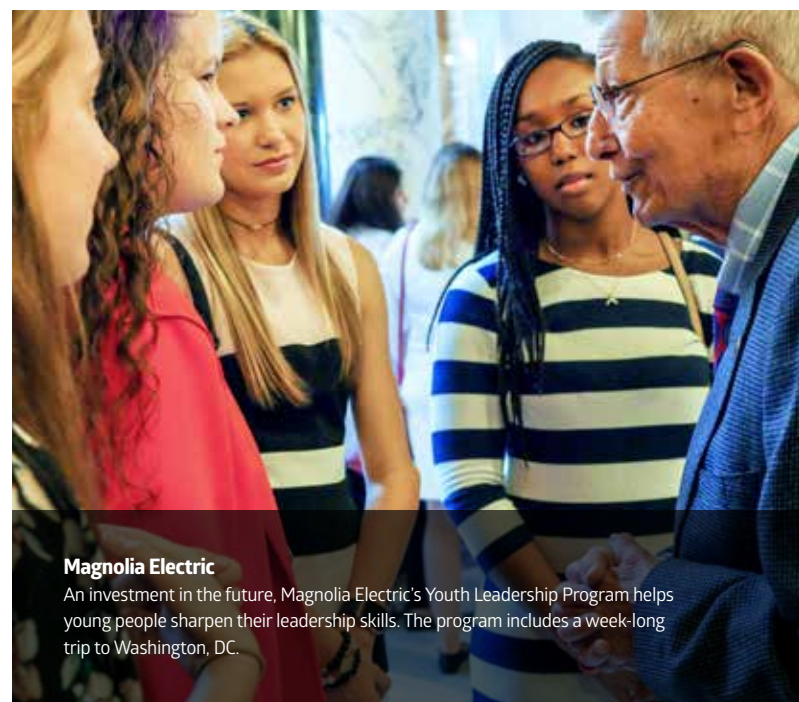
Singing River Electric

Singing River Electric's Neighbors Helping Neighbors grant program supports a number of community needs, from educational equipment to bulletproof vests for a local sheriff's department.



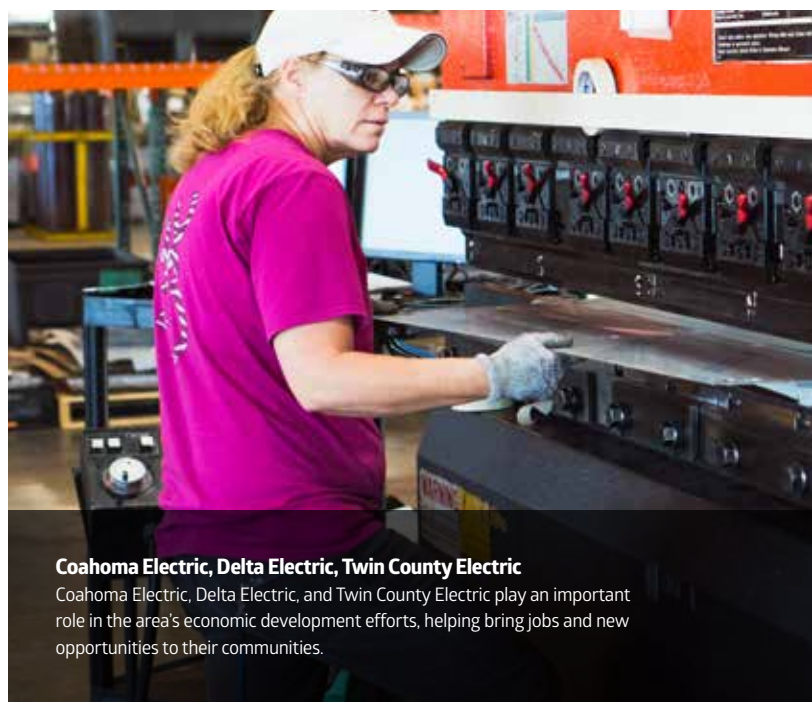
Coast Electric

The spirit of volunteerism is alive and well at Coast Electric. Employees donate their time to many worthy causes, including Loaves & Fishes, the Habitat for Humanity women's build, and the United Way.



Magnolia Electric

An investment in the future, Magnolia Electric's Youth Leadership Program helps young people sharpen their leadership skills. The program includes a week-long trip to Washington, DC.



Coahoma Electric, Delta Electric, Twin County Electric

Coahoma Electric, Delta Electric, and Twin County Electric play an important role in the area's economic development efforts, helping bring jobs and new opportunities to their communities.



Building generation capacity for future generations of consumer-members

Cooperative Energy continues to work to ensure that our generation resources are aligned with our mission of providing members with reliable, affordable electricity—now and in the future.

To achieve this mission, Cooperative Energy is moving forward with a five-year plan to convert the R.D. Morrow, Sr. Generating Station, located in Lamar County, from coal to a natural gas-fired combined cycle plant. The resulting plant will generate electricity more economically and provide improved operational flexibility. Cooperative Energy has also converted the Benndale Station in George County to a natural gas-fired plant. This makes Cooperative Energy the first electric utility globally to own and place Wärtsilä 31SG engines into commercial operation.



Director Generation Projects **Trey Cannon**



Generation Resources

Owned Generation

Batesville Generating Station

- Commercial Operation: 2000
- Fuel Source: Natural Gas
- Three Combined-Cycle Units
- 837 MW Combined Capacity
- 44 Employees

J.T. Dudley, Sr. Generation Complex

- Commercial Operation: 1970
- Fuel Source: Natural Gas
- Two Combined-Cycle Units
- Two Combustion-Turbines Units
- One Steam Unit
- 516 MW Combined Capacity
- 62 Employees

R.D. Morrow, Sr. Generating Station

- Commercial Operation: 1978
- Fuel Source: Undergoing fuel conversion to natural gas
- One Combined-Cycle Unit (future)
- 63 Employees
- Retired from coal-fired generation November 17, 2018

Grand Gulf Nuclear Station (10 Percent Owner)

- Commercial Operation: 1985
- Fuel Source: Nuclear
- One Unit
- Cooperative Energy Share of Capacity: 144 MW

George B. Taylor, Sr. Generating Station

- Commercial Operation: 2003
- Fuel Source: Natural Gas
- Three Simple-Cycle Combustion Turbine Units
- 250 MW Combined Capacity
- 2 Employees

Sylvarena Station

- Commercial Operation: 2003
- Fuel Source: Natural Gas
- Three Aeroderivative Combustion Turbine Units
- 141 MW Combined Capacity
- 2 Employees

Benndale Station

- Commercial Operation: 1969
- Fuel Source: Natural Gas
- Retired Original Combustion-Turbine Unit March 30, 2018
- Installation of Two Wärtsilä 31SG Reciprocating Engines
- 2 Employees

Solar Sites

- One Solar Array at each Site: Greenwood, Kiln, Lucedale, Lyon, and Taylorsville
- Fuel Source: Solar
- Approximately 378 Photovoltaic Panels per Array
- 500 kW Combined Capacity

Purchased Power

Southeastern Power Administration (Alabama/Georgia)

- Fuel Source: Hydropower
- 68 MW Capacity
- Counterparty: Southeastern Power Administration

Southeastern Power Administration (Cumberland)

- Fuel Source: Hydropower
- 51 MW Capacity
- Counterparty: Southeastern Power Administration

Mississippi Power Company Power Supply Agreement

- Fuel Source: Natural Gas; Coal
- 86 MW Capacity
- Counterparty: Mississippi Power Company

Plum Point Energy Station

- Fuel Source: Coal
- 205 MW Capacity
- Counterparty: Plum Point Energy Associates

Mississippi Solar 3

- Fuel Source: Solar
- 52 MW Capacity
- Counterparty: Origis Energy

Building stronger communities through economic development





Improving the quality of life in the communities served by our Member systems is part of our founding purpose as a local electric cooperative. As a not-for-profit business, we are focused on providing Mississippians with a better way of life rather than earning a profit. For many of the nearly 1 million Mississippians we serve, a better life begins with a better job. That's why economic development stands near the top of our priority list.

Local electric cooperatives play a vital role in the economic development process, working in concert with community leaders, state and local government, and the private sector. Quite often, our team serves as an extension of the local economic development staff, providing services ranging from incentives and site development to marketing support—whatever it takes to make the project work.

Since 2014, Cooperative Energy's economic development team, in conjunction with our Member systems, has helped bring more than 2,000 jobs and more than \$400 million dollars in capital investment to Mississippi communities. By making an impact in economic development, we are realizing our ultimate goal—to positively impact the lives of everyone in the communities we serve.

Condensed Operating Statement

(in millions)	2019	2018	2017
Total Operating Revenues	\$ 759	\$ 817	\$ 778
Operating Expenses			
Fuel and Purchased Power	\$ 453	\$ 508	\$ 483
Other Operating Expense	180	176	170
Depreciation and Amortization	73	70	68
Total Operating Expenses	\$ 706	\$ 754	\$ 721
Operating Margin Before Interest & Other	\$ 53	\$ 63	\$ 57
Interest Expense: Net & Other Deductions	45	49	51
Operating Margin	\$ 8	\$ 14	\$ 6
Interest and Other Income	12	12	14
Net Margin	\$ 20	\$ 26	\$ 20
Equity as a % of Assets	21.4%	20.7%	20.4%
Margins-for-Interest Ratio (MFI)	1.54	1.61	1.46
Debt Service Coverage Ratio (DSC)	1.82	1.66	1.61
Average Cost of Debt	3.73%	3.92%	3.91%

2019 by the Numbers

\$759 Million Annual Revenue

432,176 Meters Served

12,372,662 MWh in Total Sales

1,824 Miles of Transmission Line

61.6% Annual Coincident Peak Load Factor

57,296 Miles of Distribution Lines

7.0 Average Distribution Meters/Mile

System Characteristics:

89.5% Residential

10.5% Commercial & Industrial



Cooperative Energy employees changing out switches at the Progress GOAB



(Left to right) Manager of Internal & Power Supply Audit **Brandi Bracey**; Accountant II **Ashley Stauter**; Business Systems Supervisor **Will Berry**; Director Business Information Systems **Jesse Torres**; Mechanic I **Joshua Powe**, R.D. Morrow, Sr. Generating Station; Heavy Equipment Operator **Chris Stewart**, R.D. Morrow, Sr. Generating Station; Critical Infrastructure Protection Supervisor **Matt Dyar**; GIS Specialist II **Kyle Walley**



2019 Milestones

Member Focus

- Returned **\$4,496,930 to Members** in patronage capital
- Completed Cost of Service Study that resulted in new rates for Cooperative Energy's 11 Member systems
- Began implementation of new statewide **Land Mobile Radio project**
- Energized the new Frank Snell delivery point and associated transmission line
- Launched a comprehensive **Commitment to Community** campaign that spotlights the community-based activities championed by Cooperative Energy and the 11 Member systems
- Developed the **GoEV** program and signed the first contract for an electric vehicle charging station
- Implemented an **Adopt-a-School** program at Petal Elementary School, Petal Upper Elementary School, and Sumrall Elementary School
- Established Project Lead the Way STEM-based education program at Presbyterian Christian School
- Created **Camp Co-op** summer education program

Transparency and Responsiveness

- **Reduced average Member rate** to 73.73 mills/kWh, .3 percent below the 2018 average rate
- Launched the employee-focused **GRID ON THE GO** mobile app
- Implemented **EcoSys** enterprise project portfolio management software solution
- Rebuilt 28 miles of transmission lines
- Established new operator testing and training across all generation facilities to standardize advancement program

Fiscal, Regulatory, and Environmental Compliance

- Commissioned 86 solar systems for consumer-members capable of generating a combined 665 kWAC

Safety and Reliability

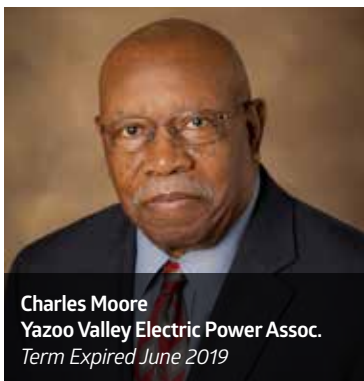
- Achieved 936,818 man hours worked with **zero lost time accidents** company wide
- Reached 250,000 man hours worked on the **Morrow Repower Project** with zero lost-time accidents
- Completed a Transmission Vulnerability Study

Serve as Trusted & Value-Adding Resource for Member-Owners

- Recruited seven new or expanding industries resulting in **891 new jobs** and **\$67,475,000 in capital investments**
- Unveiled **Cooperative Competes**, an economic development initiative aimed at increasing product and community competitiveness
- Awarded all major equipment contracts and completed all in-house demolition for the ongoing Morrow Repower Project
- Completed construction on the **Benndale Reciprocating Engine Project** and energized the new Benndale GT Switching Station
- Improved system communications and lightning protection with the installation of 58 miles of **OPGW** (optical ground wire)



Board of Directors





Gilbert Arceneaux
Coast Electric Power Assoc.



Dennis Wilson
Magnolia Electric Power



Ben Hudson
Pearl River Valley Electric Power Assoc.



James Ventress
Southwest Electric Cooperative
Term Expired June 2019



Randy Woolley
Southwest Electric
Term Began June 2019



Joey Cunningham
Twin County Electric Power Assoc.



David O'Bryan, *General Manager*
Delta Electric Power Assoc.



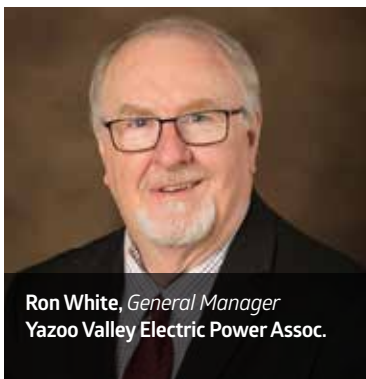
Randy Smith, *General Manager*
Dixie Electric Power Assoc.



Darrell Smith, *General Manager*
Magnolia Electric Power



Tim Perkins, *Manager*
Twin County Electric Power Assoc.



Ron White, *General Manager*
Yazoo Valley Electric Power Assoc.

Senior Management Team



Jeff Bowman, President/CEO
(beginning November 2019)



Jim Compton, President/CEO
(through November 2019)



Christa Bishop, Executive Vice President
Chief Communications Officer



Nathan Brown, Senior Vice President
Chief Operating Officer



Tom Hall, Senior Vice President
Chief Financial Officer



Steve McElhane, Senior Vice President
Compliance



Chris Rhodes, Senior Vice President
Administration



Mark Smith, Senior Vice President
Power Generation



Brad Wolfe, Senior Vice President
Power Delivery



Don Hinton, Vice President
General Counsel

Management Team



Scotty Barron, Director
Control Systems



Adolfo Bello, Director
Communications Systems



Jeff Brown, Plant
Superintendent (Morrow)



Tommy Clark, Director
Control and Computer Systems



Mark Dodd, Director
Systems Network and Security



Brad Edwards, Vice President
Power Production



James Evans, Director
Transmission Maintenance



John Gilbertson, Director
Substation Engineering



Kevin Grace, Controller



Patsy Horan, Director
Safety Compliance



Gary Hutson, Vice President
Power Supply



Stephen Jackson, Director
Legal Affairs



Allen Keene, Director
Supply Chain



Mike McCrary, Director
Finance and Risk Management



Ron Repsher, Director
Power Marketing and Fuels



Joe Riels, Director
System Operations



Chris Roberts, Director
Transmission Engineering



Dale Rounsaville, Plant
Superintendent (Moselle)



Brandon Sanders, Plant
Superintendent (Batesville)



Phyllis Seal, Director
Human Resources



Jesse Torres, Director
Business Information Systems



Alan Wilson, Director
Wholesale Services

***Trey Cannon**, Director
Generation Projects

***Dereck Sumrall**, Director
Projects

*Not pictured

2019 Retirees

Norman Broom

42 years of service

Charles Stuart

42 years of service

Steve Everett

40 years of service

Terry Lee

40 years of service

Jerry Nelson

40 years of service

George Morgan

34 years of service

Ray Haley

11 years of service

Doug Dollar

5 years of service

In Memory

Shannon Corey

1958–2019

Jeff Jones

1957–2019

Burnell Newsome

1938–2019

Brad Pickett

1982–2019

J. BoBy Spiers

1959–2019



Financial Statements

(With Independent Auditors' Report Thereon)

December 31, 2019 and 2018



Cooperative Energy employees changing out switches at the Progress GOAB



Helping Communities Shine

2019 Annual Report

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Results of Operations

Cooperative Energy provides generation and transmission services to 11 member distribution cooperatives (Members) located in southern and western portions of Mississippi under individual all-requirements wholesale power contracts that expire in 2060. Cooperative Energy's financial results from operations in 2019 were sufficient to ensure compliance with financial covenants and maintenance of an adequate liquidity position. A condensed statement of revenues and expenses is presented on page 20 of this report.

Revenues and Energy Sales

Operating revenues in 2019 decreased 7.1% from the prior year, to \$759.3 million. This decrease was attributed to lower electric energy revenue from both Members and Non-Members.

Electric energy revenue from Members was \$689.2 million in 2019, a decrease of 7.1% as compared with 2018 due to lower volume of energy sold to Members and a slightly lower effective rate. The average billed Member rate decreased 0.19 mills/kWh, or 0.26%, to 73.73 mills/kWh in 2019. The Member rate schedules had no adjustments in 2019.

Energy sales to Members decreased 1.9% to 10.0 million MWh in 2019 compared with the prior year. During November 2019, Cooperative Energy recorded its yearly peak demand of 2,074 MW which was 19.1% below the prior year peak of 2,563 MW that occurred during January 2018. Sales to Member large power customers decreased approximately 3.2% in 2019 from the prior year due to lower sales to paper mills and pumping stations. Large power customers represented 11.6% and 11.7% of the total Member load in 2019 and 2018, respectively.

Other electric energy revenue is comprised of net sales to the Midcontinent Independent System Operator, Inc. (MISO). Net sales to MISO in 2019 were 2.4 million MWh. These revenues decreased \$7.2 million to \$61.1 million in 2019 due to an 18.1% lower average selling price, despite a 9.2% increase in sales volume in 2019.

Fuel and Purchased Power Expenses

Fuel expense is affected by a number of factors, including the volume of energy generated by owned facilities, the mix of units utilized and commodity prices for fuels. The volume of generation is influenced by the relative competitive position of Cooperative Energy's owned generation facilities in MISO's economic dispatch model and the level of energy demand. Transmission congestion costs and unit reliability also affect dispatch volume and fuel expense.

Purchased power expenses depend upon the demand or capacity costs and the energy price for contracted resources, the quantity of energy purchased, and pricing of economy power purchased in the MISO market. Cooperative Energy seeks to minimize the cost of energy supplied to Members through the economic dispatch of available resources.

Resources for a portion of Member load are provided by Mississippi Power Company (MPC) through all requirements contracts under which MPC supplies the all-requirements needs at certain Member delivery points. The delivery points are served under a municipal and rural association (MRA) cost-based rate that is subject to Federal Energy Regulatory Commission (FERC) approval. The MRA rate includes a fuel cost adjustment that is revised annually.

Fuel and purchased-power costs were \$453.5 million and \$508.6 million in 2019 and 2018, respectively. These costs represent 64.2% and 67.4% of total operating expenses in 2019 and 2018, respectively.

Fuel expense decreased \$16.9 million, or 11.4%, in 2019 as compared with the previous year primarily due to a 20.8% decrease in average natural gas prices, despite a 15.2% increase in energy volume produced from owned facilities. The increase in generation from owned facilities in 2019 was attributable to higher dispatch of Cooperative Energy's Batesville Generating Station, Grand Gulf Nuclear Station (GGNS), and the J.T. Dudley,

Sr. Generation Complex (Plant Moselle) despite the repowering of the R.D. Morrow, Sr. Generating Station (Plant Morrow), and the lower dispatch of the George B. Taylor, Sr. Generating Station (Silver Creek) and the Sylvarena Station. The combined-cycle units at Batesville Generating Station and Plant Moselle accounted for approximately 33.2% and 9.9%, respectively, of Cooperative Energy's total energy available for sale from all sources during 2019.

The cost of natural gas purchased for owned units averaged \$2.69/MMBtu during 2019, inclusive of hedge and gas storage costs, as compared with \$3.39/MMBtu during 2018.

Purchased power costs decreased 10.6% during 2019 to \$321.3 million due to a 13.5% decrease in the volume of purchased energy and a 3.3% decrease in the average unit price as compared with the prior year. The average cost of purchased power during 2019 was \$56.17/MWh compared to \$54.37/MWh during 2018. The total cost of energy purchased from MPC under the MRA contracts decreased 9.8% in 2019 compared to the prior year due to a 3.8% decrease in volume and a 6.2% decrease in average prices. The average rate paid to MPC during 2019 under the MRA contracts was \$69.38/MWh compared to \$73.94/MWh in 2018. Energy supplied to Members under the MRA contracts comprised approximately 26.7% of total Member load during the year. Energy purchases from Plum Point decreased 25.0% in 2019 compared to the prior year. The average cost of power from Plum Point during 2019 was \$68.33/MWh compared to \$51.27/MWh in 2018. Cooperative Energy's costs for net energy purchases of economy energy from MISO decreased \$9.7 million, or 32.6%, during 2019 to \$20.0 million due primarily to lower volume. The average rate paid to MISO during 2019 was \$21.76/MWh compared to \$23.46/MWh in 2018. Net energy purchases from MISO comprised approximately 9.2% of total Member load in 2019 compared with 12.4% in 2018.

Cost of Fuel for Owned and Contracted Generation (\$/MWh)

		2019	2018
Coal	\$	17.78	20.68
Nuclear		8.24	10.28
Natural Gas		21.54	26.35

Energy Supplies

Sources of Supply (1000 MWh)	2019	2018	2019 over 2018 Increase/(Decrease)	2019 over 2018 % change
Total Owned and Contracted Generation	8,737	8,278	459	5.5%
Net Purchases from MISO	919	1,264	(345)	(27.3%)
MPC All-Requirement Contracts	2,665	2,772	(107)	(3.9%)
Other Purchased Power	116	129	(13)	(10.1%)
Total Energy Available	12,437	12,443	(6)	0.0%
Energy Losses	64	78	(14)	(17.9%)
Total Sales	12,373	12,365	8	0.1%

Sources of Owned Generation (1000 MWh)	2019	2018	2019 over 2018 Increase/(Decrease)	2019 over 2018 % change
Batesville Generating Station	4,134	3,663	471	12.9%
Plant Moselle	1,176	867	309	35.6%
GGNS	1,101	694	407	58.6%
Plant Morrow	0	119	(119)	(100.0%)
Other Owned Generation	304	488	(184)	(37.7%)
Total Owned Generation	6,715	5,831	884	(30.6%)

Energy Supplied from Owned and Contracted Resources (excluding MRA contract and MISO purchases) by Fuel Type	2019	2018
Natural Gas	69.3%	66.3%
Coal	13.7%	20.7%
Nuclear	12.4%	8.3%
Renewables	4.6%	4.7%
	100.0%	100.0%

Other Operating Expenses

Other operating expenses are comprised of non-fuel operating and maintenance expenses related to generation, transmission expenses and administrative and general costs. Other operating expenses represented \$14.55/MWh and \$14.27/MWh in 2019 and 2018, respectively.

Interest expense of \$41.1 million, net of approximately \$2.1 million in capitalized interest, in 2019 was 8.3% lower compared to the prior year, primarily due to lower weighted average cost of debt and additionally due to a 0.9% decrease in the daily average balance of debt outstanding. Cooperative Energy's average cost of debt was 3.73% in 2019.

Non-Operating Margin

Interest income was \$11.5 million in 2019 compared to \$11.9 million in 2018. Interest-bearing deposits include the Rural Utilities Service (RUS) Cushion of Credit (CoC) program and short-term cash equivalent investments.

Financial Condition

Cooperative Energy's financial plan targets a number of key financial metrics that are intended to ensure sufficient cash flow to meet obligations as they become due and capital to meet Members' future resource needs. One such financial target is that the annual cash coverage of interest and scheduled principal payments (debt service coverage ratio or DSC) be equal to or greater than 1.20 times. Cooperative Energy's DSC ratio in 2019 and 2018 was 1.79 and 1.66, respectively.

Cooperative Energy's net margin for the year ended December 31, 2019 was \$20.0 million compared to \$26.0 million for 2018. In formulating budgets and long-term financial plans, Cooperative Energy considers its annual "margins for interest" (MFI) ratio that is defined in Cooperative Energy's mortgage indenture. Cooperative Energy's indenture requires the maintenance of a MFI ratio of 1.10 times in order to be permitted to issue additional secured obligations. Cooperative Energy's credit agreements with banks also have a financial covenant that Cooperative Energy maintain an annual MFI ratio no less than 1.10 times. Cooperative Energy's MFI ratio was 1.54 and 1.61 for 2019 and 2018, respectively.

A strong balance sheet provides assurance to Members and other stakeholders that Cooperative Energy has the financial resources to meet its obligations. Cooperative Energy has a medium term goal to increase equity as a percentage of assets to 20%. At year-end 2019, the equity-to-assets ratio improved to 21.4% compared to 20.7% at the prior year-end.

The rate schedule for Members that is adopted each year in Cooperative Energy's annual budget is intended to cover Cooperative Energy's cost of service and meet or exceed target financial ratios. Cooperative Energy reviews its financial position each month with the Board of Directors, which may make adjustments to Member rates during the year in order to achieve financial targets and other objectives. The change in Member rates and the overall composition of demand and energy charges resulted in an average Member rate of 73.73 mills/kWh in 2019, 0.3% lower than the 2018 average rate of 73.92 mills/kWh.

Liquidity

At year-end 2019, Cooperative Energy had \$470 million in available undrawn commitments under unsecured credit facilities. The credit facilities have various final maturities between April 2022 and April 2024. Cooperative Energy believes it has adequate access to bank markets to renew or replace the credit facilities in due course as appropriate.

Liquidity available to meet Cooperative Energy's funding requirements is comprised of unrestricted cash-on-hand and amounts available under the committed bank facilities described above. Unrestricted cash and committed credit facilities available for immediate funding at year-end 2019 represented 410 days coverage of the average daily operating cash expense in 2019.

Operating Activities

Cash provided by operating activities amounted to \$162 million in 2019 compared to \$107 million in 2018. Net margins and non-cash depreciation expense totaled \$105 million in 2019 and \$100 million in 2018. Changes in current assets and liabilities, excluding cash and current maturities, increased cash flow from operations by \$6 million in 2019 and decreased cash flow by \$9 million in 2018.

Investment Activities

Cooperative Energy’s total assets at year-end 2019 were \$2.0 billion. Capital expenditures in 2019 were \$125 million and were primarily attributable to improvements to Cooperative Energy’s transmission system and to generation system projects. Cooperative Energy’s deposits in the RUS Cushion of Credit decreased \$279 million to \$55 million at year-end 2019. The decrease is primarily due to a \$254 million elective payment of select RUS guaranteed Federal Financing Bank (FFB) debt. The Cushion of Credit balance is available to meet future scheduled principal and interest payments on RUS and Federal Financing Bank debt as the payments are due.

Financing Activities

During November 2019, Cooperative Energy issued \$350 million of taxable secured bonds to accredited private investors. The funds were initially used to reduce outstanding bank loan balances and in due course will constitute a portion of financing needed for capital expenditures not financed by RUS.

During 2019, Cooperative Energy received \$42 million in loan disbursements from RUS under loan contracts. These RUS loan advances provide long-term financing for various transmission system improvement and generation system improvement projects. The RUS loan advances are generally for a 20 to 30-year period and carry interest rates that are fixed at the time of the advance. The interest rate for the RUS loan advance made in 2019 is 2.63%. At year-end 2019, Cooperative Energy had \$47 million in undrawn commitments available from RUS under one loan contract.

During March 2019, RUS notified Cooperative Energy that the \$149 million ‘AF8’ loan for transmission system and generation system improvements had been approved. Documentation of this facility closed during January 2020, with funding to take place in 2020 and 2021.

In addition to the \$254 million elective payment of select RUS guaranteed FFB debt mentioned previously, in May 2019 Cooperative Energy paid off the \$31 million of 2009 Gulf Opportunity Zone Bonds earlier than their original 2024 and 2037 maturity dates.

Credit Ratings

As of year-end 2019, Cooperative Energy was assigned the following credit ratings:

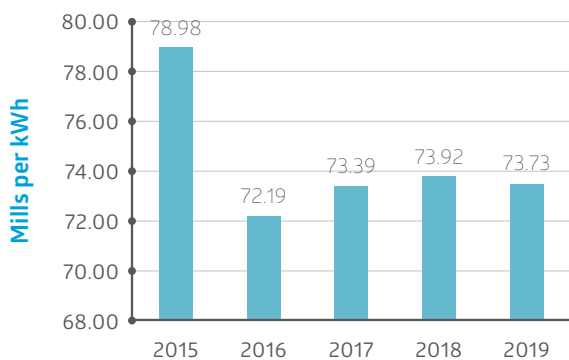
	S&P	Moody's	Fitch
Senior Secured Debt	A/Stable	A2/Stable	A/Stable
Issuer Credit Rating	A/Stable	A3/Stable	—

Five-Year Financial Summary

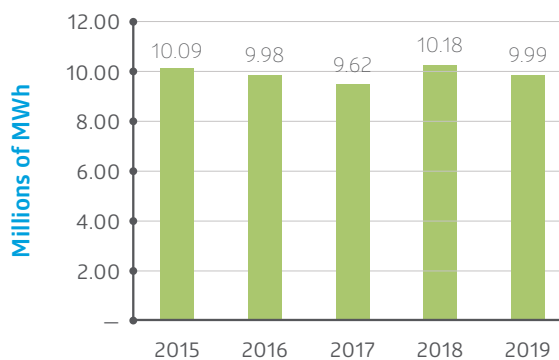
In thousands, as of December 31

	2019	2018	2017	2016	2015
SUMMARY OF OPERATIONS					
Total Operating Revenues	\$ 759,289	\$ 817,331	\$ 778,162	\$ 811,298	\$ 841,987
Operating Expenses:					
Fuel	\$ 132,164	\$ 149,105	\$ 127,946	\$ 160,842	\$ 162,159
Production	38,430	42,089	41,317	36,238	39,950
Purchased Power	321,348	359,459	354,885	343,136	385,516
Transmission	56,645	50,691	49,423	49,873	47,634
Administrative and General	29,338	28,232	27,350	25,462	21,461
Maintenance	55,636	55,422	52,738	52,884	49,116
Depreciation and Amortization	73,030	69,988	67,686	76,301	66,773
Total Operating Expenses	\$ 706,591	\$ 754,986	\$ 721,345	\$ 744,736	\$ 772,609
Operating Margin	\$ 52,698	\$ 62,345	\$ 56,817	\$ 66,562	\$ 69,378
Interest Expenses	41,063	44,778	46,624	47,676	51,847
Other Deductions	3,599	3,949	4,064	6,342	6,840
Nonoperating Margin	11,964	12,382	13,956	10,762	13,963
Net Margin	\$ 20,000	\$ 26,000	\$ 20,085	\$ 23,306	\$ 24,654
ELECTRIC UTILITY PLANT					
In Service – at Cost	\$ 2,049,434	\$ 2,017,531	\$ 2,287,182	\$ 2,247,265	\$ 2,185,836
Electric Plant Held for Future Use	10,335	10,335	—	—	—
Construction Work in Process	161,293	72,618	35,359	36,708	60,968
Total	2,221,062	2,100,484	2,322,541	2,283,973	2,246,804
Less Accumulated Depreciation	931,182	880,416	998,578	940,570	872,389
Net Utility Plant	\$ 1,289,880	\$ 1,220,068	\$ 1,323,963	\$ 1,343,403	\$ 1,374,415
TOTAL ASSETS	\$ 1,983,521	\$ 1,980,349	\$ 1,902,551	\$ 1,936,516	\$ 1,876,634
TOTAL EQUITY AND PATRONAGE CAPITAL	\$ 425,119	\$ 409,616	\$ 388,472	\$ 373,563	\$ 354,633
ENERGY SOURCES – MWH					
Generated	6,715,386	5,831,396	5,331,989	7,129,313	6,983,110
Purchased	5,721,065	6,611,595	6,090,468	6,037,018	6,036,120
Total Available for Sale	12,436,451	12,442,991	11,422,457	13,166,331	13,019,230
ENERGY SALES – MWH					
Member Cooperatives	9,987,133	10,182,072	9,616,043	9,984,821	10,086,777
Non-members	2,385,529	2,183,348	1,737,664	3,123,088	2,882,728
Total Sales	12,372,662	12,365,420	11,353,707	13,107,909	12,969,505
Wholesale Rate to Members (mills/kWh)	73.73	73.92	73.39	72.19	78.98
Total System Coincident Peak Demand (MW)	2,074	2,563	2,256	2,012	2,385

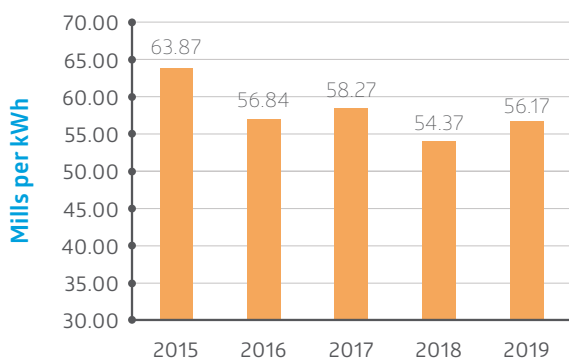
Wholesale Rate to Members



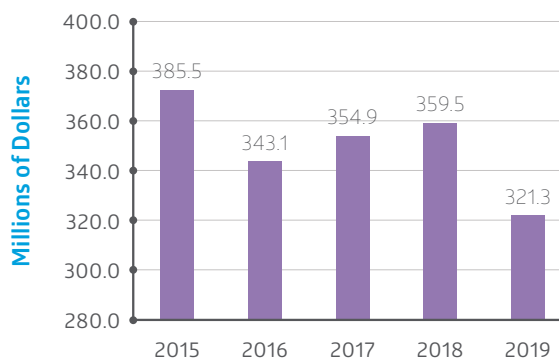
Sales to Members



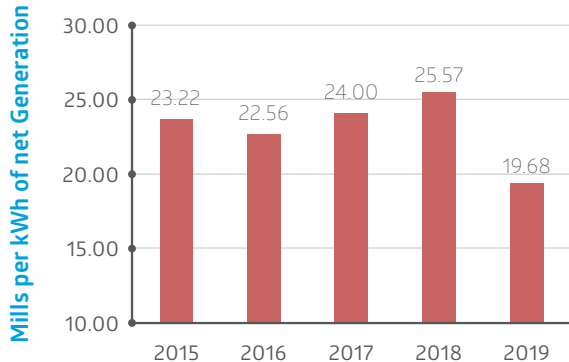
Average Cost of Purchased Power



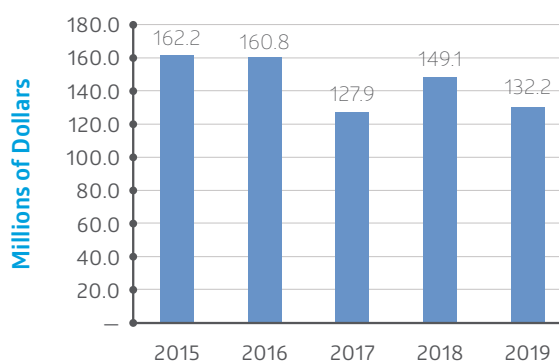
Total Cost of Purchased Power



Average Cost of Fuel for Owned Generation



Total Cost of Fuel



Independent Auditors' Report

The Board of Directors of Cooperative Energy:

We have audited the accompanying financial statements of Cooperative Energy, which comprise the balance sheets as of December 31, 2019 and 2018, and the related statements of revenues, expenses, and patronage capital, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Cooperative Energy as of December 31, 2019 and 2018, and the results of its operations and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.

KPMG LLP

Jackson, Mississippi
March 12, 2020

Assets	2019	2018
Electric utility plant:		
In service – at cost	\$ 2,049,434	2,017,531
Electric plant held for future use	10,335	10,335
Construction work in progress	161,293	72,618
	2,221,062	2,100,484
Less accumulated depreciation	931,182	880,416
Net electric utility plant	1,289,880	1,220,068
Investments:		
Investments in associated organizations and other investments	12,607	12,770
Decommissioning trust investments	91,658	75,472
Debt service and other prepayments	54,823	333,614
Total investments	159,088	421,856
Current assets:		
Cash and cash equivalents	241,492	40,993
Accounts receivable from Members	58,389	59,647
Accounts receivable from others	6,363	4,430
Inventories (at average cost):		
Fuels	1,494	1,680
Emission allowances	3,478	3,482
Materials and supplies	34,647	32,850
Other	6,737	7,010
Total current assets	352,600	150,092
Deferred charges	181,953	188,333
Total assets	\$ 1,983,521	1,980,349
Equities and Liabilities		
Equities:		
Patronage capital	\$ 424,584	409,081
Donated capital	535	535
Total equities	425,119	409,616
Long-term debt (excluding current maturities)	1,103,966	1,210,281
Accrued decommissioning obligation	114,969	111,000
Deferred credits and other long-term liabilities	166,760	93,884
Current liabilities:		
Accounts payable	72,252	58,963
Accrued interest	2,311	1,053
Other accrued expenses	8,495	6,944
Current maturities of long-term debt	43,265	42,941
Energy prepayments from Members	46,384	45,667
Total current liabilities	172,707	155,568
Commitments and contingencies (notes 3, 14, and 15)		
Total equities and liabilities	\$ 1,983,521	1,980,349

See accompanying notes to financial statements.

Statements of Revenues, Expenses, & Patronage Capital Years ended December 31, 2019 and 2018 (in thousands)

	2019	2018
Operating revenues:		
Electric energy revenue from Members	\$ 689,192	741,515
Other electric energy revenue	61,165	68,370
Other — net	8,932	7,446
Total operating revenues	759,289	817,331
Operating expenses:		
Fuel	132,164	149,105
Production	38,430	42,089
Purchased power	321,348	359,459
Transmission	56,645	50,691
Administrative and general	29,338	28,232
Maintenance expenses:		
Production	39,027	41,270
Transmission	6,809	5,569
General	9,800	8,583
Depreciation and amortization	73,030	69,988
Total operating expenses	706,591	754,986
Operating margin before interest and other deductions	52,698	62,345
Interest and other:		
Interest, net of amounts capitalized	41,063	44,778
Other	3,599	3,949
Total interest and other	44,662	48,727
Operating margin	8,036	13,618
Nonoperating margin:		
Interest income	11,532	11,949
Other	432	433
Total nonoperating margin	11,964	12,382
Net margin	20,000	26,000
Patronage capital at beginning of year	409,081	387,937
Patronage distributions	(4,497)	(4,856)
Patronage capital at end of year	\$ 424,584	409,081

See accompanying notes to financial statements.

Statements of Cash Flows Years ended December 31, 2019 and 2018 (in thousands)

	2019	2018
Operating activities:		
Net margin	\$ 20,000	26,000
Adjustments necessary to reconcile net margin to net cash provided by operating activities:		
Depreciation, amortization, and decommissioning	85,027	73,523
Gain on sale of electric utility plant assets	(148)	(108)
Gain on sale of securities	(1,214)	(1,219)
Other noncash charges	(1)	1
Change in current assets	(2,009)	11,659
Change in deferred revenue	47,175	12,255
Change in current liabilities other than current maturities	8,226	(20,630)
Change in deferred charges, credits, and other long-term liabilities	5,403	5,601
Net cash provided by operating activities	<u>162,459</u>	<u>107,082</u>
Investing activities:		
Proceeds from sale of utility plant	148	108
Purchases of securities	(19,657)	(30,403)
Proceeds from sale of securities	15,305	25,457
Change in other investments	2,621	3,600
Investment in nuclear decommissioning trust fund	(2,400)	(3,600)
Electric plant additions	(124,845)	(72,416)
Change in service deposits	278,791	(90,825)
Net cash provided by investing activities	<u>149,963</u>	<u>(168,079)</u>
Financing activities:		
Scheduled principal payments on long-term debt	(36,862)	(49,941)
Elective principal payments of long-term debt	(285,112)	—
Proceeds from issuance of long-term debt	391,968	5,764
Change in lines of credit	(174,981)	110,984
Payment of debt issuance cost	(2,080)	—
Payment of Patronage Capital	(4,856)	(5,149)
Net cash provided by (used in) financing activities	<u>(111,923)</u>	<u>61,658</u>
Net change in cash and cash equivalents	200,499	661
Cash and cash equivalents at beginning of year	40,993	40,332
Cash and cash equivalents at end of year	<u>\$ 241,492</u>	<u>40,993</u>
Additional cash flow disclosures:		
Interest paid, net of amount capitalized	\$ 38,483	54,160
Change in accrued additions to electric utility plant	8,948	51
Noncash adjustment regulatory asset — Plant Morrow	—	108,925
Noncash adjustment electric utility plant — Plant Morrow	—	(104,896)
Noncash adjustment current assets — Plant Morrow	—	(4,029)

See accompanying notes to financial statements.

1. Nature of Operations

Cooperative Energy is a member-owned, not-for-profit electric generation and transmission cooperative that supplies wholesale electricity and other services to its 11 member distribution cooperatives (the Members), which, in turn, provide retail electric service to consumers in certain areas of Mississippi through approximately 437,000 meters. Under long-term wholesale power contracts with each of its Members, Cooperative Energy is obligated to provide all of the power required by the member systems. Financing assistance is provided by the United States Department of Agriculture, Rural Utilities Service (RUS). In addition to being subject to regulation by its own governing board of directors, Cooperative Energy is subject to certain rules and regulations promulgated for rural electric borrowers by RUS. Cooperative Energy maintains its accounting records in accordance with the Federal Energy Regulatory Commission's (FERC) Chart of Accounts, as modified and adopted by RUS. Revenue is generally recognized when power is delivered to its Members. However, as a regulated utility, the methods of allocating costs and revenue to time periods may differ from those principles generally applied to nonregulated companies.

Cooperative Energy owns a 10% undivided interest in a nuclear generating plant known as Grand Gulf Unit 1 (Grand Gulf). System Energy Resources, Inc. (SERI), a subsidiary of Entergy Corporation (Entergy), owns the remaining 90%, either outright or through leasehold interests. Entergy Operations, also a subsidiary of Entergy, operates the plant along with other nuclear plants owned by Entergy, subject to owner oversight. Grand Gulf commenced commercial operation on July 1, 1985.

2. Summary of Significant Accounting Principles

a. Electric Utility Plant and Depreciation

Electric utility plant is stated at cost, which includes contract work, materials, direct labor, allowance for funds used during construction, and allocable overhead costs. The cost of electric generating stations and related facilities also includes costs of training and production incurred, less revenue earned, prior to the date of commercial operation.

Depreciation is provided by straight-line group method for electric utility plant in service at the following annual composite rates:

Nuclear generation plant	1.63%
Nonnuclear generation plant	0.6% to 4.55%
Transmission plant	2.75%
General plant and transportation equipment	2% to 25%

At the time that units of the electric utility plant are retired, their original cost and cost of removal, less salvage value, are charged to accumulated depreciation. Replacements of the electric utility plant involving less than a designated unit of property are charged to maintenance expense. With the exception of turbine inspections, repair and maintenance costs incurred during a planned major maintenance outage are expensed when incurred. Costs associated with turbine inspections are recorded as regulatory assets and amortized over the periods between inspections.

Cooperative Energy evaluates long-lived assets for impairment when events or changes in circumstances indicate that the carrying value of such assets may not be recoverable, based upon expectations of undiscounted cash flows and operating income. No impairments were incurred in 2019 or 2018.

b. Allowance for Funds Used during Construction

Cooperative Energy capitalizes interest on certain significant construction and development projects while the projects are under construction. The interest cost capitalized related to debt specifically borrowed for construction and development projects during construction is reflected as a reduction of interest expense. The imputed interest cost related to construction and development projects funded without specific borrowings during construction is reflected as allowance for funds used during construction. During 2019 and 2018, total interest cost amounted to \$43.2 million and \$45.6 million, respectively, with \$2.1 million and \$0.8 million, respectively, capitalized as part of the electric utility plant.

c. Cost of Decommissioning Nuclear Plant

Cooperative Energy's portion of the estimated decommissioning cost of Grand Gulf (see note 3) is charged to operating expenses over the estimated service life of the plant. In December 2011, the Nuclear Regulatory Commission (NRC) accepted a License Renewal Application (LRA) for Grand Gulf Unit No. 1 and commenced a process to review the requested extension of the operating license to 2044. The renewal of the operating license was issued in December 2016. The operating license from the NRC expires in 2044.

d. Investment Securities

Debt service and other prepayment amounts represent debt service prepayments deposited in the RUS Cushion of Credit Program. Investment deposits are voluntary and earn interest while on deposit. Interest bearing deposits are recorded at cost. These investments are utilized for required debt service payments as directed by Cooperative Energy. The funds are restricted for RUS debt service and are not available for general operating purposes.

Decommissioning trust investments are carried at fair value. In 2009, the Board of Directors authorized Cooperative Energy to refund or recover any trust investment gains or losses through future rates. In accordance with the regulatory treatment for such decommissioning trust funds, beginning in 2009, Cooperative Energy records a regulatory asset or liability for the amount of unrealized losses or unrealized gains, respectively.

The primary components that determine a debt security's fair value are its coupon rate, maturity, and credit characteristics. When the fair value of a security falls below amortized cost, an evaluation must be made to determine if the unrealized loss is a temporary or other-than-temporary impairment. Securities that are deemed to be other than temporarily impaired are written down to net realizable value by a charge to expense. Premiums and discounts are amortized and accreted to operations using the level yield method, adjusted for prepayments as applicable. Gains and losses on sales of investment securities are computed using the specific identification method.

e. Cash and Cash Equivalents

For purposes of reporting cash flows, all temporary investments with original maturities of three months or less are deemed to be cash equivalents.

f. Inventories

Inventories of fuels and inventories of materials and supplies are valued using the rolling weighted average realizable value. Any inventories that are obsolete or excess are written down to their estimated disposal value.

g. Emission Allowances

Cooperative Energy maintains an inventory of Sulfur Dioxide Emission allowances for the acid rain program. These allowances are valued using the rolling weighted average cost method.

h. Regulatory Accounting

Cooperative Energy's accounting policies include compliance with Accounting Standards Codification (ASC) No. 980, *Regulated Operations*. Regulatory assets represent probable future reductions in revenues, or increase in expenses, associated with certain items that are expected to be recovered from customers through the ratemaking process. Regulatory liabilities represent probable future revenues associated with amounts that are expected to be credited to customers through the ratemaking process. In the event that Cooperative Energy is no longer able to comply with ASC 980 as the result of a change in regulation or effects of competition, Cooperative Energy would be required to recognize the effects of its regulatory assets and liabilities currently in its statements of revenues, expenses, and patronage capital.

Periodically, the Board of Directors will set a benchmark power cost adjustment rate to be collected from Members in order to more closely match revenues with actual and forecasted fuel and purchased power costs consistent with the cooperative not-for-profit operation of Cooperative Energy. Material variances between these revenues and costs may cause the recognition of deferred credits or deferred charges from one year to the next in accordance with how these revenues and or costs are expected to be recovered or refunded.

Additional details regarding regulatory assets and liabilities are included in notes 7 and 10.

i. Patronage Capital

The bylaws of Cooperative Energy provide that any excess of revenues over expenses and accumulated prior-year deficits shall be treated as advances of capital by the Member patrons and credited to them on the basis of their patronage.

j. Income Taxes

Cooperative Energy is exempt from United States income taxes pursuant to Section 501(c)(12) of the Internal Revenue Code, which requires that at least 85% of Cooperative Energy's gross income be derived from its Members.

k. Derivative Financial Instruments

Derivative and hedge accounting requires that all derivatives be recognized in the balance sheet either as an asset or liability, measured at fair value, unless they meet the normal purchases and sales exemption criteria. Contracts in which Cooperative Energy is effectively hedging the variability of cash flows relate to forecasted natural gas purchases, transmission congestion cost, and interest rates. Any gains or losses resulting from the fair value measurement of natural gas hedges, energy sales, and transmission congestion cost hedges are passed through to Members using the mechanisms of the benchmark power cost adjustment rate. Therefore, these derivative instruments are recorded at fair value in the accompanying balance sheets, along with a corresponding offsetting regulatory asset or liability. See note 11 for the values of the derivatives and the financial statement line item in which the derivatives are reported in the financial statements, and for further disclosure related to the interest rate cap agreement.

l. Electric Energy Revenues

Cooperative Energy has a contract with each of the 11 Member distribution cooperatives as well as engages in the selling of excess energy to the Midcontinent Independent System Operator (MISO). MISO transactions are covered by a standard tariff, or contract. During the years ended December 31, 2019 and 2018, revenues related to MISO were \$61.2 million and \$68.4 million, respectively, and are included in other electric energy revenue in the statements of revenues, expenses, and patronage capital.

The electricity sold and delivered is measured in megawatt hours (MWh). Contracts with Members, and with MISO, specify at what delivery point the electricity, or transmission service, is to be delivered and metered. Cooperative Energy charges a demand fee for peak usage. Demand is measured in kilowatt hour months,

and is metered at our Member delivery points. Transmission service to MISO is comparably measured in kilowatt hour months. This contractual obligation is specified in our Member contracts and the MISO tariff.

Cooperative Energy is rate regulated by our Board of Directors who review rates at least annually to determine rate levels needed to cover costs, achieve compliance with our loan covenants, as well as maintain a stable financial profile. Our rates to our Members (both energy and demand) are published and approved by our Board of Directors prior to any actual billings. Electricity sales and transmission system usage into the MISO market are governed by published rates.

Electricity and demand are separately metered and priced per contract.

Meter data is collected, and pricing applied, as of the last day of each month. There is no timing difference between Cooperative Energy's fiscal accounting period and the performance obligation period. Revenues are recognized at the time of the transfer of control to our Members and non-members. Cooperative Energy satisfies their performance obligations to deliver energy as energy is delivered to our customers.

Cooperative Energy applies the invoicing practical expedient to recognize revenues to Members except in circumstances where the invoiced amount does not represent the value transferred to the Member.

Uncollectible accounts have historically been negligible, so Cooperative Energy does not provide an allowance for doubtful accounts.

m. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

n. Recently Issued Accounting Standards

During 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers*. This standard requires entities to recognize revenue in the amount to which the entity is entitled when the transfer of goods and services to customers occurs. Cooperative Energy adopted the standard in 2019, with no significant impact to the 2019 financial statements.

During 2016, the FASB issued ASU 2016-02, *Leases*. This standard revised accounting criteria for leasing arrangements. The standard requires many leases, currently recorded as operating leases, to be recorded on the Balance Sheet. Cooperative Energy is evaluating the impact of this new standard and plans to adopt the standard during 2021.

In June 2016, the FASB issued ASU 2016-13, *Measurement of Credit Losses on Financial Instruments* which significantly changes the way entities recognize impairment of many financial assets by requiring immediate recognition of estimated credit losses expected to occur over their remaining life, instead of when incurred. Additionally, in November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses*, which amends Subtopic 326-20 (created by ASU 2016-13) to explicitly state that operating lease receivables are not in the scope of Subtopic 326-20 and to clarify the nonpublic entity effective date of ASU 2016-13. Cooperative Energy is evaluating the impact of this new standard and plans to adopt the standard during 2022.

During 2016, the FASB issued ASU 2016-01, *Financial Instruments-Overall*. The amendments in this standard require all equity instruments to be measured at fair value with changes in the fair value recognized through net income (other than those accounted for under equity method of accounting or those that result in consolidation of the investee). Cooperative Energy adopted the standard in 2019, with no significant impact to the 2019 financial statements.

During 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*. The amendments in this standard require that an employer report the service cost component in the same line item or items as other compensation costs from services rendered by the pertinent employees during the period. The other components of net benefit cost, such as interest expense, and prior service costs will be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. The amendments in this standard also allow only the service cost component to be eligible for capitalization when applicable (for example, as a cost of internally manufactured inventory or a self-constructed asset). Cooperative Energy adopted the standard in 2019, with no significant impact to the 2019 financial statements.

o. Bond and Debt Issuance Costs

Bond and debt issuance costs are being amortized by the straight-line method, which does not differ materially from the interest method, over the term of the related debt. The amortization during the period of construction is capitalized.

p. Other

During September 2015, Cooperative Energy entered into a purchase power agreement with MS Solar 3, LLC for approximately 52 MW of solar energy. Under terms of the agreement, which has a 25 year term, Cooperative Energy has the option to extend the purchase power agreement for 5 years, or purchase the solar equipment at the higher of fair market value, or a minimum purchase price that varies each year after 9 years. There are no required minimum payments. Cooperative Energy only pays for actual energy received from the facility. Thus, payments made under the agreement are expensed and charged to purchased power, similar to an operating lease. During 2019 and 2018, Cooperative Energy paid \$4.9 million and \$5.1 million, respectively, for energy from this facility.

q. Subsequent Events

Cooperative Energy has evaluated subsequent events through March 12, 2020, the date these financial statements were available to be issued.

3. Commitments and Contingencies Regarding Grand Gulf

Cooperative Energy and SERI are co-licensees and parties to a joint ownership contract that sets forth the rights and obligations of the Grand Gulf owners, with Cooperative Energy generally obligated to pay 10% of all operating and capital costs and entitled to receive 10% of the electricity generated by the plant. Cooperative Energy paid \$47.1 million and \$57.5 million under the contract in 2019 and 2018, respectively.

Cooperative Energy is also responsible for 10% of the estimated cost to decommission Grand Gulf. Entergy provides information to the NRC on behalf of Cooperative Energy that demonstrates sufficient financial resources will be available at the time it becomes necessary to decommission. In addition, Cooperative Energy received approval from the Internal Revenue Service to establish a "tax free" grantor trust as a vehicle to fund the estimated decommissioning costs. Cooperative Energy contributed \$2.4 million to the trust in 2019 and \$3.6 million in 2018. Cooperative Energy expects to fund the trust on an as needed basis through at least 2044, based on investment performance and revisions to the estimated decommissioning liability.

Cooperative Energy has recorded an accrued decommissioning obligation for Grand Gulf. The liability is recorded at the present value of the estimated future outflows, with an accompanying addition to the recorded cost of the long-lived asset, which is then depreciated over its useful life. The accrual for this Grand Gulf obligation was \$103.5 million and \$99.6 million at December 31, 2019 and 2018, respectively. The accrued decommissioning obligation is based on estimated future costs to remediate the site. Accordingly, as with any estimates, precision of the estimate and unasserted claims can have a material impact on future cost. Also see note 14 for additional discussion.

Cooperative Energy could be assessed for other costs of this facility relative to insurance coverage for the public in the event of a nuclear power plant incident. The Price Anderson Act requires that reactor licensees purchase insurance and participate in a secondary insurance pool that provides insurance coverage for the public in the event of a nuclear power plant accident. The costs of this insurance are borne by the nuclear power industry. Within the secondary pool, each nuclear reactor has a contingent obligation to pay a retrospective premium, equal to its proportionate share of the loss in excess of the primary level, regardless of proximity to the incident or fault. Cooperative Energy's share of such premium could be up to a maximum of approximately \$13.8 million for each nuclear incident involving licensed reactors, payable at a rate of \$2.1 million per year per incident per nuclear power reactor. In addition, under a property damage and accidental outage insurance program, Cooperative Energy could be assessed up to \$2.4 million maximum per occurrence for property damage, decontamination, or premature decommissioning expense involving nuclear generation plants owned by others. No such incidents were incurred in either 2019 or 2018.

4. Electric Utility Plant

Electric utility plant consisted of the following:

	Cost		Accumulated depreciation	
	December 31		December 31	
	2019	2018	2019	2018
	(In thousands)		(In thousands)	
Grand Gulf Nuclear	\$ 565,709	564,439	365,485	361,366
Morrow steam	44,704	44,469	29,415	27,582
Moselle steam	35,445	32,932	25,749	24,747
Moselle combined cycle	213,783	213,366	46,764	40,657
Moselle gas turbines	60,287	60,520	29,745	28,042
Batesville combined cycle	265,215	258,967	66,817	57,297
Silver Creek/Sylvarena gas turbines	205,036	203,609	94,215	88,676
Benndale/Paulding gas turbines	4,847	4,847	4,806	4,801
Solar sites	1,558	1,558	228	166
Total generating plant	1,396,584	1,384,707	663,224	633,334
Transmission plant	443,052	424,565	153,166	145,376
General plant and equipment	206,758	205,210	114,379	102,666
Electric plant leased to others	3,040	3,049	413	411
Electric plant in service	2,049,434	2,017,531	931,182	881,787
Electric plant held for future use	10,335	10,335	—	—
Construction work in process	161,293	72,618	—	(1,371)
Total electric utility plant	\$ 2,221,062	2,100,484	931,182	880,416

At December 31, 2019 and 2018, electric plant held for future use in the amount of \$10.3 million consisted of existing Plant Morrow assets that will continue to be used and useful following the plant's conversion to a natural gas plant. Construction of the new natural gas plant will start in 2020 and will take several years to complete. At December 31, 2019, Cooperative Energy has commitments of approximately \$130.3 million related to construction work in process consisting of \$108.4 million associated with contracts related to the Plant Morrow project, \$18.2 million associated with contracts related to the Benndale repower project, and \$3.7 million associated with contracts related to other projects. See note 7 for more discussion related to the 2019 changes to the Plant Morrow utility plant.

Depreciation expense was \$61.4 million and \$68.3 million during 2019 and 2018, respectively.

5. Investments in Associated Organizations and Other Investments

Investments in associated organizations and other investments are stated at cost and consisted of the following:

	December 31	
	2019	2018
	(In thousands)	
National Rural Utilities Cooperative Finance Corporation (CFC) Patronage Capital and Term Certificates	\$ 7,026	7,001
Economic Development Loans	1,481	1,704
Other	4,100	4,065
	\$ 12,607	12,770

CFC term certificates bear interest at 5.00% and mature in 2070 through 2080.

6. Decommissioning Trust Investments

The cost or amortized cost and estimated fair value of investments securities and cash equivalents were as follows:

	December 31, 2019			
	Cost or amortized cost	Approximate fair value	Gross unrealized gains	Gross unrealized losses
	(In thousands)			
Equity securities:				
Common stocks	\$ 4,020	6,251	2,295	(64)
Fixed income mutual funds and exchange-traded funds	16,495	16,860	365	—
Equity mutual funds and exchange-traded funds	43,847	53,993	10,146	—
Total equity securities	64,362	77,104	12,806	(64)
Debt securities:				
Corporate bonds	6,614	6,807	193	—
U.S. government obligations	6,773	6,870	101	(4)
Total debt securities	13,387	13,677	294	(4)
Money market funds	877	877	—	—
Total	\$ 78,626	91,658	13,100	(68)

December 31, 2018

	Cost or amortized cost	Approximate fair value	Gross unrealized gains	Gross unrealized losses
	(In thousands)			
Equity securities:				
Common stocks	\$ 4,273	5,295	1,224	(202)
Fixed income mutual funds and exchange-traded funds	16,941	16,649	—	(292)
Equity mutual funds and exchange-traded funds	38,877	40,641	3,559	(1,795)
Total equity securities	60,091	62,585	4,783	(2,289)
Debt securities:				
Corporate bonds	7,483	7,343	15	(155)
U.S. government obligations	4,588	4,600	12	—
Total debt securities	12,071	11,943	27	(155)
Money market funds	944	944	—	—
Total	\$ 73,106	75,472	4,810	(2,444)

Proceeds from sales of securities were \$15.3 million in 2019 and \$25.5 million in 2018, respectively. Related gross realized gains and losses in 2019 were \$1.4 million and \$0.1 million, respectively, and in 2018 were \$1.9 million and \$0.7 million, respectively. Fair market value of decommissioning trust investments is based on quoted prices in active markets.

7. Deferred Charges (Including Regulatory Assets)

The following is a summary of amounts recorded as deferred charges, including regulatory assets:

	December 31	
	2019	2018
	(In thousands)	
Regulatory assets:		
Nuclear outage maintenance cost	\$ 1,610	4,936
Postretirement medical benefit regulatory asset	4,023	1,577
Unamortized investment in Grand Gulf Unit 2	35,372	37,576
Deferred turbine overhaul costs	9,297	12,925
Unamortized penalties on debt	160	369
Deferred cost of buyout of Batesville wholesale power contract	1,026	2,053
Development fees-Panola Partnership	2,513	2,750
Batesville acquisition costs	1,224	1,306
Pension plan accelerated funding	7,312	7,977
Unrealized loss on gas hedges	16,642	1,812
Coal plant retirement – Plant Morrow	96,897	109,398
	176,076	182,679
Other deferred charges:		
Advance payment on Plum Point power purchase agreement	2,531	2,654
Transmission congestion hedge asset	1,284	1,460
Other	2,062	1,540
	\$ 181,953	188,333

Nuclear outage maintenance costs represent Cooperative Energy's 10% share of Grand Gulf's incremental maintenance costs associated with refueling outages. These costs are recorded as a regulatory asset when incurred and are amortized by the straight-line method over the 22 to 23 months between scheduled outages.

Cooperative Energy capped its investment in construction of the Grand Gulf Unit 2 nuclear generating plant at \$101.1 million, and majority owner, SERI, subsequently abandoned construction of Grand Gulf Unit 2 generating plant during the late 1980's. Cooperative Energy carried the unamortized investment balance in the deferred loss from disposition of utility plant and amortized this investment during the years 1989 to 2005 resulting in a remaining balance of \$44.1 million. During 2006, Cooperative Energy received approval from RUS to cease amortization of the investment based on the possibility that a part of the abandoned plant may have value for a potential new nuclear unit to be constructed at the Grand Gulf site. RUS also approved reclassification of the investment balance from deferred loss from disposition of utility plant to electric plant held for future use. The majority owner, SERI, discontinued efforts to obtain permitting for an additional nuclear unit for the site in 2015. During 2015, Cooperative Energy arranged for an independent appraisal of the abandoned plant, and the independent appraiser concluded that there was no potential value for the plant site. Accordingly, as a rate regulated entity qualifying for Regulatory Accounting, per ASC Topic 980, Cooperative Energy reclassified the \$44.1 million balance from electric plant held for future use to regulatory assets in 2015. This accounting was also approved by RUS. Cooperative Energy plans to amortize this balance during the periods from 2016 to 2036. See note 2(c) and note 3, for additional information regarding the Grand Gulf nuclear generating facility.

Turbine overhaul costs are recorded as regulatory assets when incurred and amortized into rates during the period between scheduled overhauls, typically five to six years.

Cooperative Energy repriced or refinanced significant amounts of its outstanding debt prior to 1995 and prepaid debt in 2016. As a condition of the transactions, Cooperative Energy paid various prepayment penalties, which are treated as deferred charges to be amortized over the remaining life of the debt. Amortization of all such penalties was \$0.2 million in 2019 and \$0.3 million in 2018.

In 2005, Cooperative Energy renegotiated its contract for rights to the output of a 279-megawatt gas-fired, combined-cycle combustion turbine-generator located near Batesville, Mississippi. In so doing, Cooperative Energy paid approximately \$16.3 million to buy out the remaining 15-year commitment with a wholesale power distributor. During December 2012, Cooperative Energy purchased the Batesville facility. The \$16.3 million buy-out payment has been amortized down to \$1.0 million as of year-end 2019, and will continue to be amortized and recovered in rates over the life of the original power purchase contract.

The development fees – Panola Partnership represent fees paid under an inducement agreement and use agreements for the Batesville Generating Facility. The payment will be amortized and recovered in rates over the life of the agreement or the period from December 2013 through July 2031.

The NRECA Board of Directors approved an option to allow participating cooperatives in the Retirement Security Plan (RS Plan), a defined benefit multiemployer pension plan, to make an accelerated payment and reduce future required contributions. The prepayment amount is a cooperative's share, as of January 1, 2013, of future contributions required to fund the RS Plan's unfunded value of benefits earned using the RS Plan's actuarial valuation assumptions. After making the prepayment, the billing rate was reduced by approximately 25%, retroactive to January 1, 2013. The 25% differential in billing rates is expected to continue for approximately 15 years. However, changes in interest rates, asset returns and other plan experience different from that expected, plan assumption changes, and other factors may have an impact on the differential in billing rates and the 15 year period. During February 2013, Cooperative Energy made an \$11.9 million payment under this option. In accordance with RUS guidance, the payment is being amortized over an 18 year period based on the difference in the normal Plan retirement age, and average age of the Cooperative Energy workforce.

As stated in note 2, Cooperative Energy hedges the variability of cash flows related to forecasted natural gas purchases and energy sales. The fair value of these derivative financial instruments is carried on the balance sheets. Realized gains or losses incurred with these instruments are passed through as part of the wholesale rate to Members. See notes 2(k) and 11(a) for additional information regarding accounting for annual gas and energy sale hedges.

Due to age, dispatch cost, increased environmental compliance cost, and the projected cost of upgrades required to keep Plant Morrow operational, the continued use of the plant as a coal-fired generation resource is not considered to be in the best long-term interest of Cooperative Energy. Management recommended, and the Board of Directors of Cooperative Energy approved, decommissioning the coal-fired assets of the plant at its meeting held on June 20, 2018. The net book value of the utility plant assets to be retired/demolished was \$104.9 million, or roughly 80 percent of the net book value of Plant Morrow assets. In addition, certain spare parts and other current assets at Plant Morrow associated with coal-firing of approximately \$4.0 million were also retired in 2018. In December 2018, Cooperative Energy relieved the coal-firing assets associated with Plant Morrow, and transferred \$109.4 million into a regulatory asset. The regulatory asset will be amortized during the period 2019–2030.

During 2006, Cooperative Energy paid \$3.5 million as a refinancing cost under terms of the Plum Point power purchase agreement. This payment was made in lieu of an increase in the reservation payments associated with power purchased under this contract. During 2008, \$0.5 million of preliminary survey costs associated with this power purchase agreement were also recorded as a deferred charge. During 2010, Cooperative Energy paid \$6.2 million as its share of costs associated with transmission system interconnections at this

facility. These funds will be amortized into rates over the life of the power purchase agreement, which began during 2010 when the related plant came online. During 2011, Cooperative Energy was refunded \$2.4 million as transmission service credits relating to payments of the transmission system interconnect cost.

8. Patronage Capital

Patronage capital consisted of the following:

	December 31	
	2019	2018
	(In thousands)	
Cumulative margins	\$ 456,952	436,952
Less retirements to date	32,368	27,871
	\$ 424,584	409,081

The return to Members of contributed capital is permitted under terms described in Cooperative Energy's Indenture of Deed of Trust, Security Agreement and Financing Statement (Indenture), the security document governing first mortgage obligations. Equity of Cooperative Energy represents 27.0% and 24.6% of the aggregate long-term debt and equity at December 31, 2019 and 2018, respectively.

9. Debt

The listing below details Cooperative Energy's committed unsecured credit agreements:

	Unsecured revolving credit agreements		
	Commitment Amount	Outstanding balance as of December 31, 2019	Expiration Date
	(In thousands)		
Trustmark National Bank	\$ 40,000	—	April 1, 2022
BancorpSouth	40,000	—	April 1, 2022
Regions	40,000	—	April 24, 2022
Syndicated Line of Credit	350,000	—	April 23, 2024
Total	\$ 470,000	—	

These revolving credit agreements bear interest at variable rates generally based on LIBOR or Prime. At December 31, 2019, no amounts were outstanding under revolving credit agreements.

Cooperative Energy also has a \$25.0 million letter of credit facility with National Rural Utilities Cooperative Finance Corporation (CFC). At December 31, 2019, there was \$20.9 million outstanding under this facility. A \$10.5 million letter of credit is utilized to satisfy security requirements of the Plum Point power purchase agreement, and two other letters of credit in the amount of \$10.4 million are utilized as financial security for certain transactions with MISO.

Long-term debt consisted of the following:

	December 31	
	2019	2018
	(In thousands)	
Mortgage notes payable in quarterly installments to Federal Financing Bank (FFB) at interest rates varying from 2.094% to 4.613%, through 2052	\$ 664,706	905,811
Mortgage notes payable in quarterly installments to CFC (3.25% at December 31, 2019 and 3.75% December 31, 2018), maturing in 2022	166	327
RUS mortgage notes payable in monthly installments (5.125% to 5.75%), maturing in 2020	360	798
RUS Economic Development notes payable in monthly installments at 0%; maturing in 2026 ⁽¹⁾	1,481	1,704
2009 Gulf Opportunity Zone Bonds, fixed interest to maturity, annual sinking fund payments commence 2011, repaid in 2019	—	32,220
First Mortgage Bonds, Series 2010A Bonds – \$40 million at 4.08%, maturing December 9, 2030, \$110 million at 5.40%, maturing December 9, 2040	128,938	133,558
First Mortgage Bonds, Series 2019 Bonds – \$350 million at 3.15%, maturing November 6, 2049	350,000	—
CoBank note payable in quarterly installments maturing in 2023, fixed interest rate ⁽¹⁾	4,284	5,523
Trustmark National Bank revolving line of credit, variable interest rate ⁽¹⁾	—	9,981
BancorpSouth revolving line of credit, variable interest rate ⁽¹⁾	—	15,000
Regions revolving line of credit, variable interest rate ⁽¹⁾	—	—
Syndicated line of credit, variable interest rates ⁽¹⁾	—	150,000
	1,149,935	1,254,922
Less:		
Debt issuance cost	2,704	1,700
Current maturities	43,265	42,941
Long-term debt (excluding current maturities)	\$ 1,103,966	1,210,281

⁽¹⁾ Denotes an unsecured agreement.

During 2018, funding became available for a FFB loan guaranteed by RUS in the amount of \$88.7 million, for capital expenditures. The remaining unadvanced commitment was \$46.8 million at December 31, 2019. Substantially all assets of Cooperative Energy are pledged as collateral for long-term debt that is secured under the Indenture agreement.

Approximate annual maturities (scheduled periodic principal payments) of long-term debt for the next five years are as follows (in thousands):

2020	\$	43,265
2021		37,563
2022		44,501
2023		45,076
2024		52,602

Cooperative Energy is required by debt compliance covenants to maintain certain levels of patronage capital, maintain certain financial ratios of interest coverage and annual debt service coverage, and to limit the amount of unsecured indebtedness. Cooperative Energy's management believes they were in compliance with such requirements at December 31, 2019 and 2018.

10. Deferred Credits and Other Long-Term Liabilities (Including Regulatory Liabilities)

The following is a summary of deferred credits and other long-term liabilities, including regulatory liabilities:

	December 31	
	2019	2018
	(In thousands)	
Regulatory liabilities:		
Regulatory liability for deferred revenue from power cost adjustments	\$ 25,561	12,385
Power Supply Development Fund	79,899	45,900
Amortization and Depreciation Fund	10,000	10,000
Unrealized gain on Decommissioning Trust	12,208	1,524
Unrealized gain on gas hedges	—	1,095
Unrealized gain on transmission congestion hedge	1,284	1,460
Unrealized gain on interest rate cap	—	1
	128,952	72,365
Other deferred credits and long-term liabilities:		
Reserve for economic development contributions	5,248	4,886
Medical insurance claim funding	3,455	3,384
Capital lease	763	848
Natural gas hedge liability	15,111	1,812
Postretirement benefit obligation (other than pensions)	13,231	10,589
	\$ 166,760	93,884

Included in the 2018 liability for deferred revenue from power cost adjustments is \$12.4 million collected from Members during 2018 and recognized as revenue in 2019. Accordingly, the \$25.6 million liability recorded in 2019 represents amounts collected from Members during 2019, and is expected to be recognized as revenue in 2020.

The Power Supply Development Fund (PSDF) was created by the Board of Directors in 2009 with a Board Resolution. The fund was established to facilitate the funding of future capital projects needed to supply the increasing requirements of Members with additional generation sources and to comply with changes in environmental regulation. The initial \$25.0 million regulatory liability for the PSDF was collected from Members in 2009 and 2010. An additional \$20.9 million collected from Members during 2018 was deposited in the fund. An additional \$34.0 million collected from members during 2019 was deposited in the fund. The PSDF is

expected to be recognized as costs associated with large generation and environmental projects impact rates are incurred in future periods.

The \$10 million liability for the Amortization and Depreciation Fund represents amounts collected from Members during 2015 and is expected to be fully accreted into revenue no later than year 2036. This fund, created by the Board of Directors, will offset expenses related to the amortization of the investment in Grand Gulf Unit II.

During 2009, the Cooperative Energy Board authorized transfer of the balance of unrealized gains and losses in the Grand Gulf Decommissioning Trust Fund from the equity section of the balance sheet to the regulatory liability or asset section of the balance sheet. The balance in the regulatory account will be amortized into rates over the remaining license life of Grand Gulf. The initial transfer into the regulatory asset account during 2009 amounted to approximately \$8.0 million, with \$0.1 million and \$0.3 million amortized into 2019 and 2018 rates, respectively.

See notes 2(k) and 11(a) for additional information regarding accounting for annual gas and energy sale hedges.

As described in note 12(c), Cooperative Energy sponsors a defined benefit plan that provides certain health insurance benefits to employees hired prior to January 1, 1995, and to their eligible dependents. The long-term accumulated postretirement benefit obligation for this benefit plan at December 31, 2019 was \$10.2 million. In addition to the postretirement health insurance benefit plan, the postretirement benefit obligation amount reported in the other long-term liability table includes \$3.0 million related to certain other employee benefit plan arrangements.

11. Financial Instruments

a. Derivative Financial Instruments

Cooperative Energy enters into financial hedging arrangements for natural gas used in owned and contracted generating units. Cooperative Energy enters into these hedging arrangements to lessen the impact of natural gas price fluctuations on the cost of service. Under terms of the three agreements, Cooperative Energy is allowed credit exposures of up to \$115.0 million. Physical purchases, actual natural gas usage, and financial hedge positions are considered when calculating amounts due to the counterparty. At December 31, 2019, approximately \$15.1 million of natural gas financial hedges were in a net liability position based on the fair value of the derivative. At December 31, 2018, approximately \$1.8 million of natural gas financial hedges were in a net liability position based on the fair value of the derivative. Cooperative Energy does not apply hedge accounting to these financial hedging instruments. At December 31, 2019 and 2018, Cooperative Energy had posted no collateral with a counterparty.

As of December 31, 2019, Cooperative Energy has acquired financial hedges to cover approximately 75% of forecasted natural gas consumption for 2020, and 25% of forecasted natural gas consumption for 2021. Additionally, Cooperative Energy has acquired financial hedges to cover approximately 20%, and 10%, respectively, of forecasted natural gas consumption for years 2022 and 2023.

In June 2017, in order to mitigate potential interest rate increases on funds borrowed for deposit into the RUS Cushion of Credit Program, Cooperative Energy paid approximately \$40,000 to enter into an interest rate cap transaction. The transaction began January 2, 2019 with a beginning notional amount of \$100 million. The notional amount declines throughout the two-year period at six-month intervals, and expires January 1, 2021. The benchmark index is the three-month LIBOR and the cap rate is 4%. Cooperative Energy has no further liability for this derivative.

The table below reports the value of the derivatives, and the financial statement line item in which the derivatives are reported in the accompanying financial statements:

	Asset (liability) derivatives			
	December 31, 2019		December 31, 2018	
	Balance sheet location	Fair value	Balance sheet location	Fair value
	(In thousands)		(In thousands)	
Derivatives not designated as hedging instruments:				
Natural gas hedge	Long-term liabilities	\$ (15,111)	Long-term liabilities	\$ (1,812)
Interest rate cap	Deferred charges	—	Deferred charges	1
Transmission congestion cost hedge	Deferred charges	1,284	Deferred charges	1,460
Total derivatives		\$ (13,827)		\$ (351)

The effect of derivative instruments on the statements of revenues, expenses, and patronage capital for the years ended December 31, 2019 and 2018 was as follows:

Location of gain (loss) recognized in operating margin		Amount of derivative gain (loss) recognized in operating margin	
		2019	2018
		(In thousands)	
Natural gas hedges	Fuel expense	\$ (5,200)	2,453
Transmission congestion cost hedge	Purchased power expense and other electric energy revenue	(4,142)	5,648

b. Other Financial Instruments

Cash and cash equivalents, investments, notes payable, and long term debt are considered financial instruments. The carrying amounts reported in the balance sheets for cash and cash equivalents and for notes payable approximate fair value due to the short maturity of these instruments. The fair values for debt and equity securities are based on quoted market prices when available and the present value of future cash flows discounted at a commensurate market rate. Medium-term CFC obligations, included as a component of securities to be held to maturity, have been estimated based upon published terms of recent issues of comparable instruments since quoted market prices are not available. See note 5 for additional information. The fair value of investments in associated organizations is not estimable since these instruments must be held by Cooperative Energy and can only be returned to CFC. CFC requires Cooperative Energy to hold these investments as a condition of CFC financing.

The fair values of Cooperative Energy's long-term debt are estimated using discounted cash flow analyses based on Cooperative Energy's current incremental borrowing rates for similar types of borrowing arrangements and rates that would be charged by the applicable issuer, where appropriate.

The carrying amounts and approximate fair values of long-term debt, including current maturities, are as follows at December 31:

	2019		2018	
	Carrying amount	Estimated fair value	Carrying amount	Estimated fair value
	(In thousands)		(In thousands)	
FFB	\$ 664,706	721,744	905,811	940,516
RUS mortgage notes	360	388	798	839
Gulf Opportunity Zone Bonds	—	—	32,220	45,043
First mortgage bonds	478,938	491,699	133,557	161,693
Other advances and notes	5,931	5,931	182,536	182,536
	<u>\$ 1,149,935</u>	<u>1,219,762</u>	<u>1,254,922</u>	<u>1,330,627</u>

There was no material difference between the contract or notional amount and the estimated fair value of loan commitments. The aggregate estimated fair value amounts presented do not represent the underlying value of Cooperative Energy and may not be indicative of amounts that might ultimately be realized upon disposition or settlement of these assets and liabilities.

12. Employee Benefits

a. Managed Care Program

Cooperative Energy provides medical benefits to current employees through a managed care program. Beginning in March 2011, Cooperative Energy began making payments into a designated bank account from which claims and expenses approved by the plan administrator are paid. Cooperative Energy recorded expenses amounting to \$5.6 million and \$5.4 million, respectively, for each of the years ended December 31, 2019 and 2018.

b. Multiemployer Plans

Substantially all of Cooperative Energy's employees participate in the National Rural Electric Cooperative Association (NRECA) retirement programs, which include both, the RS Plan, a defined benefit pension plan,

and a defined contribution pension plan. Both plans are qualified under Section 401 and are tax exempt under Section 501(a) of the Internal Revenue Code. The RS Plan is a multiemployer plan available to all member cooperatives of NRECA. A unique characteristic of a multiemployer plan compared to a single employer plan is that all plan assets are available to pay benefits of any plan participant. Separate asset accounts are not maintained for participating employers. This means that assets contributed by one employer may be used to provide benefits to employees of other participating employers.

Cooperative Energy incurred \$6.9 million in pension expense for the defined benefit pension plan in 2019 and \$6.6 million in 2018. The plan sponsor's Employer Identification Number is 53-0116145 and the Plan Number is 333. Cooperative Energy's contributions to the RS Plan in 2019 and in 2018 represented less than 5% of the total contributions made to the plan by all participating employers.

In the NRECA defined benefit retirement plan, a "zone status" determination is not required, and therefore not determined, under the Pension Protection Act (PPA) of 2006. In addition, the accumulated benefit obligations and plan assets are not determined or allocated separately by individual employer. In total, the Plan was over 80% funded on January 1, 2019 and over 80% funded at January 1, 2018 based on the PPA funding target and PPA actuarial value of assets on those dates.

Because the provisions of the PPA do not apply to the NRECA defined benefit retirement plan, funding improvement plans and surcharges are not applicable. Future contribution requirements are determined each year as part of the actuarial valuation of the plan and may change as a result of plan experience.

There were no significant changes to the Plan during 2019 that affect the comparability of 2019 and 2018 contributions.

Cooperative Energy makes monthly payments to NRECA for the benefit of those employees who voluntarily participate in the 401(k) pension plan. Cooperative Energy expenses the payments as they are accrued, and such 401(k) pension expense amounted to \$2.1 million in both 2019 and 2018.

c. Postretirement Health Care Benefit Plan

Cooperative Energy sponsors a defined benefit plan that provides certain health insurance benefits to retired employees hired prior to January 1, 1995, and to their eligible dependents. The plan also provides life insurance benefits to a closed group with one surviving employee who retired prior to January 1, 1990. The estimated costs of these benefits were accrued over the years that the employees rendered service. Payments relating to postretirement benefits other than pensions were approximately \$0.3 million and \$0.4 million in 2019 and in 2018. During 2019 and 2018, retirees paid approximately \$0.5 million and \$0.4 million each year, for coverage under the plan.

The FASB issued ASC 715, *Compensation – Retirement Benefits*, which requires an employer to recognize the overfunded or underfunded status of a defined benefit postretirement plan (other than a multiemployer plan) as an asset or liability in its balance sheets.

The following amounts related to the ASC 715 regulatory asset were recognized as components of net periodic postretirement benefit cost in 2019 and 2018:

	December 31	
	2019	2018
	(In thousands)	
Defined benefit postretirement plan:		
Prior service cost	\$ —	81
Total	\$ —	81

The approximate periodic expense for postretirement benefits, other than pensions, as well as the changes in the accumulated postretirement benefit obligation (APBO), is as follows:

	December 31	
	2019	2018
	(In thousands)	
Service cost of benefits earned	\$ 297	320
Interest cost on accumulated benefit obligation	371	327
Amortization of prior service cost	—	81
Amortization of actuarial loss	—	14
Net periodic postretirement benefit cost	668	742
Accrued benefit obligation at beginning of year	9,528	11,399
Benefits paid	(631)	(529)
Accrued postretirement benefit obligation at end of year	9,565	11,612
Unrecognized actuarial loss/(gain)	1,328	(2,084)
Accumulated postretirement benefit obligation	\$ 10,893	9,528

Of the accumulated postretirement benefit obligation, \$10.2 million is recorded as an unfunded long-term liability, with the remaining \$0.7 million recorded as a current liability at December 31, 2019. The weighted average discount rate used in determining both the APBO and the net benefit cost was 3.15% and 4.04% in 2019 and 2018, respectively. The assumed healthcare cost trend rate of increase used in measuring the APBO is 6.8% for pre-age 65 medical in 2019 declining to 5.0% by 2026. The healthcare cost trend rate of increase assumption has a significant effect on the APBO and periodic expense. If the healthcare cost trend rate assumptions were increased by 1.0%, the APBO as of December 31, 2019 would be increased by 6.5%. Benefits expected to be paid in 2020–2024 are \$0.7 million, \$0.7 million, \$0.7 million, \$0.7 million and \$0.7, respectively. Benefits expected to be paid in the years 2025–2029 total \$3.5 million. Cooperative Energy expects to fund payments as they become due. In developing demographic assumptions, as of December 31, 2019, the RPH-2014 tables, projected generationally with scale MP-2019 separately for males and females, was used for healthy lives and the RP-2014 Table was used for disabled lives.

13. Fair Value Measurements

Cooperative Energy utilizes the following fair value hierarchy, which prioritizes the inputs to valuation techniques used to measure fair value into three broad levels:

Level 1 – Quoted prices (unadjusted) in active markets for identical assets and liabilities that Cooperative Energy has the ability to access at the measurement date. Instruments categorized in Level 1 primarily consist of financial instruments such as the investments held in the decommissioning trust that are quoted in an active market.

Level 2 – Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable for the asset or liability, including quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in inactive markets, inputs other than quoted prices that are observable for the asset or liability, and inputs that are derived from observable market data by correlation or other means. Instruments categorized in Level 2 primarily include nonexchange-traded gas hedges and certain investments held in the decommissioning trust that are not quoted in active markets.

Level 3 – Unobservable inputs for the asset or liability, including situations in which there is little, if any, market activity for the asset or liability.

The fair value hierarchy gives the highest priority to quoted prices in active markets (Level 1) and the lowest priority to unobservable data (Level 3). In some cases, the inputs used to measure fair value might fall in different levels of the fair value hierarchy. The lowest level input that is significant to a fair value measurement in its entirety determines the applicable level in the fair value hierarchy. Assessing the significance of a particular input to the fair value measurement in its entirety requires judgment and consideration of factors specific to the asset or liability.

The following table summarizes Cooperative Energy's financial assets and liabilities measured at fair value on a recurring basis as of December 31, 2019 and 2018:

	December 31, 2019	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
		(In thousands)		
Decommissioning trust: investments (note 6)	\$ 91,658	83,181	8,477	—
Derivatives (note 11)	(13,827)	—	(13,827)	—
Total financial assets/(liabilities)	\$ 77,831	83,181	(5,350)	—
		(In thousands)		
	December 31, 2018	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Decommissioning trust: investments (note 6)	\$ 75,472	75,472	—	—
Derivatives (note 11)	(351)	—	(351)	—
Total financial assets/(liabilities)	\$ 75,121	75,472	(351)	—

14. Asset Retirement Obligations

Asset retirement obligations represent legal obligations associated with retirement of tangible long-lived assets. These amounts, recorded in the liabilities section of the balance sheet, are developed utilizing estimated closure, and post-closure monitoring, costs, adjusted for inflation, and discounted utilizing a credit-adjusted, risk-free interest rate. An accompanying addition to the recorded cost of the long-lived asset is recorded and depreciated over its useful life.

As discussed in note 3, Cooperative Energy is responsible for 10% of costs to decommission the Grand Gulf nuclear generating facility.

During April 2015, the disposal of Coal Combustion Residuals (CCR) from Electric Utilities final rule was published in the Federal Register. Under the CCR Rule, Cooperative Energy is subject to regulatory obligations to monitor groundwater quality, investigate impacts to groundwater, and undertake risk-based corrective actions deemed necessary to protect human health. Cooperative Energy remains in compliance with all environmental regulations. During 2015, Cooperative Energy recorded an initial asset retirement obligation in

the amount of \$5.3 million for the coal ash landfill at Plant Morrow. During 2017, Cooperative Energy updated the estimated closure cost for this landfill. As a result of this update the liability increased by \$4.6 million. As of December 31, 2019 and 2018, Cooperative Energy's recorded asset retirement obligation related to the retirement of the coal ash landfill at Plant Morrow is \$11.4 million.

A reconciliation of the beginning and ending aggregate carrying amount of the asset retirement obligations as of December 31, 2019 and 2018, follows (in thousands):

	2019	2018
Balance — beginning of year	\$ 111,000	106,588
Asset retirement obligation accretion expense	3,969	4,412
Balance — end of year	\$ 114,969	111,000

15. Commitments and Contingencies

In the normal course of business, Cooperative Energy has entered into contractual commitments for purchased power that extend through the year 2040. All such contractual costs are expected to be recovered through normal operating revenue.

Cooperative Energy uses natural gas as the fuel for several of its generating units and also purchases power from others that use natural gas as fuel. A portion of natural gas purchases are subject to short-term changes in the market price for gas, and such market prices can be quite volatile. In the normal course of operations, Cooperative Energy enters into forward purchase commitments for certain over-the-counter financial swap contracts that extend through the year 2021. All such commitments are expected to be recovered through normal operating revenue.

On July 31, 2006, Cooperative Energy entered into a 30-year power purchase agreement with Plum Point Energy Associates (Plum Point) for the purchase of 200 megawatts of capacity and associated energy out of a nominal 665-megawatt coal-fired electric generation facility that was constructed by Plum Point in Mississippi County, Arkansas. A capacity charge began in 2010 and escalates annually through the initial 30-year term that began on the commercial operation date, which was September 1, 2010. At the end of the initial term, Cooperative Energy has options to extend the contract an additional 10 years at a reduced capacity charge or to purchase 200 megawatts at the then-market value.

Cooperative Energy is a party to certain litigation incurred in the normal course of business. Management, based on advice of legal counsel, is of the opinion that the ultimate resolution of such litigation will not have a material adverse effect on Cooperative Energy's financial statements.



Cooperative Energy employees changing out switches at the Progress GOAB

Equal Employment Opportunity Statement

Cooperative Energy is an Equal Opportunity Employer. Employment is based upon personal capabilities and qualifications without regard to race, color, sex, sexual orientation, gender identity, age, religion, national origin, disability (mental or physical), genetic information, veteran's status or any other protected characteristic as established by law. This policy applies to all areas of employment including recruitment, hiring, training and development, promotion, transfer, termination, compensation, benefits, and all other conditions and privileges of employment. In addition, Cooperative Energy is committed to furthering the principles of equal employment opportunity through its continuing Affirmative Action Program (AAP). The full AAP is available for inspection upon request and may be viewed during normal work hours at Cooperative Energy's Human Resources offices.

Jeff Bowman, President/CEO of Cooperative Energy, is responsible for coordinating the organization's nondiscrimination compliance efforts. All supervisors and managers are responsible for creating an atmosphere free of discrimination. Further, each employee is expected to maintain a productive and non-discriminatory work environment and to treat all colleagues with respect and professionalism. Any employee who engages in discrimination will be subject to disciplinary action, up to and including termination.

Employees who believe they have experienced conduct that is prohibited by Cooperative Energy's discrimination policy are encouraged to first inform their supervisor. If their supervisor is named in the complaint, or directly involved in the discriminatory conduct, the employee should inform their second-level supervisor or Department Head, who will in turn contact the Human Resources Director. Alternatively,

employees may contact the Human Resources Director directly, or any other Department Head.

Any applicant or specific class of individuals who believe they have been subjected to discrimination may file a complaint with Cooperative Energy's Director of Human Resources as soon as possible after the alleged discrimination occurs. If appropriate action does not result, a report should be made to the President/CEO.

Complaints must be filed within 180 days after the alleged discriminatory action, or by such later date if extended. Retaliation for filing a claim or participating in an investigation is strictly prohibited

Statement of Nondiscrimination U.S. Department of Agriculture Programs

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (*not all bases apply to all programs*). Remedies and complaint filing deadlines vary by program or incident.

Person with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's

TARGET Center at (202)720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800)877-8339. Additionally, program information may be made available in languages other than English.


To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by:

1. **mail:** *U.S. Department of Agriculture
Office of the Assistant Secretary for
Civil Rights
1400 Independence Avenue, SW
Washington, D.C. 20250-9410;*
2. **fax:** (202) 690-7442; or
3. **email:** *program.intake@usda.gov*

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