



Our Member, Our Focus



2 0 1 8 A N N U A L R E P O R T

UPPER MISSOURI
POWER COOPERATIVE A Touchstone Energy® Cooperative

||| About Us

Upper Missouri Power Cooperative (Upper Missouri) was organized in 1957 to serve the transmission needs of rural electric cooperatives in eastern Montana and western North Dakota. Today, Upper Missouri provides service to eleven distribution cooperatives, six in eastern Montana and five in western North Dakota. The eleven Member Systems serve 76,658 meters to farms, ranches, homes and businesses in thirty-seven counties, representing 54,762 square miles.

Upper Missouri sources power from two major power suppliers, Western Area Power Administration (WAPA) and Basin Electric Power Cooperative (Basin). The majority and increasing percentage of power supply is sourced from Basin; in 2018 96.2%.

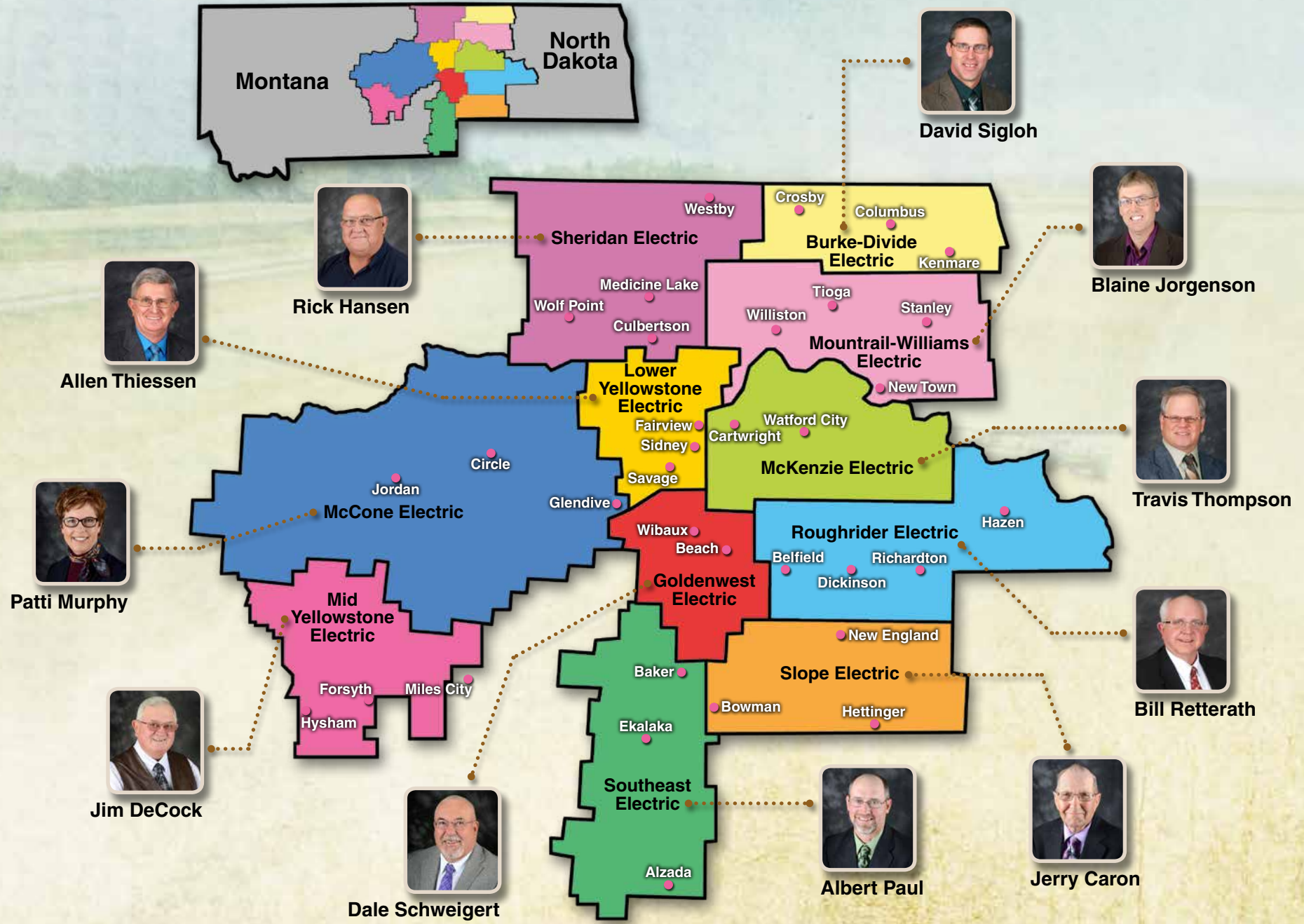
Upper Missouri has 188 delivery points, serves as the Southwest Power Pool (SPP) meter agent and is a transmission owner in Midcontinent

Independent System Operator (MISO).

Upper Missouri continues to have healthy sales growth due to the oil/gas development in the Bakken Oil Play. Upper Missouri is now a 1,311 MW system; sales growth in 2018 was 10.9% over 2017. Upper Missouri is projecting continued growth over the forecast period.



UMPC Distribution Map/Board of Trustees





Claire Vigesaa
General Manager



Stacey Brown
Office Manager



Della Pewonka
Controller



Jeremy Mahowald
Chief Operating Officer

President's Report



Travis Thompson

“Our Member, Our Focus” is the theme for this year’s annual meeting and report. We are ever conscious that we are owned by and serve at the privilege of member-owners at the “end of the line.” In fact, at each month’s board of trustees meeting, one of the first items on the agenda is a Members Roundtable. The purpose of the roundtable is to share ideas and concerns that affect member-consumers in Eastern Montana and Western North Dakota. Our pledge is to keep our focus on the member-owner; responsibly building and maintaining infrastructure and programming to provide reliable service at the lowest possible cost; optimizing the electric delivery system.

Even though Upper Missouri’s contribution to the power bill is only \$0.003/kWh, the board of trustees are committed to holding expenses in check, seeking efficient use of staff and resources to responsibly provide valuable data and reliable service. From a percentage view the following represents cost contributions to the UMPC power bill:

| | |
|---|-------|
| Basin Electric Power Cooperative | 98.0% |
| WAPA..... | 1.3% |
| UMPC Administration & General & direct metering/compliance/ monitoring charges..... | 0.7% |

As shown in the graph below, we are pleased to have kept Administrative & General Expense essentially flat the past five years, while providing expanded services including NERC Compliance support, real time metering data and metering services.



Given the majority of the cooperative’s expense is Basin Electric Power wholesale power (98%), a great portion of the board of trustees’ time and attention is focused on Basin Electric’s operations. While progress has been made to reduce operating costs at Basin Electric and reduce losses at Dakota Gasification; we believe that additional steps must be made to eliminate negative impacts of subsidiary businesses upon Basin Electric’s core business.

In December, the board and management conducted a day of strategic discussions; discussing options and opportunities to position for the success of your cooperative. Those discussions included wholesale power supply issues, distributed generation as well as business options to work with neighbors and

Member Systems for the good of the cooperative network.

Your board of trustees continue to work tirelessly to represent the member-owner who bears the costs/benefits of the cooperative network’s losses/profits. Finally, the foundation of cooperative development and cooperative success is the concept of accomplishing goals by working together. We are committed to working together with a united front on power supply, local, state and national issues. Through our efforts we are committed to Our Member, Our Focus.

General Manager's Report



Claire Vigesaaa

“Our Member, Our Focus” is not only our theme, but is the culture that the Upper Missouri board of trustees and staff value. They are more than words, but the very essence of every Upper Missouri board of trustee discussion, strategy, initiative and program.

We run a “tight ship,” keeping our employee count to four and using technology or contract services to operate the systems. Our primary contractors include HDR Engineering, Chapman Metering and MDU. MDU maintains and operates most of our facilities; while Roughrider Electric Cooperative maintains the Charlie Creek Substation. HDR provides extensive services for the metering program, cyber security and NERC compliance support. Through these relationships, we’ve been able to keep our Administration and General Expense budget essentially flat for the past five years.

I am especially pleased to report our accomplishments for 2018, a credit to our dedicated and professional team... Della, Stacey, Jeremy, consultants & contractors. We were pleased to have successfully launched new billing software developed by a Fargo, ND based company, OmniByte. The conversion enabled us to retire a cumbersome billing program and reduce consultant labor expense.

Metering and load monitoring operations continued to perform well; accurately

measuring delivery points in near real time. The high performance supports accurate and timely billing; garnering load incentive credits of over \$800,000 annually. The quality data supports Basin Electric’s load forecast team immensely; enabling their team to efficiently schedule power supply needs hour by hour and day ahead. We expect the data to be increasingly utilized by Member Systems to identify system losses, analytics for grid performance and ultimately rate design for the member-consumer. As distributed generation technology and operation analytics converge, opportunities to optimize end use power will emerge. To that end, we are committed to securely operating the metering data collection system to benefit “Our Member, Our Focus.”

Working together, a cooperative fundamental, provides a platform to save resources and control costs. Because eleven cooperatives work together to purchase power as Upper Missouri, the Member Systems saved over \$4 million in demand charges in 2018; the benefit of coincidental billing. The coincidental savings were over twice the total Administrative and General Expense for Upper Missouri in 2018.

We work hard to find efficiencies and cost-effective programming at the Upper Missouri level but also recognize that most of our cost relates to wholesale power supply. Noting the cost impact from outside sources; the Upper Missouri

board of trustees and staff are engaged in activities to influence wholesale power supply costs at Basin Electric and WAPA. Our Member Systems feel immense competitive pressure due to low natural gas prices, low electric market prices and distributed generation technology.

Further, the board of trustees and management are engaged in associations that include NRECA, MECA, Midwest Electric Consumers and NDAREC; providing influence and information that supports affordable and reliable power supply for “Our Member, Our Focus.”

Even though we are now a 1,311 MW system load, we are a small entity. Our business structure and philosophy enable us to be nimble and resilient. We look forward to new opportunities that will present themselves in the new utility world and feel confident that we can provide value for “Our Member, Our Focus.”

Chief Operating Officer's Report



Jeremy Mahowald

“Our Member, Our Focus” is a fitting description of our operational objectives at Upper Missouri. Our primary focus is on our members with a dedication to operational excellence in reliability, integrity, and cost effectiveness for services we provide. Upper Missouri’s primary operations include power measurement and maintenance of shared facilities. I am pleased to say we have taken further steps toward operational excellence in the last year and have strengthened the system integrity in several areas.

Our six largest facilities are transmission substations. We worked with Roughrider Electric Cooperative to make improvements in the Charlie Creek 41.6 kV substation in 2018, for foundation repairs, regrading, and rock replacement. No major work was done at the other five substations, however, these other five are all under NERC compliance, which brings detailed regulations we abide by in coordination with MDU. There were no areas of non-compliance in 2018, and we are meeting the NERC compliance standards as required. We have been made eligible to de-register our “Distribution Provider” function in 2018, except for the Under-Frequency Load Shedding (UFLS) capabilities. We were, however, required to add more Under-Frequency Load Shedding (UFLS) capability to our system. We worked with our members to add 280 MW of new capacity, bringing our total to 347 MW.

Throughout this report, you’ll see how much power our membership demands and the energy that is consumed throughout the year. There is a total of 227 meters needed to calculate the Upper Missouri power bill each month. Of these, Upper Missouri owns and maintains 166 delivery meters, accounting for approximately 93.5% of our total power measurement. Four of these delivery points were added in 2018.

We are committed to integrity; in the last year we’ve seen significantly less billing errors with shorter duration and strong load monitoring performance due to several process improvements and refinements. This includes: continued improvements to communications including 17 meter replacements and conversions of dial-tone systems to internet protocol (IP), an improved quality assurance and quality control program, continuous validation of our real-time and billing data, a more thorough interconnection process, finely detailed SPP delivery documentation and programing records for each delivery point, a continuous “Exhibit A” maintenance process, and new alerting mechanisms to instantly identify metering, communication and loss issues.

With all the power data we have in place, there are opportunities for utilizing this data through load management and distribution analysis. Some industrial accounts have made these requests as

well and we worked with several of our Member Systems in 2018 to explore methods to address the opportunity. This included rate design concepts, securing daily load forecasts and evaluating third-party peak prediction tools.

Because of our strong load factor, the load management potential at Upper Missouri is lower, percentage-wise, than other G&T’s, however, there is still room to save. Using Upper Missouri peak prediction tools, we plan to launch a program in summer 2019. We are working toward automated reporting for distribution system analysis in 2019, which will help systems measure purchases to sales and study their own losses.

“Our Member, Our Focus” is the theme that will continue to drive our operations with a high level of integrity and member benefit.

Member Highlights



< **Lower Yellowstone Electric Cooperative** line crew hang Christmas holiday lights/décor in Lambert, Montana.

Roughrider Electric Cooperative plans to add a drone for system maintenance in the future. Right now, employees are test-driving technology

that will help the operations department patrol power lines in some of the more remote areas of their system. The drone will provide broader, wider and higher views of each individual pole and piece of equipment. Roughrider Working Foreman **Shawn Olson** (center), Roughrider Staking Technician **Rick Padilla** (right), and Slope Operations Manager **Dean Volk** assessed a drone demonstration that took place this summer in the Badlands.



PHOTO BY CARMEN DENNEY



Mountrail-Williams Electric Cooperative is making an extra effort to increase participation in their annual membership meeting. The panoramic picture above was taken at their June 2018 annual meeting; nearly 1,000 in attendance.

Member Highlights



McKenzie Electric Cooperative linemen powering the Badlands; some of the most scenic and roughest terrain in the region. Pictured are McKenzie Lineworkers **Eric Hellandsaas, Matt Preszler, Brad Hueth** and **Wyatt Jones**.

Slope Electric Cooperative and **3Cs Construction** worked together to replace > the Langberg Substation West Circuit to improve reliability. 3C Construction is owned by Slope, Roughrider and Mor-Gran-Sou Electric Cooperatives. 3C employs traveling line crews who help build and maintain the electric distribution and transmission system. They assist with projects during the construction season to help Slope's line technicians meet member requests and contractor deadlines, and assist with power-restoration situations when we need many hands to come together to make lighter work. One of the many benefits to this partnership is 3C's plow train, which can install underground cable much faster than if it were trenched.



< **McCone Electric Cooperative** sponsors legislative trips for students from Circle, Richey and Jordan during each Montana Legislative Session. Pictured here are Richey High School students on their trip to the legislative session.



Member Highlights



PHOTO BY WICKI FIX

Southeast Electric Cooperative and **Community First Credit Union of Ekalaka** held a Tailgate Party at the CCHS Bulldogs v. Wibaux Longhorns football game for National Cooperative Month; supporting Cooperative Principle #6 - Cooperation Among Cooperatives: Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international associations.



Sheridan Electric Cooperative elected to take a step to educate the region's youth by going to their schools and conducting cooperative business education seminars, targeted towards 6th, 7th and 8th graders. To further entice these young folks to attend Sheridan's Annual meeting (with their parents) they will have a scavenger hunt during the meeting with prizes for the best performance of each.



Goldenwest Electric Cooperative presents \$1,000 scholarships to students of member-owners attending postsecondary education institutions. Over the past six years, the Goldenwest Electric Cooperative board of trustees have awarded \$115,000 in scholarships. Pictured above are the 17 recipients in 2018.

Member Highlights



In 2018, **Burke-Divide Electric Cooperative** completed the installation of a new automated metering infrastructure across its system. The new metering system replaced an older system that was at the end of its useful life. The new system includes 4400 meters, 396 routers, and 11 collectors and provides more real-time data to staff, as well as members. It is also the first step towards implementing an outage management system (OMS) that will assist the Operations Department in more efficiently restoring power during outages. Implementation of the OMS system is planned for late 2019 or early 2020. Pictured are **Dustin Logelin** and **Cory Marschner**.



Mid-Yellowstone Electric Cooperative made its first patronage distribution since leaving Southern Montana G&T; Mid-Yellowstone returned \$240,000 of patronage in September and did a \$200,000 bill credit in December. Pictured are trustees **Kevan Kimball**, President, **Lee Howard** and **Jim DeCock** (also a trustee on the UMPC board).

2018 Upper Missouri Activities

JANUARY

1. OmniByte Software Conversion/launch



2. ONEOK announces Elk Creek Pipeline, a 900-mile 20" pipeline passing through Goldenwest, Lower Yellowstone, McKenzie and Southeast Territory

3. Established new peak 1,238 MW

FEBRUARY

1. East River CEO, Tom Boyko visits UMPC board and staff



2. Kick off meeting for the Upper Missouri Zone Coordinating Group
3. Office manager Stacey Brown's husband Curt, passes unexpectedly

MARCH

1. Vigesaa presents to the East River Board of Trustees
2. Historic Meeting for McCone Electric; kick off meeting with TransCanada



APRIL

1. Upper Missouri Power Cooperative holds its 59th annual meeting
2. Staff presented its first "Helping Hand Award" to Jim Bach-WAPA



3. Vigesaa visits Corn Belt Power Cooperative and NIPCO

MAY

1. First Curt Brown Memorial Golf/Bowling Tournament held in Sidney
2. COO, Mahowald commissioned to assist Rushmore Electric's member West River with NERC Compliance program development



3. Joint MAC meeting held with East River Electric Power Cooperative



4. Notified that additional UFLS necessary in UMPC territory

2018 Upper Missouri Activities

JUNE

1. Chapman Metering begins annual meter testing
2. Met goal to reimburse each member system for meter installations using load monitoring incentive credits
3. UMPC Board updates Policy E-4, dealing with patronage



4. UMPC/Sheridan Trustee, Wayne Deubner passes away after struggle with cancer

JULY

1. Foundation maintenance project commences at Charlie Creek



2. CoBank \$40 million line of credit extended
3. Completed annual asset inspection

AUGUST

1. Jointly owned mobile transformer refurbishment completed by Jordan Transformer and delivered



2. Staff holding MISO Transmission Owner Annual Meeting via WebEx



SEPTEMBER

1. Vigesaa met with Gary Wiens-MECA and Eric Belford-Bureau Chief for the Montana License & Permitting Bureau to discuss the International Fuel Tax Agreement
2. Mahowald and Member System Managers meet with vendors to discuss peak prediction software options
3. A "Gas to Wires" initiative is proposed to utilize flare gas in the field to generate electricity.
4. Mahowald and Member System staff attend the MRO Security Conference



5. Vigesaa and other Montana trustees/staff attend a small group meeting with NRECA CEO Jim Matheson. Brent McRae-MECA President/McCone Trustee emceed the event



2018 Upper Missouri Activities

OCTOBER

1. UMPC Member System, Mountrail-Williams hosts an open house for their new headquarters office



NOVEMBER

1. MRO notifies UMPC that it can self-certify rather than be subject to outside NERC audits
2. Vigesaa asked to serve on the WAPA "Fiber Analysis" Committee
3. Eastern Montana Electric Cooperatives hosted a legislative/community leader dinner



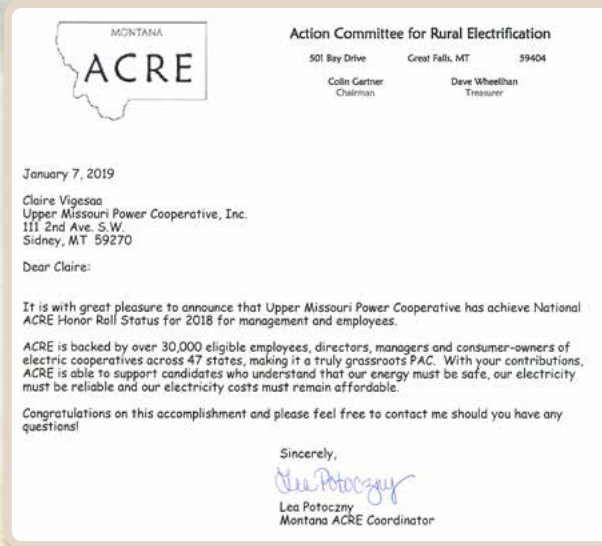
DECEMBER

1. Held meeting with McKenzie/Basin to identify options to complete the 345 kV Roundup to Kummer Ridge line
2. De-registered with NERC as a DP, Registered as a DP-UFLS
3. Bill Credit of \$261,000 on December billing
4. Established a new record peak demand, 1,311 MW on December 31, 2018

OTHER

1. Load monitoring incentive payments totaled \$811,687 in 2018; bringing the incentives since inception to over \$2.0 million
2. Member System Coincidental Demand Savings totaled \$4,375,812 in 2018
3. 17 dial-tone to IP conversions for metering communications

4. 160 meters tested
5. 4 new delivery meters added



2018 Upper Missouri Statistics

| Coop | Total Members | Total Meters | Miles of Line | Square Miles of Service Area | Coincidental - Peak Demand (MW) | GWH Sales |
|-----------------------|---------------|---------------|---------------|------------------------------|---------------------------------|--------------|
| Burke-Divide | 1,408 | 3,523 | 2,646 | 2,590 | 37 | 240 |
| GoldenWest | 677 | 1,571 | 1,165 | 1,500 | 8 | 63 |
| Lower Yellowstone | 2,459 | 6,163 | 2,103 | 2,253 | 40 | 272 |
| McCone | 2,443 | 5,289 | 3,831 | 14,400 | 14 | 78 |
| McKenzie | 4,400 | 12,869 | 4,387 | 4,600 | 518 | 3,868 |
| Mid-Yellowstone | 729 | 2,027 | 1,044 | 4,000 | 4 | 29 |
| Mountrail-Williams | 8,107 | 20,355 | 5,345 | 4,089 | 466 | 3,254 |
| Roughrider | 8,841 | 14,765 | 5,553 | 5,800 | 133 | 810 |
| Sheridan | 1,856 | 3,962 | 2,836 | 4,230 | 24 | 140 |
| Slope | 1,907 | 4,017 | 3,197 | 4,500 | 59 | 451 |
| Southeast | 938 | 2,117 | 1,710 | 6,800 | 9 | 58 |
| Upper Missouri | 33,765 | 76,658 | 33,817 | 54,762 | 1,311 | 9,262 |

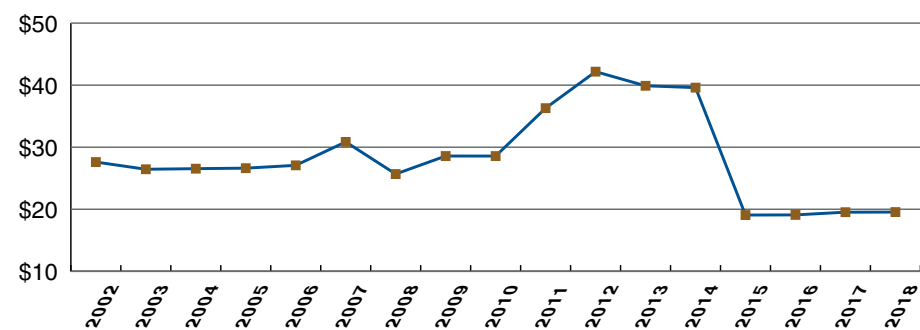
ASSETS AND OTHER DEBITS

| Assets | 2018 | 2017 |
|---|----------------------|----------------------|
| Electric Plant | | |
| In Service | \$19,547,366 | \$19,527,787 |
| Under construction | 499,140 | 155,161 |
| Total electric plant | 20,046,506 | 19,682,948 |
| Less accumulated depreciation | (11,876,272) | (11,370,274) |
| Electric Plant - net | 8,170,234 | 8,312,674 |
| Other Property and Investments | | |
| Patronage Capital - Basin Electric | 220,636,796 | 143,365,053 |
| Investments in associated companies | 674,694 | 650,093 |
| Investment in economic development projects | 400,000 | 400,000 |
| Total other property and investments | 221,711,490 | 144,415,146 |
| Current Assets | | |
| Cash and cash equivalents | 1,044,633 | 979,532 |
| Temporary cash investments | 135,017 | 134,920 |
| Accounts receivable | 51,940,922 | 48,453,088 |
| Materials and supplies | 69,895 | 114,330 |
| Prepayments | 220,925 | 175,083 |
| Total Current Assets | 53,411,392 | 49,856,953 |
| Deferred Debits | 290,183 | |
| Total Assets | \$283,583,299 | \$202,584,773 |

LIABILITIES AND OTHER CREDITS

| Equities and Liabilities | 2018 | 2017 |
|--|----------------------|----------------------|
| Equities | | |
| Memberships | \$5,500 | \$5,500 |
| Patronage capital | 224,891,858 | 147,627,435 |
| Total equities | 224,897,358 | 147,632,935 |
| Long-Term Debt, Less Current Maturities | 6,817,862 | 6,699,903 |
| Current Liabilities | | |
| Current maturities of long-term debt | 184,125 | 157,484 |
| Line of credit | 24,073 | 31,638 |
| Accounts payable - Power supply | 51,189,879 | 47,543,450 |
| Other current and accrued liabilities | 79,026 | 73,628 |
| Total Current Liabilities | 51,477,103 | 47,806,200 |
| Deferred Credits | 390,976 | 445,735 |
| Total current liabilities | \$283,583,299 | \$202,584,773 |

TOTAL UTILITY PLANT VALUE (MILLIONS)

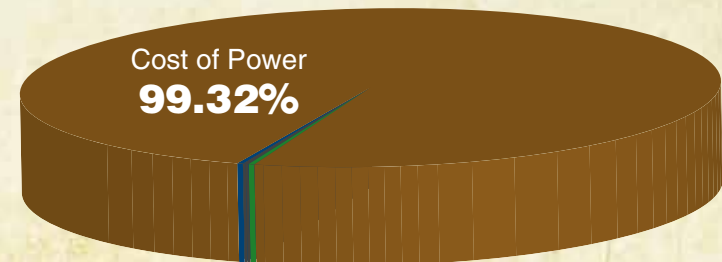
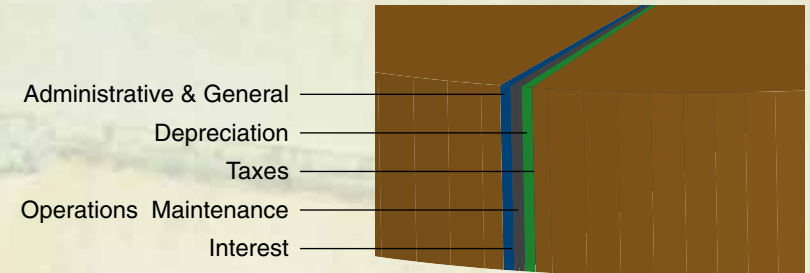


STATEMENTS OF OPERATIONS

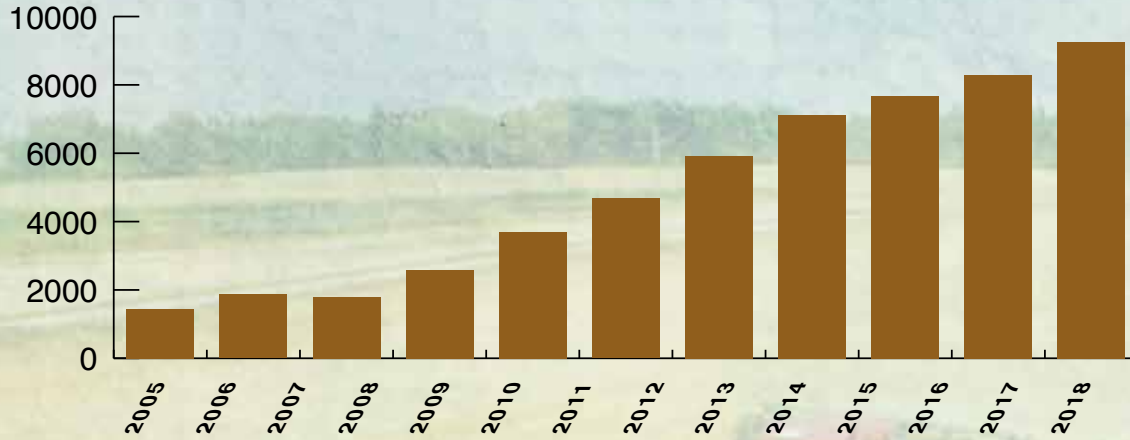
| | 2018 | 2017 |
|---|----------------------|----------------------|
| Operating Revenues | | |
| Electric | 544,877,213 | 503,737,857 |
| Other | 3,167,069 | 3,263,117 |
| | \$548,044,282 | \$507,000,974 |
| Operating Expenses | | |
| Cost of Power | 545,049,968 | 503,802,502 |
| Transmission - operations | 739,674 | 836,141 |
| Transmission - maintenance | 379,252 | 301,288 |
| Administrative and general | 1,700,586 | 1,886,074 |
| Depreciation and amortization | 505,999 | 515,758 |
| Taxes | 59,288 | 56,611 |
| Interest on long-term debt | 344,223 | 350,297 |
| Total Operating Expenses | 548,778,990 | 507,748,671 |
| Operating Margins Before Capital Credits | (734,708) | (747,697) |
| Basin Electric capital credits | 77,350,099 | 22,960,557 |
| Other Cooperative Capital Credits | 97,059 | 125,759 |
| Total Capital Credits | 77,447,158 | 23,086,316 |
| Net Operating Margins | 76,712,450 | 22,338,619 |
| Nonoperating Margins | | |
| Interest Income | 60,107 | 24,399 |
| Gain (loss) on sale of plant | 0 | (774) |
| Compliance | 48,563 | 115,921 |
| Load Monitoring | 694,167 | 885,176 |
| Maintenance | 332,600 | 239,924 |
| Other non-operating income | 194,892 | 89,371 |
| Total non-operating margins | 1,330,329 | 1,354,017 |
| Net Margins | \$78,042,779 | \$23,692,636 |

2018 Expenses

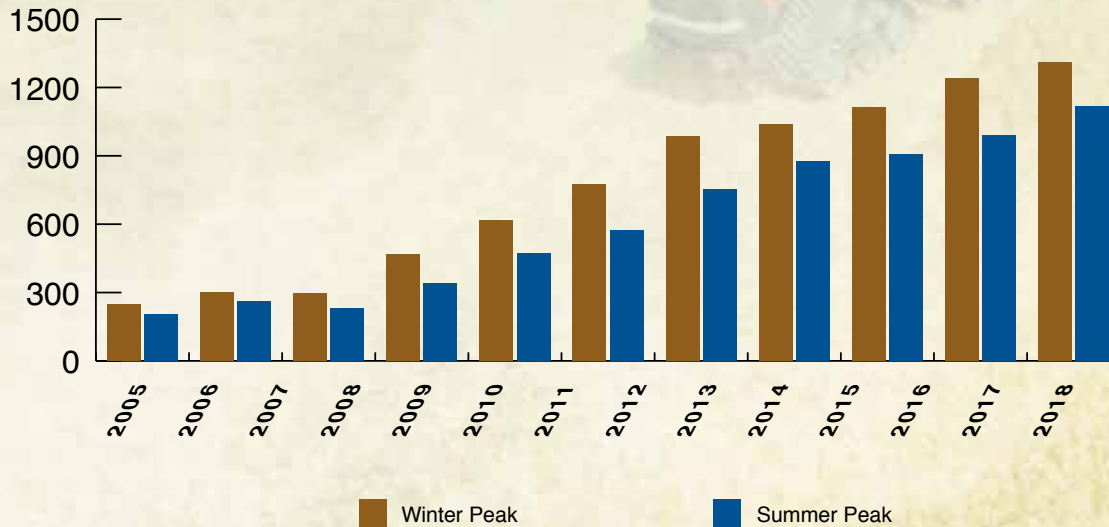
| | |
|--------------------------|--------------------|
| Administrative & General | 1,700,586 |
| Cost of Power | 545,049,968 |
| Depreciation | 505,999 |
| Taxes | 59,288 |
| Operations Maintenance | 1,118,926 |
| Interest | 344,223 |
| | 548,778,990 |



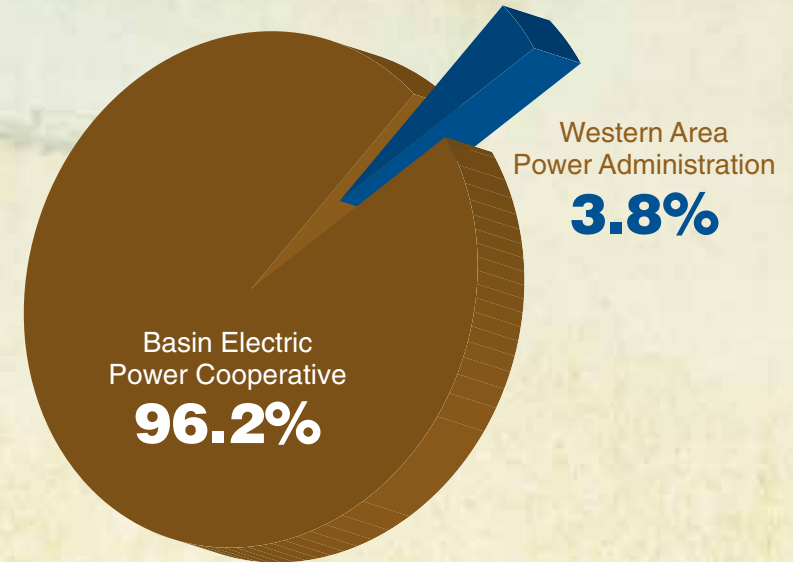
ENERGY SALES (GWH)



PEAK LOADS (MW)



2018 POWER SUPPLY





UPPER MISSOURI

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