

Sheridan Electric Cooperative

LiveWire

Sheridan Electric Cooperative - Medicine Lake, Mont. 406-789-2231

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What are capacitors on the utility system?

BY SCOTT WESTLUND



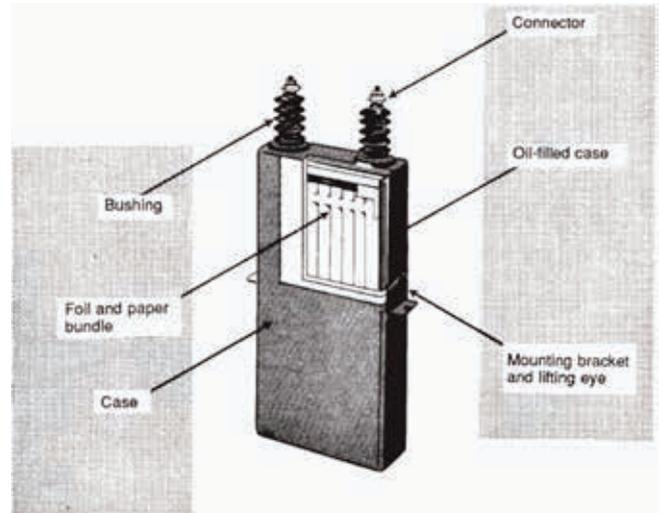
Should the voltage on a circuit fall below a specified level for some reason, a device called a capacitor can momentarily maintain the voltage at line value. Basically, a capacitor serves the same purpose as a storage tank in a water system.

By maintaining the water in a storage tank at a definite level, the pressure on the water supplied by the system connected to it is maintained evenly (Electrical Engineering Portal Nov. 27, 2013).

The description above is how a capacitor works on the utility system. Your cooperative uses capacitors to level voltages, primarily motor loads. Capacitors become an essential part of the utility system during startups of motors, working strokes on oil pumps, or leveling the power at the end of the line to prevent dimming.

Induction of power from the power lines usually comes in the form of a loss to the utility. Induction is an

uncontrollable bleed to some other conductor, which takes power away from actual usage by the consumer. Induction into a circuit causes the current to lag the voltage, thus costing the power utility extra money to get the needed working power to its destination. This can come in the form of bad insulators, other lines close to the power lines or wet weather. Capacitors fight induction; they level off the inducted power, or eliminate it.



Capacitors work to level the load. This is accomplished by having two conductors separated by an insulating substance. This substance can be aluminum foil separated by an oil-impregnated paper.

As we look at the different aspects of your utility system, we learn why it is so important to understand how it works. These are needed components that supply safe, reliable electricity to your home. ■

Where does all the cooperative income go?

BY SCOTT WESTLUND

As with all businesses, there are costs associated with operating the business. Your cooperative is no different.

A cooperative business model is all based on a net zero bottom line. This means that the income and expenses should match. Whatever is needed to operate the cooperative is needed for an income. However, a few issues are also in this equation, such as the need for emergency funds, and the ability to build transmission lines and substations.

Unknowns

A cooperative has unknowns that need attention as well. Storms are an unknown that we deal with in this area. With storms, the need to have extra inventory to put a system back into place is a necessity. Poles, wire and the necessary connections are needed in case of an emergency. This also needs to be augmented with labor costs when restoring the system. In some extreme cases, other cooperatives will come to the aid of a system that has heavy damage, so the need to pay these individuals is also a must.

This particular cooperative also employs an electrician department because of the need and request from our membership. Within this department, there are times when critical needs arise. This requires that we have the proper supplies, so a minimum inventory needs to be on hand.

In the case of inventories, the initial costs are expensive, but maintaining an inventory is minimal. The real challenge

comes from maintaining the level of inventory that is required. It is so easy for an inventory to get out of hand, thrusting these levels to unmanageable heights, and tying up much-needed dollars.

We deal with breakdowns in trucks, substations or critical equipment that are also unknowns, so preparing for these costs requires some planning and possibly some extra equipment.

Knowns

The known components are items like the cost of power from our power supplier, payroll for employees, payments for loans, taxes and building maintenance.

In this business model, the cost of power is dealt with constantly. When rates are increased from the power supplier to the cooperative, we are forced to pass them directly to the consumers on our system. Again, the target is a net zero bottom line or as close as we can get it.

Labor for employees is another known component. When dealing with labor, it is critical that we staff the right amount of employees for the size of the cooperative. This topic is constantly debated. Some believe a cooperative should staff for an event like a storm, while others believe the cooperative should be staffed at a minimum, recruiting from other sources when storms happen. The first theory shows a well-staffed cooperative, with work like pole inspections and line patrol during the off-season. The second theory maintains controlled labor costs that cover the cooperative's needs while

in normal operation and only adds labor when the need arises, such as storms.

Payments for loans are another known cost. There was an article a few years ago that asked the question: "What is the right amount of debt?" This is a question that can be debated back and forth, but the need to build infrastructure ensures the longevity of the cooperative system. Remember that building infrastructure is not cheap. With your cooperative keeping only money in reserve to operate the business, the need to borrow money is also in the mix.

Taxes and building maintenance are other known costs. Your cooperative has found ways to use what it has in regards to a headquarters, even when it is overcrowded. It seems that a plan for reorganizing the office space is an annual review.

Capital credits are a part of the business that comes back to the members when a profit is realized. These are currently paid on an 18-year cycle, with a goal of a 15-year cycle. This means that whatever we made for a profit in 1999 will be paid back to the membership in 2017.

The cooperative business model is one of the most interesting of all business models. To operate a business that looks for a zero bottom line is difficult at times and harder to manage than a profit-driven model. To actually be looking for the lack of profit defies all logic from my background, but is an interesting approach to a member-owned facility. ■



New three-phase lines in construction

The new three-phase line north of Fortuna is almost complete as the Sheridan Electric lineworkers work to string in the line after the poles were installed. These folks do a remarkable job in sub-zero temperatures to bring improved infrastructure into the area. These lines will assist in reliability in the area for our

consumers, as well as tie in several oil wells in the area. When you see these folks working on the lines, thank them for a job well-done, whether they are Sheridan Electric, Montana-Dakota Utilities or Nemont lineworkers. ■



Co-op Day at the Capitol

The 2017 legislative session was once again celebrating Co-op Day at the Capitol. In attendance were member services people from all over the state, setting up and cooking lunch for legislators at the Capitol rotunda.

Hot beef sandwiches were on the menu, as well as other items provided in a sack lunch. This event gives the representatives from the co-ops a chance to talk to legislators about issues that affect the cooperatives of Montana. ■

Lighting to be given away

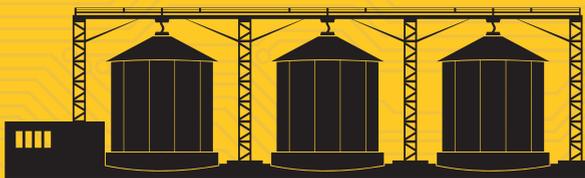
In the spirit of efficiency, Sheridan Electric Cooperative is giving away compact fluorescent lights (CFLs) each month. Each month's winner will receive 24 new CFL bulbs. A CFL produces the same amount of light for less than half the cost. The bulbs also produce about 75 percent less heat, so they are safer to operate. They can also last up to 10 times longer than the standard incandescent bulb. You could save \$80 a year by switching to CFLs throughout your home!

So this month, take a moment to complete and mail the coupon. Maybe you'll be this month's lucky winner and save on your energy costs. Good luck! ■

Name: _____
 Address: _____

 Phone number: _____
 Account number: _____

*Congratulations to **Manford Rasmussen** for winning this month's light giveaway.*



Sheridan Electric Cooperative STATISTICAL REPORT

	December 2015	December 2016
Total miles of line	2,810	2,833
Consumers billed	2,765	3,092
Kilowatt-hours purchased	13,469,211	15,009,277
Kilowatt-hours sold	12,771,665	13,559,943
Average KWH per residential consumer	2,080	2,055
Average bill per residential consumer	\$161.93	\$170.00
Cost of purchased power	\$579,482	\$707,518
Margins year to date	\$1,906,871	\$3,830,595

LINE DEPARTMENT STATS

	December 2015	December 2016
Weather	7	24
Age or deterioration	0	2
Animals and public	3	5
Power supplier	0	2
Equipment	4	0

SUMMARY OF WORK COMPLETED

	December 2015	December 2016	Year to date
Pole installations	6	0	109
New construction	TBD	0	61,148 ft.
Miles driven	23,688	22,372	233,035
New accounts	3	0	56
Accounts retired	8	0	27

SHERIDAN ELECTRIC CO-OP

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TRUSTEES

Wayne Deubner, President..... Brockton, Mont.
 Rod Smith, V. President..... Dagmar, Mont.
 Rob Rust, Sec. Alkabo, N.D.
 Kerrey Heppner, Treas. Plentywood, Mont
 Alan Danelson, Trustee Scobey, Mont.
 Andrew Dethman, Trustee Brockton, Mont.
 Rick A. Hansen, Trustee Froid, Mont.
 Warren Overgaard, Trustee Westby, Mont.
 Harlan Skillingberg, Trustee..... Plentywood, Mont.

EMPLOYEES

Rick Knick Manager
 Riley Tommerup Office Mgr./Accountant
 Scott Westlund Marketing/Member Service Manager
 Pam Lund Billing Supervisor
 Jamie Ator Accountant
 Lisa Salvevold Office Assistant
 Torie Waller Work Order Clerk
 Kory Opp Line Superintendent
 Bryan Lenz Line Foreman
 Nick Oelkers Staking Tech
 Tim Ereth Operator/Utilityman
 Josh Johnson Electrical General Foreman
 Tom Hinds Electrical Foreman
 Steve Augustine Line Sub Foreman
 Tristan Ereth Apprentice Electrician
 Ronnie Gillett Journeyman Lineman
 Dan Roeder Journeyman Lineman
 Shawn Sansaver Journeyman Lineman
 Josh Marottek Apprentice Lineman
 Bill Baillie Apprentice Lineman
 Josh Ming Apprentice Lineman
 Jim Bakken Material Specialist
 Vicky Haddix Custodian

OUTAGES • CALL 24 HOURS A DAY
406-789-2231

OFFICE HOURS: 7 a.m. to 4:30 p.m.
Monday through Friday

Your Touchstone Energy® Cooperative