



West Central Electric Cooperative

November 2019

# ElectricNews

West Central Electric Cooperative, Inc. ~ Serving our members' needs since 1939

## WCE linemen compete in 3rd annual AMEC rodeo

### Lineman's rodeo raises funds for international program

The Association of Missouri Electric Cooperatives hosted its Third Annual Lineman's Rodeo Sept. 4-5 at the association's headquarters in Jefferson City. The event — designed to let linemen show off the skills they use on the job — also raised funds for future projects that send Missouri linemen to developing nations to build power lines for people living without the benefits of electricity.

West Central Electric linemen competing included Brandon Steffen, Matt Truax and Johnathon Sullins with line-

man Matt Schellman serving as a judge. In 2016, Steffen was a part of the group of Missouri linemen traveling to Bolivia to build power lines to two villages.

First Lady Teresa Parson visited the event Thursday morning and spoke with the linemen on the importance of their work abroad while presenting the first-ever Governor's Cup, which went to Barry Electric Cooperative's team. "Electricity can change and improve lives through better education, health care, utilities and economic opportunity," she said. "It also brings agricultural activity, new jobs and a better quality of life to rural communities around the world. These are the same benefits that rural Missouri received through the cooperatives that were established more than 80 years ago."

The two-day event consists of team and individual competitions in apprentice and journeyman divisions. Some of the challenges include the Hurt-Man Rescue and Modified Pole Climb. Linemen were also faced with a 100-question knowledge test and mystery events they had little time to prepare for, such as navigating an obstacle course with a weight suspended from the boom on a digger-derrick truck. Competitors were judged on how safely they completed each challenge. Individual times were only used in the case of a tiebreaker.

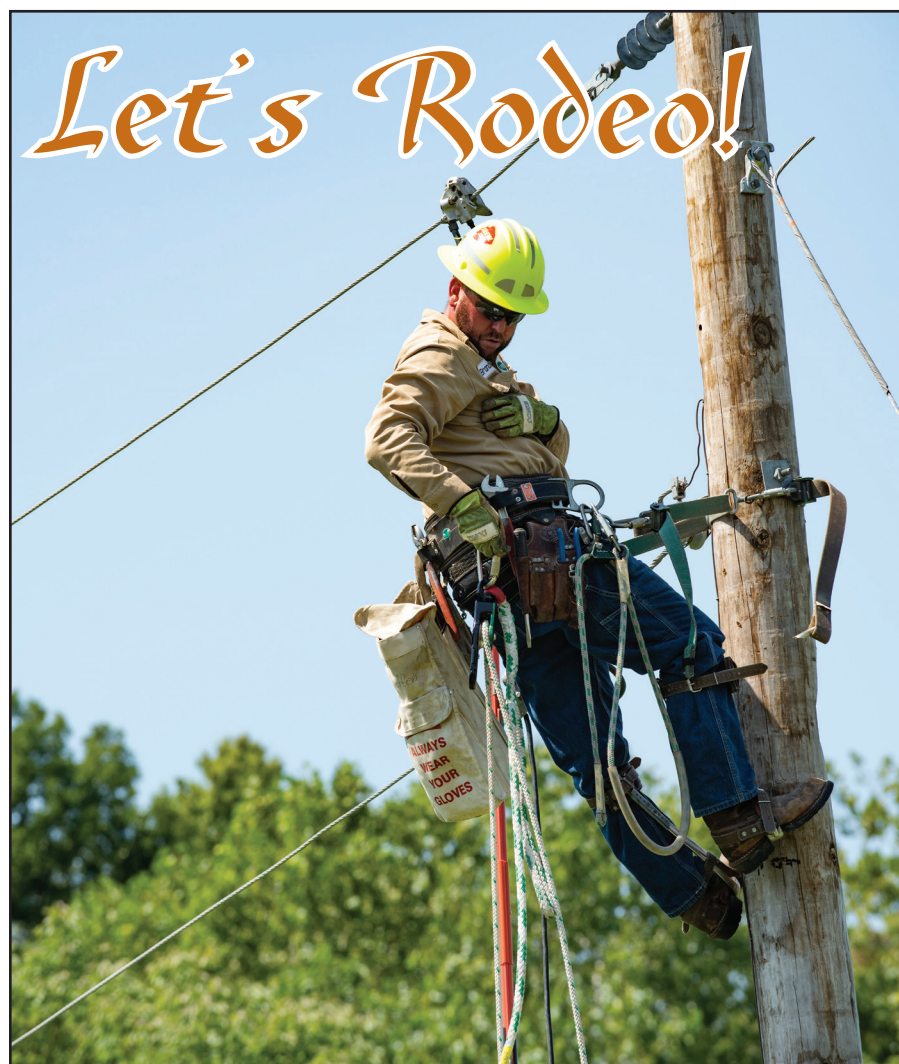
"Safety is always the first concern for co-op crews when they head out to work," said AMEC's Craig Moeller, who organized the event and also leads Missouri's International Program. "The Lineman's Rodeo is a great opportunity for them to practice the challenges they face every day and reinforce the training they need to get home safely."

The AMEC Lineman's Rodeo is a fundraiser for international electrification projects sponsored by Missouri's electric cooperatives and the National Rural Electric Cooperative Association. Three teams of lineworkers from Missouri's electric co-ops have traveled to developing areas in Bolivia to help rural communities see their lights turned on for the first time. In December a new team will travel to Guatemala to electrify the village of Trapachitos.

You can find more information about the trips on Facebook at [www.facebook.com/MissouriElectricCoops](https://www.facebook.com/MissouriElectricCoops)



WCE linemen Matt Truax, Brandon Steffen and Johnathon Sullins get instructions while preparing for the 2019 AMEC Lineman's Rodeo competition.



Lineman Brandon Steffen competes during the 2019 Lineman's Rodeo at the Association of Missouri Electric Cooperatives.



Missouri's First Lady Teresa Parson speaks to linemen during the 2019 AMEC Lineman's Rodeo.

A total of 48 linemen from nine co-operatives in Missouri took part in the safety, skills and knowledge competition. More than \$30,000 was raised, thanks in large part to the 48 sponsors who stepped up to support the effort.

WCE offices will be closed the following holidays in November:  
Monday, Nov. 11 in observance of Veterans Day, and  
Thursday, Nov. 28 & Friday, Nov. 29 in observance of Thanksgiving



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Higginsville, MO 64037  
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**Website:**  
www.westcentralelectric.coop

**24-Hour Number:**  
1-800-491-3803

**General Manager:**  
Mike Gray

*This institution is an equal  
opportunity provider and employer.*

**Board of Directors:**  
Densil Allen, Jr. President  
Clark Bredehoeft, Vice-Pres.  
Dale Jarman, Treasurer  
Robert Simmons, Secretary  
Stan Rhodes, Asst. Sect.  
Max Swisegood, Director  
Richard Strobel, Director  
Sandra Streit, Director  
Jeremy Ahmann, Director

## Air source or ground source heat pumps: which way to go?

Heat pumps are efficient because they move heat from one source to another instead of creating heat. If you heat with electricity, a heat pump can trim the amount of electricity you use by 30 to 40 percent, according to the U.S. Department of Energy. High-efficiency heat pumps also dehumidify better than standard central air conditioning, resulting in less energy used and more cooling comfort.

The two most common types are air/dual-fuel and ground-source heat pumps.

Air/dual-fuel heat pumps, which draw heat from the air, are relatively easy and inexpensive to install and have been widely used. They operate at efficiencies of around 250 percent, meaning they can deliver one and a half times more heat energy to a home than the energy consumed. But because they use the outside air as a heat source, they are not as efficient in climates of extended periods of sub-freezing temperatures because there's less heat to extract in those conditions. That applies to Missouri, Oklahoma and Iowa.

Air-source heat pumps are effective in winter at outdoor temperatures down to about 30 degrees. Below that, a backup heating source is necessary. However,

talk to a trusted contractor or check your equipment's specifications for the optimal temperature for your heating system to run the backup heat.

A variation of the air-source pump is the mini-split heat pump, which is ideal in rooms or additions where ducts are not feasible or in homes where radiant

panels or floors or space heaters are used.

Ground-source heat pumps are the most efficient option. They can produce efficiencies of 350 to 600 percent because they use the ground as a heat source for warming. Ground-source heat pumps are more expensive to

install because wells or trenches must be dug for the piping loops that carry water to and from the system's heat exchanger.

Generally, ground-source heat pumps are installed at the time of construction or when retrofitting an existing air/dual-fuel system.

## How heat pumps work...

**Heat pumps are devices that move heat from one location to another.**

**Ground-source —** The typical closed-loop ground-source heat pump incorporates a piping loop buried 5 feet or more in the ground or in water. Horizontal piping loops are the most common in which pipes are buried in trenches. Where space is limited, vertical loops or wells are drilled.

Water circulates through these loops. In winter, the water is warmed by the earth and pumped into a heat exchanger that removes heat and delivers it to the air inside your house. In summer, the reverse happens. Heat from your house is pumped back into the ground.

**Air/dual-fuel source —** This type of heat pump uses the difference between outdoor air tempera-

ture and indoor air temperature to heat or cool your home. This type of pump has a compressor and two coils, one indoors and one outdoors, that aid in heat transfer. To heat your house, liquid refrigerant in the outside coils extracts heat from the air and evaporates it into a gas. Heat from the refrigerant is released as it condenses back into a liquid.

When outdoor temperatures fall below a set temperature specified by the equipment, the heat pump's less-efficient backup source of heat kicks in to provide indoor heating — hence the "dual-fuel," which is often a forced-air furnace. A propane, gas or oil boiler combined with an electric boiler is another option, as is supplemental electric heat combined generally with electric baseboard.

## What to look for when purchasing a heat pump

**Ground Source —** The heating efficiency of ground-source heat pumps is indicated by their coefficient of performance, which is the ratio of heat provided in Btu per Btu of energy input. Their cooling efficiency is indicated by the energy efficiency ratio, which is the ratio of the heat removed (in Btu per hour) to the electricity required (in watts) to run the unit. The ENERGY STAR table at <https://bit.ly/2ITxV21> provides the efficiency criteria for both EER and COP for the various types of ground-source heat pumps.

The cost of a ground-source system is often higher than other heating and cooling systems, but if properly sized and installed, the ground-source heat pump will deliver more energy per unit consumed.

Because ground-source heat pumps

rely on the earth's temperature to heat and cool your home, you will need to evaluate the geology, hydrology and spatial characteristics of your property to determine the best location for the system's ground loop. For example, the properties of your soil and rock can affect heat transfer, and a certain amount of soil will be needed to bury piping. A nearby body of water may mean you can use it for an open-loop system or to hold coils of piping in a closed-loop system. Horizontal ground loops, generally the most economical, need more land. Vertical installations are for more compact locations.

Ground-source systems are not a do-it-yourself project. Start with your local cooperative for a list of qualified installers.

**Continued on page 4**



# Can you help us locate these people?

The following members have capital credit refund checks due them. Checks mailed to the last address on file for these members have been returned. If you can provide a current address for any of the members listed below, or the name of an heir if the member is deceased, please contact Michael Newland at 1-800-491-3803 or 1-816-565-4942.

Adams, Michael P & Leslie K	7.81	Crider, S L & Cynthia	237.58	Kreiling, Lloyd W Jr & Sharon	143.89	Scafe, Jim G	76.76
Addington, Harry S & Lisa	161.42	Culbertson, Randy L	61.70	Lane, Jean R	290.89	Scharnhorst, Melody L	239.81
Affordable Home Builders	37.46	Cunningham, John & Terry	35.23	Latzke, Rodney & Spe, Sonya	25.84	Schleif, John H & Arlene F	56.68
Allenbrand, Charles E	178.09	Dabney, Jerry W & Glenda R	23.28	Le Grande, James S & Wilson,	14.01	Schutt, Susan	7.60
Anderson, Dan	42.00	Daniel, Jerrold & Shirley Jo	10.92	Lee, Travis B & Erin K	32.67	Scott, Ernest H Jr & Donese	137.56
Annett, Michael & Virginia	134.58	Deason, Richard	67.67	Lewis, Wm R & Mayo, Mildred	73.54	Seaton, Richard A	348.55
Arbogast, Bryan K	46.63	Dennis, Brenda	66.68	Lewman, Elmer & Jackie	59.60	See, Berry F Jr & Nancy	45.95
Arbogast, Rex L & Gertrude	242.16	Deshazer, Debbie L	55.58	Lil Di'S Men At Work	28.50	Settle, Jackie R & Garrett, S	39.61
Armstrong, John C & Kim	10.08	Disney, Mark & Jennifer	13.33	Lilly, Samuel J	80.34	Shackelford, Eveline	128.99
Arnold, Terrence A	9.69	Duncan, Judith	55.51	Loges, Scott & Monica S	40.84	Shaffer, Erika	82.97
Baer, Daniel T & Kathleen	178.93	Elliott, Lisa A	48.87	Long, Kristin	57.73	Sheppard, Ernie & Anna	89.81
Bagby, Timothy	104.44	Ellison, Jennifer	23.19	Lord, Berry & Joni	296.65	Shull, Andrew & Deborah L	42.11
Baldwin, Dawn M	99.94	Emison, James A Jr & Patricia	141.69	Lucas, Dan R Jr & Melissa A	127.28	Simonton, Shawn & Donna	12.03
Barnett, Bobby J	74.24	Estrada, Miguel & Teresa C	37.43	Lucas, Dan R Sr & Sarah	194.74	Smith, Billy R & June	261.67
Bartlett, Lisa & Cameron, Danie	28.35	Evans, Allen S & Donna R	130.69	Lyle, John J & Floretta Wilson	8.34	Smith, Charles & Patsy	194.22
Barton, Justin & Melissa	45.06	Farnham, W L & Mary	47.11	Lynch, Matthew W & Shannon	15.75	Smith, D Jaye	69.96
Bass, Jeremy L & Jill R	103.83	Farrell, Charlene R	43.99	Lynch, Shieri A	89.77	Smith, Darin & Angela	31.66
Basye, Ray & Christie L	192.21	Farwell, Walter & Julie M	83.77	Madsen, Terry C & Angela	270.73	Smith, Jason E & Jennifer L	31.48
Batzold, Fred J & Melana	106.97	Feagans, Earl L	10.72	Malan, Barbara L	180.88	Smith, Kenny	81.90
Baumgarden, Rodney & Kristy	171.23	Ferrell, Laura A	98.97	Martino, Kelley L	32.24	Smith, Patricia N	73.27
Beaman, Roy M & Patricia S	13.81	Ficca, Walter C & Docia L	14.82	Matthews, Frank & Twyla	27.94	Smithson, Doug	16.62
Beebe, Terry	66.60	Ficken, Spencer & Jodi	26.78	Mcbride, John F	33.08	Speakman, Sandra & Rougeau, J	83.88
Beers, Mark & Michelle	74.19	Fitzgerald, James E	34.06	Mcginis, H Samuel	56.11	Stark, Mike & Sandi	169.50
Belcher, Nancy Ann	40.08	Fletcher, Don Jr	30.61	McKeone, Timothy E	91.27	Stevenson, Martin O	7.14
Bell, Nicole L	18.50	Fletcher, Vickie J	22.01	Meierer, Shirley	66.64	Stokes, Floyd & Dolores	49.95
Bell, Susan A	12.79	Flowers, Debbie L	11.37	Meyer, James F	6.71	Stone, Richard N Sr & Barbara	24.75
Berry, Judy A	178.97	Foster, Phillip M	13.96	Miller, Aaron R & Spargo, Barb	24.71	Strickland, Rex & Linda Y	156.96
Binder, Tonya L	63.12	Fox, W Karlis Iii	6.59	Miller, Gene A	38.20	Stuerke, Tom & Morrow, Peggy	81.21
Bittle, Harvey L & Stella J	114.41	Froehlich, Steve	69.82	Miller, Raymond H & Ruth E	86.97	Sullivan, Dave	62.71
Blackman, Richard & Tammy	97.26	Fulton, Matt	25.94	Miller, Theresa E	64.97	Sun Bear, Lee	32.65
Blanton, Kevin	80.05	Gard, Erwin M	8.80	Miller, Todd & Nancy	94.39	Talton, Donald J & Sandy L	14.74
Boardman, Glenna M	51.79	Gay, Teresa	52.33	Mohn, Stephen M	67.31	Taylor, James B & Karen D	176.92
Bone, Marlon D & Jo A	78.17	Gieselmann, Carl B & Kimberly	9.17	Moncrief, Gregory D & Rhonda	68.16	Taylor, Michael D & Sheri L	36.88
Bowers, Don	10.02	Gildehaus, Tisha N	18.87	Motley, Richard & Carolyn A	166.85	Taylor, Roger G	25.46
Boyd, Thomas C Iii & Kelly	65.01	Gillen, Dennis M & Stella S	195.28	Murchie, Teresa L	85.61	Thigpen, Robert	78.08
Boyd, Fritz	5.26	Gillotti, Dominick	237.02	Murray, Gary D & Glenna A	226.75	Thomas, Wayne C & Charlene	236.37
Brackeen, Bruce & Cindy	46.80	Gillotti, Louis A	111.83	Myers, Victoria	67.32	Thompson, John E & Teresa M	157.29
Brackett, Bonnie L	15.75	Glassinger, Heidi & Newby, Wm	109.30	Nash, Brian D & Jauhn M	44.79	Thompson, Sandra M	128.83
Broski, Keith A & Amy J	36.08	Golmon, Lisa	15.11	Neustifter, Cynthia	26.53	Tierney, Brenda & James High	20.24
Brown, Carol T	13.65	Gordey, Jeff A & Dana R	5.61	Nichols, Brad	37.14	Tiller, Anne	28.64
Brown, Jack C Jr & Joy L	35.13	Goth, C L & Becky	209.49	Noltensmeyer, Marcus & Mary	144.83	Titus, Harold D	24.97
Bryant, Dennis R Sr	25.16	Gragg, Glenn M & Jennylynne	16.14	Oberlechner-Gimpl, Ralene	108.19	Tooker, Cassandra	18.33
Bullard, John R & Lisa M	168.43	Graham, Chris A	44.79	O'Connor, Brad & Tina	65.16	Topolosky, Paul & Kathy	133.58
Burson, James A & Pam	115.05	Gray, Michael S	63.34	Orf, Dianne	252.77	Treece, Gail H	68.63
Butler, Beverly	292.99	Gray, Ron & Venda I	97.32	Parks, Jeff & Ginna	6.56	Treece, Teresa L	7.64
Bybee, Paul & Melissa	27.95	Grego, Tony	59.90	Phillips, Clifford L	48.63	Tri State Outdoor Media Inc	49.49
Calhoun, Charles A & Diane L	118.93	Guier, David	71.90	Phillips, John E & Angela S	42.29	Troxler, Dawn	6.85
Camp, Donald & Denice	106.85	Guinn, Shawn I & Sharon	15.40	Phillips, Ronald W & Bobbi Jo	53.80	Tullock, Scott	83.35
Campbell, Marcia L	14.83	Gustin, Timothy M & Susan	15.58	Pitts, William L	148.83	Turley, John N	46.40
Carey, Melissa & Sparks, Steve	12.34	Hallier, Curtis & Wai Lani	119.84	Pleacher, Joseph Jr & Teresa	277.71	Turner, Daniel H	12.05
Carver, William D	44.98	Hamilton, Robert J & Perry A	34.90	Potter, James L & Tracy	180.33	Turner, Homer R & Edna	66.00
Case, Connie	26.75	Hammond, Avery	21.15	Powell, Barry	24.69	Uptegrove, Tom & Bonnie	116.25
Caton Construction	12.46	Hardin, Lisa A	31.81	Pyatt, Larry L & Karen S	15.54	Vaughn, David & Patsy	5.47
Cayer, Lisa	49.75	Hardin, M L	88.60	Quinn, Nancy	77.09	Von Canon, Jon & Suzanne	16.32
Cervantes, Francisco J	110.60	Harmon, Trish E	59.21	R D A Construction	20.12	Wagberman, Sean A & Amie R	49.46
Charrette, Jamie L	16.35	Harris, Glenn M & Stephanie V	46.34	Rahe, Troy & Missy	77.41	Wahn, Michael S & Jennifer	106.77
Chriss, Francine	21.32	Harwood, Edwin M	39.54	Ramsey, Scott & Lynette	227.88	Walls, Sherri	112.26
Clark, Virgil E	11.19	Hatfield, Lawrence	25.80	Reed, Kimberly	94.92	Wareham, Ted A & Linda L	65.56
Clear, Terry	62.66	Hatfield, Mary E	244.44	Reed, Kirby	11.33	Warren, Steven L	12.47
Cocherl, Patrick	188.49	Hawkins, Jackie K	37.05	Reid, Roger & Bonnie S	57.11	Wasleski, Rob K	52.67
Cochran, Julia A	76.37	Henchey, Patrick & Linda	157.70	Renick, Danny R Jr	40.17	Watson, Michael E	34.74
Codilla, Ingebord S	85.38	Henke, Doug	71.92	Richardson, Marc & Amy	129.60	Waye, Robert L Jr	61.30
Cogdill, Deanna L	31.59	Henry, Nathan & Misti	30.86	Roberts, Billie D	290.48	Weets, Thomas J	23.94
Combs, Cynthia L	101.71	Hodge, John Allen & Mary Sue	90.94	Rodd, Charles D	72.74	Welch, Vernon G & Juanita	36.62
Conner, Peggy Sue	26.47	Holcroft, John F Iii	6.51	Roe, Ernest L & Georgia F	39.21	Wenker, Adrian	60.89
Connor, Marty T & Rebecca E	61.45	Hook, Jerry D & Margie F	51.59	Rojas, Linda S	8.70	West, Ralph & Lisa	61.51
Cook, Lonnie	12.50	Humphrey, Darlene	231.13	Romesburg, Andrew & Susie	23.82	Whitlock, Dennis A & Amanda	77.14
Courtney, E Marie	6.22	Hutchinson, Bettie & Hughes, Kell	7.93	Rose, Adrian & Lorri M	76.38	Willard, Mark W	92.31
		Hutchinson, Gary K	34.42	Rose, Amber	17.79	Willcockson, Ronnie & Kimberly	115.06
		Integrity Correctional Centers	35.69	Rose, Harold B & Mabel D	113.28	Williams, Joseph W	12.00
		Jackson Land & Cattle Co Inc	16.36	Rose, Patricia	92.25	Williams, Sherman & Velma	15.49
		Jacquay, Justin K & Callie	28.84	Ross, Byard E	130.72	Wilson, Edward J & Prasia L	26.26
		Jennings, Roger D & Patricia M	124.23	Round, John	41.52	Wilson, Scott & Debbie	159.03
		Jones, Kelly A	61.56	Rude, Nancy	93.69	Wilson, Terry & Regina	121.24
		Jordan, Chyann & Rhoades, Cher	98.58	Rundquist, Stanley L & Dorothy	316.35	Wood, Alice	12.85
		Kelly, George W & Debbie	174.61	Russell, June Y	96.23	Wood, Joe D	33.71
		Kendrick, Lorie	28.32	Russum, Carl E Jr	89.82	Wright, Clifford L & Sarah L	106.34
		King, Betty J	106.88	Sanderson, Jay & Angeline	5.09	Yarbrough, Pearl	122.67
		Kirk, Jenny L & Lisa D	73.01	Sano, Dominck Jr & Holly	97.73		



From the Boardroom...

Regular meeting of the Board of Directors held Aug. 22, 2019

The meeting, was called to order by President Densil Allen Jr. Robert Simmons, Secretary of the Cooperative, caused the minutes of the meeting to be kept. The following directors were present: Max Swisegood, Richard Strobel, Stan Rhodes, Jeremy Ahmann and Sandra Streit. Also present were General Manager Mike Gray and general counsel Sheri Smiley. Dale Jarman and Clark Bredehoeft were absent.

APPROVAL OF AGENDA

After discussion, the agenda was approved.

APPROVAL OF CONSENT AGENDA

The board approved its consent agenda consisting of the minutes of the regular meeting of July 25, 2019; expenditures for the month of July 2019; new membership applications; membership terminations and the treasurer's report.

APPROVAL OF REPORTS

The following July 2019 reports were approved:

Financing and Treasurer's Report: Michael Newland presented the July 2019 Operating Report (RUS Form 7) and Comparative Operating Statement. He reviewed the Financial and Statistical Report with monthly and annual budget comparisons and gave the investment report. He presented and reviewed statistical data pertaining to operating revenue, expenses, margins, assets, liabilities, cash flow management, and KWH sales as well as discussing line-loss calculations and sales comparisons year-to-date. He discussed cash flow, margins, deferred revenue and equity and the 2020 budget. He recommended that the Board authorize \$750,000.00 deferred revenue to be recognized. The board allowed the \$750,000 deferred revenue be recognized. Newland also reported on the audit being performed by Jackson Thornton for 2019.

Operations and Safety Report: Randy Burkeybile gave the operations report and discussed crew work and outages in July. He also gave the safety report and discussed safety meetings, crew visits, and travel which has occurred without incident. He reported that an audit had been done by AMEC and no issues were found and gave an update on changing out lights to LED. He also gave an update from the August 15, 2019, storms which caused 28 poles to be lost.

Engineering Report: Dan Disberger gave the engineering report. He reported on new services, change services and gave a staking department and a Right-of-Way Department report. He also reported on inquiries made for potential new services.

Member Services Report: Brent Schlotzhauer presented the member services report. He included a report on Operation Round Up, a wrap-up from the annual meeting and reported on teachers who attended Energy in Today's classroom. He discussed net metering, chamber meetings he attended and the state fair.

BOARD COMMITTEES

Appointment of Board Committees was tabled until the September board meeting.

AMEC REPORT

Gray reported on Rural Missouri magazine, department reports and a potential by-law proposal.

NW REPORT

Swisegood presented the NW report for August. He discussed outages, the solar and wind report, safety report, and margins and expenses and salaries.

ANNUAL MEETING DISCUSSION

The surveys collected at the annual meeting were reviewed. Of most interest to members was moving the time up to earlier in the evening and having a better sound system.

MANAGER'S REPORT

In his monthly manager's report, Gray gave an update on the Oak Grove building construction which he reported is completed and came in at budget. He reported by that Toth will do a work plan and a system study and recommended that a cost of service study also be done by Toth. A motion was made by Max Swisegood, seconded by Robert Simmons and passed to move forward with the cost of service study.

UNFINISHED BUSINESS

None.

NEW BUSINESS

Potential new annual retreat dates were discussed. The Wage and Salary committee will meet on September 19th at 7:00 p.m.

MEETING ADJOURNED

Following the executive session, the meeting was adjourned.

FINANCIAL REPORT • Statement of Operations • July 2019			
	This month	YTD 2019	YTD 2018
Revenue	\$2,453,035	\$17,354,423	\$17,929,640
Power Bill Expense	1,521,103	10,443,944	10,640,499
Opertion & Maint. Expense	811,164	4,568,473	3,564,962
Depreciation Expense	186,203	1,279,412	1,238,318
Interest Expense	124,780	828,842	745,554
Total cost of Srvc. (Total Expense)	2,643,250	17,120,671	16,189,333
Operating Margins (Revenue less Expenses)	(190,215)	233,752	1,740,307
Other Margins	15,591	163,705	96,396
TOTAL MARGINS	\$(174,624)	\$397,457	\$1,836,703

Prepare for winter storms

When winter temperatures drop and storms hit, it can be challenging to stay safe and warm. Winter storm severity varies depending on where you live, but nearly all Americans are affected by extreme winter storms at some point.

Heavy snow and ice can lead to downed power lines, leaving co-op members without power. During extremely low temperatures, this can be dangerous. During a power outage, our crews will continue to work as quickly and safely as possible to restore power, but there are a few things you can do to prepare yourself.

•Stay warm – Use a safe alternate

heating source, such as a fireplace or wood-burning stove during a power outage -- but exercise caution when using, and never leave the heating source unattended. Never use gasoline-, propane- or natural gas-burning devices indoors.

•Stay fed – Have several days' supply of food that does not need to be cooked handy. Crackers, cereal, canned goods and bread are good options. Also, keep five gallons of water per person.

•Stay safe – Power lines may be down, so if you must, bring a survival kit along, and do not travel alone. If you encounter downed lines, always assume they are live and stay away.

What to look for when purchasing a heat pump

From page 1

**Air Source—** Heating efficiency for air-source heat pumps is indicated by the heating season performance factor, which is the total space heating required during the heating season, expressed in Btu, divided by the total electrical energy consumed by the heat pump system during the same season, expressed in watt-hours. The most efficient heat pumps have an HSPF of 8 to 10.

Cooling efficiency is indicated by the seasonal energy efficiency ratio, which is the total heat removed from the conditioned space during the annual cooling season, expressed in Btu, divided by the total electrical energy consumed by the heat pump during the same season, expressed in watt-hours. The most efficient heat pumps have SEERs of 14 to 18.

To choose an air-source electric heat pump, look for the ENERGY STAR label. To qualify for the label, units must have SEERs of 14 or greater and HSPFs of 7 or greater. For units with comparable HSPF ratings, check their steady-state rating at -8.3 degrees C, the low temperature setting. The unit with the higher rating will be more

efficient. In warmer climates, SEER is more important than HSPF. In colder climates, focus on getting the highest HSPF feasible.

Other factors to consider when choosing and installing air-source heat pumps:

• Select a heat pump with a demand-defrost control. This will minimize the defrost cycles, thereby reducing supplementary and heat pump energy use.

• If you're adding a heat pump to an electric furnace, the heat pump coil should usually be placed on the cold (upstream) side of the furnace for greatest efficiency.

• Fans and compressors make noise. Locate the outdoor unit away from windows and adjacent buildings and select a heat pump with an outdoor sound rating of 7.6 decibels or lower. You also can reduce this noise by mounting the unit on a noise-absorbing base.

• The location of the outdoor unit may affect its efficiency. Outdoor units should be protected from high winds, which can cause defrosting problems. You can strategically place a bush or a fence upwind of the coils to block the unit from high winds.

SAFETY FIRST!

If you have small children at home, tamper resistant receptacles are a good idea. In fact, they are a requirement for new home construction and will add as little as \$50 to the cost of a new home, or \$2 an outlet for existing homes. That's a small price to protect kids.

