



Cooperative Connections

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as extreme winter
weather brings up
concerns over power
supply and demand**



SVE Members Impacted by Energy Emergency



Tim McCarthy, GM/CEO

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On the morning of Tuesday, February 16, we all woke and started our day as we normally would. We turned on lights, we started our kitchen appliances, and called on our water heaters for warm showers and possibly a load of laundry. Businesses began to open as they normally would, and factories started their operations. This activity was replicated by nearly every household and business in the central part of our nation. All of this created a tremendous amount of load on the national power grid. A grid that can normally accommodate all of this but on that day, it was taxed to its limit as frigid temperatures stretched to areas not usually impacted by such weather patterns. This caused an unprecedented demand on our power grid, and quite bluntly, it created the most precarious power situation I have seen in 33 years in this industry. This energy emergency left approximately 7,000 Sioux Valley Energy members without power that morning for a few hours.

Our members who lost power that morning were upset. Rightfully so! It was dangerously cold in our region that day, and to go without power for any length of time was more than an inconvenience. However, what I need to convey to all of our members is the consequences of not

taking those actions on that cold morning. The power grid is a remarkable machine that operates under set engineering guidelines that protect it from physics. The system, while strong, must operate within strict parameters. When a situation arises in which the grid is pressed beyond those operating parameters, that once strong system quickly becomes very delicate. Simply put, the system starts to implode, and it will shut down in very damaging fashion. When this happens, it can cause a cascading effect that will produce outages across the entire power grid. At that point, the outages would not be of a short duration. Instead, the outages would be days on end as equipment is fixed and the grid is slowly brought back online and synchronized to the proper operating parameters before it can be used again.

We received questions about why advance notice was not given for the outages, which occurred on Tuesday, February 16. They are very valid questions. However, in this case, our system operators were doing what they had to do to literally save the power grid in the central portion of this country. When demand suddenly spikes due to consumer activity or abrupt loss of a generating source that can drop huge amounts of supply in the blink of an eye, there is no time to inform. They must act and act very quickly. This is what we experienced on the 16th. Make no mistake, this was an emergency situation, and our system operators were invoking all means necessary to protect all of us from an electrical transmission catastrophe that could literally cost lives when compounded by the weather conditions we were facing.

Another piece of feedback we received was regarding our estimated time for restoration. Our system operators informed us power would be out for approximately one hour. This is the time frame we communicated to our members because it was the information we had at the time. Unfortunately, the outage initiated by our system operator extended to over two hours, and for some members, the outages lasted for more than three hours. The reason that the outage extended to over three hours for some members is because Sioux Valley Energy needed to coordinate restoration efforts with the local natural gas company. In large electrical outages occurring in very cold weather conditions this is necessary so natural gas pipelines are not depleted, and the gas delivery pressure remains constant within an acceptable operating range. If the power came on for all 7,000 members at once during such cold weather, the result could be a huge demand for gas as every gas furnace in the outage footprint restarted simultaneously. If the pressure in the gas pipelines would have been depleted, furnace pilot lights would have gone out, causing outages for many people. In most cases of this nature, this would mean there would be an extended gas outage as the gas companies would have to go through procedures to purge then repressurize their lines and systematically relight customer pilots individually to ensure proper operation of each heating unit. Instead of risking this, Sioux Valley Energy worked with the gas company to strategically restore power, ensuring adequate pressure in the natural gas pipeline.

We hope an event like this does not happen again, as this was the first in the 80-year history of our system operator. But if it does, my vow to you is that we will do everything we can to keep you informed. We will give notice when we can. However, the truth is, if there is ever another energy emergency like what we saw the week of February 15, that may not be possible. In efforts to increase communication during major outages, we would encourage you to sign up for our SmartHub program, which will allow you to receive emails and text messages from Sioux Valley Energy. You can sign up for SmartHub on our website at www.siouxvalleyenergy.com.

Sioux Valley Energy Cooperative Connections

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(2) fax: (202) 690-7442; or

(3) email: program.intake@usda.gov

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"Vote and Go" Format Planned for District Election Meetings

This year, as Sioux Valley Energy and others continue to adapt to restrictions made necessary by the COVID-19 pandemic, district meetings will be held only for the three districts with director elections scheduled:

- **May 10** – District 3 meeting:
Flandreau, S.D. - William J. Janklow Community Center
- **May 11** – District 1 meeting:
Elkton, S.D. - Elkton Community Center
- **May 13** – District 8 meeting:
Luverne, Minn. - Grand Prairie Events Center

Because of the COVID-19 pandemic, this year's district election meetings will look different than they have in the past. The election meetings will not have a group gathering. Details for each meeting are currently being determined and will be communicated to the membership prior to the meeting dates.

We'll See You at the Drive-In!
The Sioux Valley Energy Annual Meeting will be on the big screen this summer! We'll see you June 8 in Luverne, Minnesota!

Home Improvements Don't Have to be Expensive

You don't have to replace your air conditioner with a high-efficiency system or make other major improvements to reduce energy consumption. There are low-cost efficiencies anyone can implement to help reduce energy bills.

- **Mind the thermostat.** You might be able to trim your energy bill by carefully managing the temperature in your home. Consider setting your thermostat to 78 degrees when you're running the air conditioner. If that's not cool enough, use fans to help circulate the air to help you feel cooler.
- **Go programmable.** If you don't always remember to adjust your thermostat manually, you could benefit from a programmable model. In the right situation and set correctly, programmable thermostats can save your household \$150 a year. Some models can be managed from your smartphone or other devices.
- **Stop air leaks.** Small gaps around windows, doors, wiring and plumbing penetrations can be major sources of energy loss. This problem can be alleviated with a little weatherstripping and caulk. A \$10 door draft stopper (also known as a "door snake") is a simple way to block gaps underneath exterior doors. Sealing air leaks around your home could shave up to one-fifth off your heating and cooling bills.
- **Manage your windows and window coverings.** Your windows may be letting heat out during the winter and letting heat in during the summer. Window coverings like medium or heavyweight curtains and thermal blinds can help. During the summer, keep window coverings closed to block the sun and keep it from heating conditioned indoor air. On cooler spring days, turn off your air conditioner, open the windows and enjoy the breeze - and lower electricity bills.
- **Look for energy wasters.** There are small steps you can take every day to reduce your energy use. Water heaters should be kept at the warm setting (120 degrees). Wash dishes and clothes on the most economical settings that will do the job, and always wash full loads. Use the microwave instead of the oven when possible. And unplug phone chargers, electronics and small appliances when not in use.

A Note of Appreciation for the Service Co-ops Provide

By Mark Peacock, Dupree

Most of us wake up each day with an agenda and a schedule that ensures we do things in pretty much the same way from the moment we open our eyes to the moment we arrive at wherever it is we spend our day working.

But on those rare occasions when I walk through our warm home and turn on the bathroom light, which in our home has an overhead radiant heat lamp, and start the shower, which releases hot water from the water heater nestled in the basement, I sometimes take a brief pause in my routine.

I pause to feel the heat of the water wash over me...if only for a minute or so, to enjoy and appreciate what a wonderful experience having a hot shower in a well-warmed, well-lit bathroom in a very comfortable home represents. It means I live in a country and in a state and in a county that has invested in the infrastructure and made a commitment to allowing normal, everyday Americans the opportunity to enjoy such a treat in the middle of a South Dakota winter.

And I smile, because we may not get all we want in life, but we may, for a brief moment, feel all the warmth it takes to start off the day in a positive way. Thank you and your energy partners for making my day and the days of thousands of others begin just a little better, a little bit warmer, a little bit brighter, and a whole lot more optimistic.

KIDS CORNER SAFETY POSTER



Stay Indoors During a Storm

Celeste Meyer, 6 years old

Celeste is the daughter of Brice and Sarah Meyer. She is a resident of Trent and a member of Sioux Valley Electric.

Kids, send your drawing with an electrical safety tip to your local electric cooperative (address found on Page 3). If your poster is published, you'll receive a prize. All entries must include your name, age, mailing address and the names of your parents. Colored drawings are encouraged.



Slushes, Punches, Lattes

Fruit Slush

- | | |
|--|---|
| 1 6-oz. can orange juice concentrate | 1/3 cup halved maraschino cherries with juice |
| 1 6-oz. can lemonade concentrate | 2 firm bananas, sliced |
| 3 or 4 juice cans water | 2 10-oz. boxes frozen strawberries, thawed |
| 2 20-oz. cans crushed pineapple with juice | |

Stir all ingredients together and freeze in 9 x 13 inch pan or ice cream bucket. Remove from freezer a few minutes before serving. To serve, put scoop of slush in glass and fill glass with 7-Up or Squirt.

Mary Jessen, Holabird

Banana Slush Punch

- | | |
|---|---------------------------------|
| 7-8 bananas | concentrate |
| 2 12-oz. cans of orange juice concentrate | 1 46-oz. can of pineapple juice |
| 1 12-oz. can of lemonade | |

Blend bananas with all ingredients above. Bring to boil 6 cups water and 3 cups sugar. Cool. Combine banana mixture with sugar water. Freeze. At the time of serving, mixture should be slushy. Add two 2-liter bottles of Sprite or Fresca to the banana/water mixture and serve.

Julie Hummel, Hawarden, IA

Seasonal Punch

- | | |
|--------------------------------|------------------------------|
| 12-oz. can frozen orange juice | 4 quarts water |
| 12-oz. can Frozen Lemonade | 3-3/4 cups sugar |
| 4 pkgs. Koolade, any flavor | 2 Liters 7-Up (or Diet 7-Up) |

Mix orange juice, lemonade, Koolade, water and sugar, store in fridge to keep cold. Also refrigerate the 2 liters of 7-Up. Prior to serving - pour in the 2 liter of 7-Up and gently stir to mix. You can use any color Koolade, maybe green for Easter, red for 4th of July, Labor Day and Christmas, and orange for Halloween. Refreshing punch goes well with meals or anytime of day.

Pam Conn, Sioux Falls

Spiced Cocoa Mix

- | | |
|-------------------------------|-----------------------------------|
| 1/4 cup cocoa | 1/2 cup nondairy powdered creamer |
| 1 cup powdered sugar | 3/4 tsp. cinnamon |
| 2 cups nonfat dry milk powder | 1/2 tsp. nutmeg |

Sift powdered sugar and cocoa together. Add remaining ingredients. Mix well. For each serving, use 1/3 cup mix and 3/4 cup boiling water. Stir. May add a teaspoon of coffee crystals, a dollop of whipped cream, or a teaspoon of liquid flavored coffee creamer.

Elaine Rowett, Sturgis

Creamy Hot Chocolate

- | | |
|-------------------------------------|-------------------|
| 1/2 cup dry baking cocoa | 7-1/2 cups water |
| 14-oz. can sweetened condensed milk | 1-1/2 tsp vanilla |
| 1/8 tsp salt | |

Mix cocoa, milk, salt into a crock pot. Add water gradually, stirring into smooth. Cover and cook on high 2 hours, or low 4 hours. Stir in vanilla before serving.

Melissa Roerig, Sioux Falls

Chocolate Latte

- | | |
|--|------------------------|
| 1/2 cup hot brewed coffee or 2 shots espresso | 2 teaspoons cocoa nibs |
| 1 Premier Protein 30g High Protein Chocolate Shake | |

In large 14-16-oz. mug, prepare espresso or coffee. Pour chocolate shake on top to combine. Top with cocoa nibs.

www.premierprotein.com

Please send your favorite casserole recipes to your local electric cooperative (address found on Page 3). Each recipe printed will be entered into a drawing for a prize in December 2021. All entries must include your name, mailing address, telephone number and cooperative name.

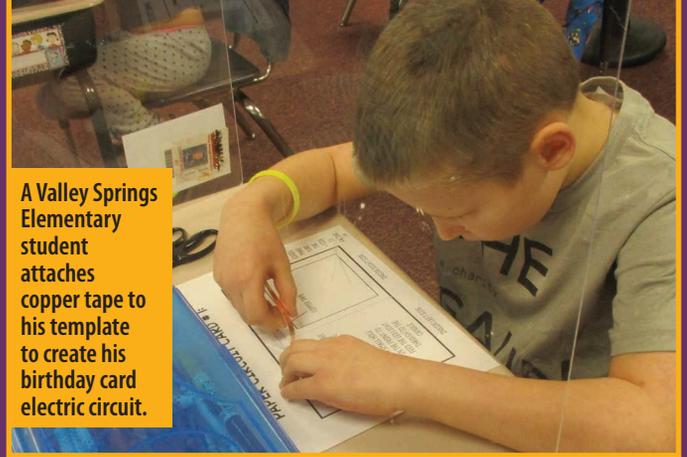
Sioux Valley Energy Recognized

The Lincoln and Minnehaha Economic Development Associations (soon to be reorganized as Sioux Metro Growth Alliance) presented its “Partners in Progress Award” to the Corson Development Association at its annual meeting recently. The CDA was created 20 years ago by Sioux Valley Energy, Alliance Communications, First National Bank in Sioux Falls, Great Western Bank, Sioux Falls Development Foundation and the Minnehaha County Economic Development Association.

The Corson Development Association helped support the creation of 451 primary jobs and nearly \$30 million in taxable property. Together, the partners contributed almost \$1 million in the early 2000s to purchase and develop 117 acres in the metro area. The group was able to close out the partnership late in 2020.



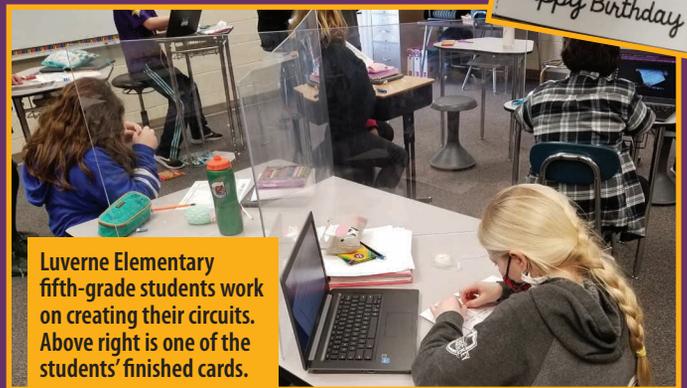
Sioux Valley Energy CEO Tim McCarthy displays the Sioux Metro Growth Alliance’s “Partners in Progress Award” which the Co-op received as a member of the Corson Development Association.



A Valley Springs Elementary student attaches copper tape to his template to create his birthday card electric circuit.

Making the Circuit

Sioux Valley Energy’s Co-ops in the Classroom program went virtual this year. SVE brought electric education to several classrooms in the area. Students watched a short video and then followed along to create an electric circuit that illuminated an LED bulb on a birthday card. SVE’s power supplier, East River Electric, created the virtual program.



Luverne Elementary fifth-grade students work on creating their circuits. Above right is one of the students’ finished cards.

5 STEPS FOR SAFE DIGGING

Working on an outdoor project? Always call 8-1-1 first, because you never know what’s below. Here are five easy steps for safe digging:

Source: call811.com

1. NOTIFY

Call 8-1-1 or make a request online two to three days before you start.



2. WAIT

Wait two to three days for a response to your request. Affected utilities will send a locator to mark any underground utility lines.



3. CONFIRM

Confirm that all affected utilities have responded by comparing the markers to the list of utilities the 8-1-1 call center notified.



4. RESPECT

Respect the markers provided by the affected utilities. They are your guide for the duration of your project.



5. DIG CAREFULLY

If you can’t avoid digging near the markers (within 18-24 inches on all sides, depending on state laws), consider moving your project.



Scholarships Awarded

Twenty-six graduating high school seniors were awarded a total of \$19,500 in scholarships from Sioux Valley Energy and its power suppliers this year. The majority of scholarship funds came from Sioux Valley Energy's Operation Roundup® program, with additional funds from Basin Electric, L&O Power, and the Rodney Park Memorial Scholarship. More than 120 high school seniors applied.



Olivia Baumberger
Colman-Egan
\$1,000
Scholarship



Jonah Bebensee
Brandon Valley
\$750
Scholarship



Colt Blake
Tri-Valley
\$1,000 Rodney Park
Memorial
Scholarship



Evan Bly
Garretson
\$500 Technical
School Scholarship



Annaliese Braucht
Brandon Valley
\$1,000
Scholarship



Wyatt Decker
SW MN Christian
\$250 Technical
School Scholarship



Lydia Ebbers
Estelline
\$500 Technical
School Scholarship



Hannah Fick
Hills-Beaver Creek
\$1,000 Technical
School Scholarship



Gage Gullickson
Flandreau
\$750
Scholarship



Kenadee Hackett
West Central
\$750
Scholarship



Chloe Hass
Chester
\$750
Scholarship



Peyton Hove
Garretson
\$750
Scholarship



Tyler Johnson
Tri-Valley
\$1,000 Power Line
Scholarship



Abby Knobloch
Hills-Beaver Creek
\$1,000
L&O Scholarship



Joseph Kolbeck
Brandon Valley
\$250 Technical
School Scholarship



Meredith Kracht
Pipestone Area
\$500 Technical
School Scholarship



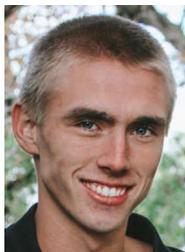
Amanda Lee
Colman-Egan
\$750
Scholarship



Seth Lingen
Pipestone Area
\$1,000
Scholarship



Jennica Pitts
Brandon Valley
\$750
Scholarship



Jacob Raak
SW MN Christian
\$250 Technical
School
Scholarship



Grant Sternhagen
Brookings
\$1,000
Basin Electric
Scholarship



Cybil Vander Top
SW MN Christian
\$750
Scholarship



Jada VanOverbeke
West Central
\$750
Scholarship



Mitchell Walker
Sioux Falls
Christian
\$1,000 Scholarship



Kaleesta Waysman
Brandon Valley
\$750
Scholarship



Abbie Weinacht
Tri-Valley
\$750
Scholarship



A peek inside the Southwest Power Pool control room shows system operators working to make sure power supply always matches demand across 14 states on the grid. Photo provided by SPP.

AN ENERGY EMERGENCY

Why Did February Outages Happen and Could They Happen Again?

Billy Gibson

billy.gibson@sdrea.coop

The national power grid has been hailed as one of the greatest and most complex engineering feats ever achieved. Every second of every day it works to keep electricity flowing freely to homes, schools, farms, hospitals and businesses in every region of the country.

But while it stands as one of mankind's most marvelous inventions, sometimes it's simply no match for Mother Nature.

This electric superhighway was put to the test in mid-February when a bone-chilling air mass swept through large swaths of the country and caused a spike in the demand for power. As the temperatures dropped, millions of Americans attempted to stave off the frigid air by reaching for electric blankets, plugging in space heaters and nudging their thermostats up a few notches. With so many people clamoring to stay warm, the sudden spike in demand for power caused the gatekeepers of the grid to reach their option of last resort: ordering temporary disruptions in service to maintain the delicate balance between demand and supply that's required to keep the network from completely melting down.

The result was several waves of controlled and coordinated rolling blackouts often spanning one hour and isolated incidents of up to three hours for some consumers. The service interruptions impacted nearly one-third of the nation. Industry officials explain that this response to skyrocketing demand was necessary to keep the grid from sustaining extensive damage and causing a repeat of the historic event that occurred in the summer of 2003. The Northeast Blackout extended across the eastern seaboard, through parts of the Midwest and into southern Canada and left approximately 50 million in the dark.

"Controlled outages are necessary to prevent widespread damage to the grid, which could cause a cascade of outages that could potentially be far more devastating," explained Barbara Sugg, CEO of the Southwest Power Pool (SPP). "There's no doubt this would have been a much more significant event if our individual customers and businesses and industries had not all pulled together to reduce the load."

Air Traffic Controllers for the Grid

Sugg describes her organization as an "air traffic controller" for the grid. In fact, the SPP is what's known in the electric utility industry as a Regional Transmission Organization (RTO). It's one of the four quasi-government entities responsible for maintaining the critical balance between supply and demand along the nation's power grid. While RTOs don't create or generate power, they are charged under the Federal Energy Regulatory Commission (FERC) with the task of making sure the power produced by other utilities flows smoothly across the grid and gets to the places where consumers need it, when they need it.

SPP is the power transmission overseer for 14 states - including South Dakota - and more than 17 million people in the midsection of the U.S. from North Dakota to the Texas Panhandle. Electric co-ops in South Dakota are also part of the Western Area Power Administration (WAPA), a federal agency that markets power produced from hydroelectric dams in the Upper Midwest. It operates the larger bulk transmission facilities in 15 central and western states in its geographical footprint.

Most of the time the high-voltage transmission process operates without a hitch, and electric generation can be moved across the grid when there is high demand in one area and excess generation in another. But when foul weather comes into the picture grid operators focus on activating their emergency response plans. Those plans typically include communicating with generators to coordinate arrangements for assuring that an ample supply of power will be available to meet projected demand when the inclement weather strikes.

Lanny Nickell, operations manager for SPP, points out that while arrangements were in place to face the February cold snap, the winter blast turned out to be an unprecedented event for the organization. As the temperatures dropped, SPP initiated the process of contacting power generators and transmitters to warn that the looming storm may cause the system to be severely strained. Six days later, SPP officials went

through a series of three Energy Emergency Alert levels and eventually declared a Level 3 emergency, which required “controlled interruptions of service,” or rolling blackouts. It was the first time in the SPP’s 80 years that a Level 3 emergency was declared.

“Despite our plans, the severe weather coupled with a limited fuel supply hampered our ability to balance our supply with the demand from end-use consumers,” Nickell said. “So, first we had to go out and ask for a voluntary reduction in energy use. Then, we held off as long as we could to make the call to interrupt service in a controlled fashion, but it was necessary to prevent overloading the system and causing an even bigger problem and much longer outages.”

Nickell explained that without an affordable and viable means of storing high-voltage electricity for future use, power is created in one location and consumed in another location in real time. The balance must be maintained even though both supply and consumption change on a second-by-second basis.

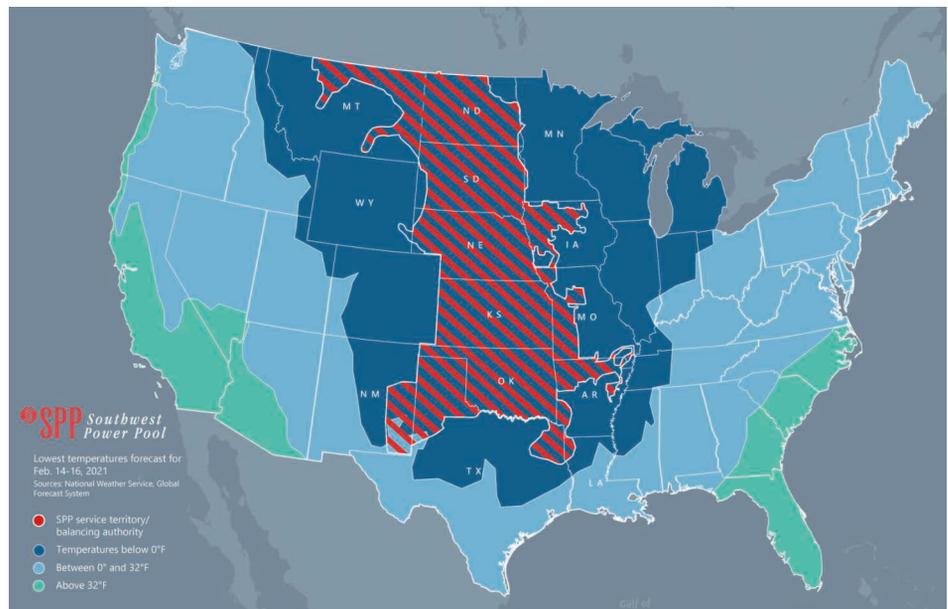
“Once we observe an imbalance, we have to react within seconds to reduce the demand,” Nickell said. “This is why it’s very difficult for us to announce well beforehand when these things will happen because they happen at the speed of light.”

A Smorgasbord of Fuel Sources

Interruptions in service are more than minor inconveniences for many co-op members, especially when severe weather conditions are in play. The February storm and the ensuing service outages triggered wide-ranging discussions about the push toward renewable resources to generate electricity.

Supporters of fossil fuels point out that decades-long efforts to curb coal and natural gas played a part in restricting the kinds of available resources that could have prevented widespread outages. Coal has long been a reliable source of “baseload power” requirements, or the amount of power necessary to provide an adequate supply to meet basic needs without interruption. It’s utilized largely because it can be more easily controlled compared to intermittent sources. Advocates emphasize that wind turbines were frozen in place and solar panels were buried in snow and limited by scarce sunlight during this event.

Renewable fuel source proponents echoed SPP officials in noting that the February storm was an historic occurrence. They contend that renewable power promotes a cleaner environment, decreases energy reliance on other countries, adds jobs to the economy and that innovations in the emerging industry



could be effective in responding to any future storms. Presently, roughly 25 percent of South Dakota’s overall energy supply comes from wind turbines. For electric co-ops, that figure is closer to 20 percent. Proponents of wind also point to issues with natural gas delivery and the inability of some fossil fuel plants to produce electricity through the storm. A combination of high demand, lower-than-normal wind resources and natural gas delivery problems all met at the same time to contribute to the energy emergency.

As for those members of RTOs who receive the call to actually implement controlled outages - particularly transmission and distribution cooperatives - there are very few options available when demand begins to significantly outpace supply on the grid.

Chris Studer is chief member and public relations officer for East River Electric, a co-op that provides transmission and substation services for distribution entities in South Dakota and Minnesota. He said the cooperative’s hands are essentially tied when SPP reaches the point of calling for rolling outages.

“The utilities involved in the SPP are required to carry a surplus of generation resources throughout the year over and above their historic peak demand so they are prepared for extreme circumstances. However, when wind resources and other generation are constrained, there is a limited amount of other generation available to serve the region’s recent record demand for electricity,” he said.

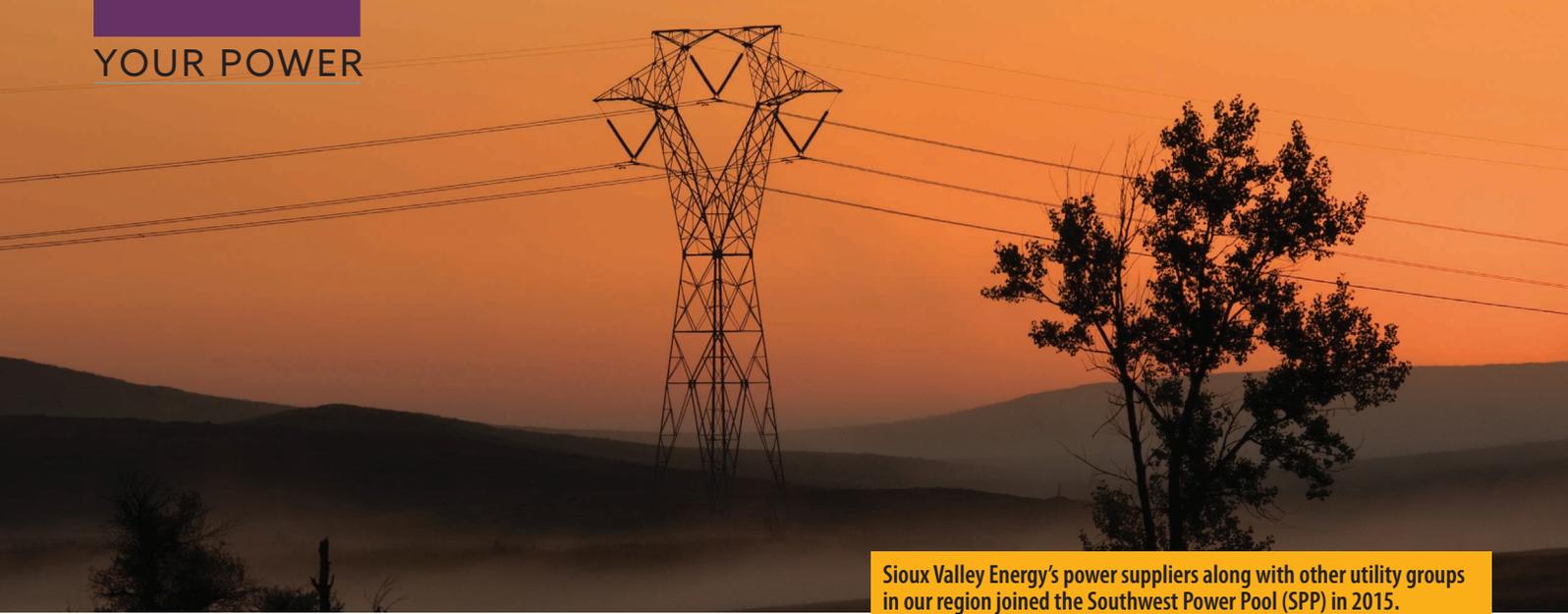
Distribution co-ops find they have even less control when RTOs and power marketing agencies restrict the flow of power, but they still find ways to mitigate the situation. Officials at West River Electric based in Wall, implemented

“Once we observe an imbalance, we have to react within seconds to reduce the demand. This is why it’s very difficult for us to announce well beforehand when these things will happen because they happen at the speed of light.”

- Lanny Nickell, SPP

the co-op’s load management program after receiving the request for reduced demand hoping it would be enough. But it was not, and some of the co-op’s members were subject to a 50-minute unplanned blackout. CEO Dick Johnson said he had never experienced a similar event in his 27 years in the industry. He added that he hopes the emergency situation prompts discussions centered around policy proposals that will prevent future emergencies.

“I think we should have a national conversation that includes large new baseload generation, whether that be hydroelectric, nuclear or carbon capture on coal plants. We must also have a conversation about building necessary electric and gas transmission infrastructure to allow us to get electricity and gas to the places where it is needed when times like this happen. If not, I am afraid it will happen again in the future, only more frequently.”



Sioux Valley Energy's power suppliers along with other utility groups in our region joined the Southwest Power Pool (SPP) in 2015.

Southwest Power Pool Membership Brings Big **BENEFIT TO CONSUMERS**

Sioux Valley Energy's power suppliers (wholesale - Basin Electric Power Cooperative and Western Area Power Administration; and transmission - East River Electric Power Cooperative) along with other utility groups in our region joined the Southwest Power Pool (SPP) in 2015. Before joining SPP, Basin Electric, Western, and Heartland Consumers Power District worked together to own and operate the bulk transmission grid. There were some benefits and downfalls to operating a standalone grid.

The decision to join the Southwest Power Pool was discussed and studied extensively by these utility groups for years before the systems decided to join SPP. In the end, they joined SPP because it allows these utilities to share generation and transmission resources with other utilities up and down the region in a more efficient manner and provide more reliable electricity to consumers. This decision has also brought financial benefits to consumers across the region.

Specifically for Basin Electric, the cooperative is able to sell generation into the market and East River Electric is able to see a return on transmission infrastructure. It's led to a multi-million-dollar annual benefit to consumers in the East River footprint alone, with added financial benefits to other member cooperatives in the Basin Electric family. It means ratepayers see the benefit in the form of affordable and stable rates. East River Electric's average wholesale rate has been stable for several years and has been reduced each of the past three years.

Details on the Southwest Power Pool

The Southwest Power Pool is a Regional Transmission Organization that balances energy generation with energy usage across 14 states from the Canadian border south to Oklahoma, New Mexico and parts of Texas. On a typical day, generation and transmission assets are used in the most efficient way possible by balancing energy generation with energy needs, allowing generation units across the SPP footprint to run and keep the grid stable at the lowest possible cost.

Transmission Operation

In the Upper Midwest, the Western Area Power Administration (WAPA), the federal agency that markets power from the hydroelectric dams, is the Transmission Operator in the region. WAPA operates the bulk transmission infrastructure that delivers power from both WAPA and Basin Electric to East River Electric. East River Electric, which is a Transmission Owner in SPP, operates transmission and substation infrastructure that brings power to local member distribution systems who, in turn, deliver power to homes, farms, and businesses.

Emergency Situation

Several days before we experienced an energy emergency on Feb. 16, the Southwest Power Pool began notifying utilities that forecasted cold weather in much of their service territory could lead to potential issues on the grid. SPP began asking local utilities to start asking their consumers to voluntarily conserve energy to help ease strain on the regional grid. However, because of continued cold weather from Canada to Texas, demand for electricity outpaced generation resources that were available. In an emergency situation, SPP gives WAPA notice that outages are needed with little notice. Then WAPA is required to begin outages which impacts the transmission and substations in East River Electric's system. When their substations are de-energized, consumers of local member distribution systems experience a power outage. This is what happened in our region on Feb. 16. These short-term outages are needed to protect the rest of the grid from damage and potentially uncontrolled outages that take longer to repair.

Excess Generation Resources Mandated by Federal Government

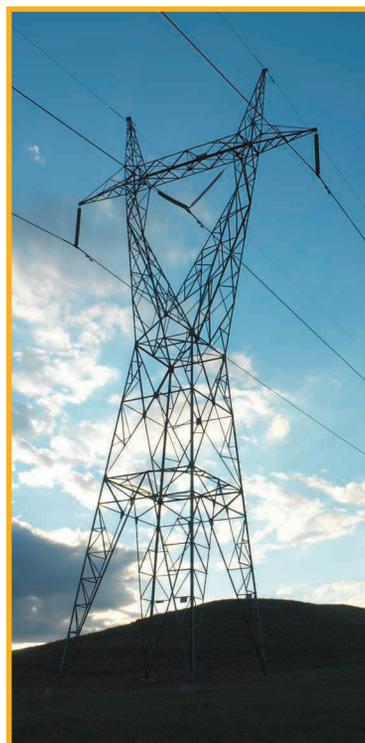
Consumers may wonder how a utility group could come up short on the amount of generation needed to meet electric demand. The federal government requires regional transmission

organizations to keep an excess of generation in their portfolios specifically for emergency situations. In the emergency that recently occurred, a combination of unfortunate circumstances led to outages. A lack of normal wind energy capacity impacted the amount of generation available. Out of about 27,000 megawatts of wind energy in the SPP portfolio, there were times when the wind towers producing electricity amounted to only around 500 megawatts of the 27,000 megawatts typically available. Natural gas power plants also had issues staying online because of delivery issues, cold weather, and a tight supply. Combine those two situations with record-breaking cold weather across the entire geographic region of SPP, electric demand outpaced the generation available.

Benefits for Consumers Continue

Being a member of the Southwest Power Pool has created many benefits for utilities and their consumers in the region. In times of unplanned outages of generation units in any given area of SPP, they are able to access generation from another area to ensure consumers continue to have power. It has prevented outages in many instances. If a utility's generation units are unable to run on any given day, for whatever reason (technical malfunction, transmission issues, lack of fuel supply, etc.) they are able to access generation from the Southwest Power Pool to continue the flow of electricity to their consumers. If they were a standalone utility without a shared generation and transmission grid, their consumers would experience an outage until the problem at their generation units was resolved.

Overall, being part of a Regional Transmission Organization like the Southwest Power Pool helps to keep electricity more affordable and reliable for consumers across our region.



The electricity that powers your home begins with Basin Electric Power Cooperative, which owns generation facilities and supplies the Cooperative with a diverse energy mix. East River Electric Power Cooperative and L&O Power Cooperative are the transmission cooperatives in our network that own and operate thousands of miles of transmission lines and hundreds of substations across South Dakota and Minnesota. Both East River and L&O are members of Basin Electric.

Working Together, Co-op Members Protected from Volatile Markets

As we saw during the cold snap over the week of Feb. 14 and the energy emergency that followed, having a stable, reliable and affordable power supply is critical to our lives. By now, we have all heard the news following the Texas energy emergency of residents in that state getting monthly residential electrical bills of over \$10,000. Those astonishing costs are caused by electric utilities being fully exposed to a volatile energy market and, in turn, passing the costs along to their customers.

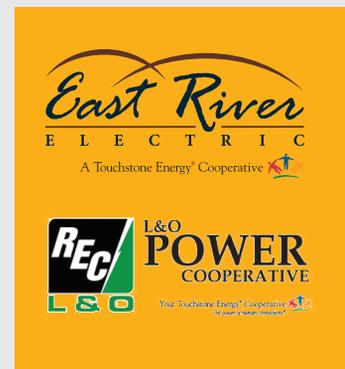
These shocking stories coming out of Texas bring the question: Can that happen to us here?

First and foremost, our hearts go out to those Texas consumers who are experiencing such staggering financial burdens caused by exposure to a volatile energy market. As a member-owner of our electric cooperative, you belong to a broad cooperative network which helps to prevent wild swings in energy prices that we saw in other parts of the country where some utilities are fully exposed to the energy market – simply buying electricity and not generating electricity as well.

The electricity that powers your home begins with Basin Electric Power Cooperative, which owns generation facilities and supplies the Cooperative with a diverse energy mix. East River Electric Power Cooperative and L&O Power Cooperative are the transmission cooperatives in our network. East River Electric owns and operates over 3,000 miles of transmission lines and 250 substations across South Dakota and Minnesota. L&O owns and operates approximately 200 miles of transmission line and 20 substations. As members of Basin Electric, East River Electric and L&O Power have ownership in Basin Electric's generation. Through that infrastructure, both transmission cooperative's safely and reliably deliver low-cost wholesale power from Basin Electric and hydropower through the Western Area Power Administration to member distribution systems like ours which, in turn, deliver power to homes and businesses in our region. Our cooperative, as an owner of East River and L&O, has ownership in the Basin Electric generation and East River/L&O transmission system. And you, as an owner of our cooperative have that same ownership.

East River and Basin Electric are members of the Southwest Power Pool (SPP). Basin Electric owns generation and transmission resources, and East River owns transmission and substation infrastructure in SPP which allows our cooperative network to sell power on the market when prices are high and buy power on the market when prices are low. Selling generation is a hedge against wild swings in the market. It helps Basin Electric and East River provide stable and affordable electric rates all year long. Through Basin Electric's sales of generation into the market and East River's return on transmission infrastructure in SPP, East River's membership has seen a multi-million-dollar annual benefit, with added financial benefits to other member cooperatives in the Basin Electric family.

Our cooperative works together with East River, L&O, and Basin Electric to share risk and avoid fluctuations in the energy market like we saw in Texas. For-profit energy brokers can be exposed to fluctuations in the markets and consumers pay the price. This is why it is important for a co-op to be part of an organization that owns generation and transmission, which can help shield you, our member-owners, against having to pay high market prices. East River and L&O members will pay the same rate during and after the energy emergency as we paid before because we have long-term resources to serve our load. That's the power of being connected to a cooperative power supply rather than relying on for-profit energy brokers.





This electric vehicle owned by Sioux Valley Energy is used as a fleet vehicle for the cooperative but also serves to educate members about EV technology and performance.

Electric Vehicles in SD

Electric Co-ops Working to Build Fast Charging Stations

Billy Gibson

billy.gibson@sdrea.coop

General Motors turned a lot of heads earlier this year when the auto industry titan announced its intention to phase out all gas and diesel engines by 2035. GM made sure its message was loud and clear by running ads during the Super Bowl.

Not to be outdone, Ford CEO Jim Farley soon followed suit by announcing the company's plans to invest \$29 billion in the development of autonomous vehicles (AVs) and electric vehicles (EVs) by 2025. And against a backdrop of companies like Tesla and Workhorse seeing triple-digit stock gains, President Joe Biden rolled out plans to turn the entire 650,000-vehicle federal government fleet to all electric.

With a solid upward trend in support of E-mobility and electric vehicles sweeping the globe, electric cooperatives throughout the region are doing their part to provide the power those vehicles will need to carry their passengers from Point A to Point B.

According to Ben Pierson, manager of beneficial electrification at Sioux Valley

Energy, the state's electric cooperatives are facing a chicken-and-egg proposition in deciding whether - and how much - to invest in an industry that's still in its early stages. Pierson has been involved in rallying support for the formation of a DC fast charging network that will make it easy for EV drivers to navigate across and throughout the state. The stations will be placed 75-100 miles apart but will have to be constructed before the demand is fully materialized. He has received interest from groups representing tourism, economic development, transportation and state government.

Pierson has been working with municipal and investor-owned utilities to build out the infrastructure, with an emphasis on making sure there are enough charging stations along I-90 to get travelers from one side of the state to the other with confidence. Stations will also be installed along the I-29 corridor in Brookings and Watertown in Phase 1, with plans to include a station in Vermillion as part of Phase 2. Pierson points out that "range anxiety" is a major obstacle for consumers and early adopters who are considering the purchase of an EV. Presently, EVs

make up less than 1 percent of the total U.S. vehicle fleet while 10 percent of the vehicles sold in Europe last December were pure electric.

A recent study by the Energy Policy Institute at the University of Chicago indicated that EVs are driven about half the distance - an average of 5,300 miles a year - compared to conventional internal combustion engine vehicles. One conclusion taken from the study is that EV owners see those vehicles as complements to their transportation needs instead of a replacement for their conventional cars.

"When industry giants like Ford and GM are making a commitment to electric vehicles, that's a huge indicator that EVs are more than just a passing fad and are something we should invest in," Pierson said. "But like any industry transformation, it can be a frightening proposition for people to experience a paradigm shift like this. With our members in mind, we're committed to staying out ahead of the wave and doing what we can to make sure the power delivery infrastructure is in place when the other pieces and parts of the total picture emerge."

DC Fast Charging Infrastructure Plan



Utilities are in the process of conducting siting plans and ordering equipment needed to install the network of charging stations. In the state Legislature, lawmakers favored a \$50 annual fee on electric vehicles which don't contribute the gas tax revenue that goes toward construction and maintenance of road and highway infrastructure. Presently, there are roughly 400 EVs on South Dakota roadways.

"We're just tremendously excited to be a part of this project," Pierson said. "Our goal is to help our members in any way we can and we want to be there on the ground floor as the industry continues to expand."

Collaborating with Pierson is Robert Raker, manager of public relations at West River Electric. They are working with utilities throughout South Dakota

and Minnesota to build out the DC fast charging infrastructure. The plan is to initially focus on major highways and interstates and then branch out from there.

The way Raker sees it, getting involved in constructing a charging station network is a sound investment in the economic growth and development of cooperative communities. He said cooperatives are leading the way by purchasing EVs of their own as demonstration models for their members and also as part of the cooperative's fleet. West River Electric's Nissan Leaf is used for business purposes throughout the day and is quite the attraction at community events on the weekends. He noted that co-ops have a long history of innovation and progress.

"Many co-ops are formulating plans to

migrate their light-duty service vehicles to EV," Raker said. "Co-ops have always been at the tip of the innovation spear. We were the first to bring power to rural South Dakota and we made sure people had access to power in order to run their farms, homes and appliances...things that would make their lives easier while allowing their communities to prosper."

Part of West River's overall EV strategy, Raker said, is to address the issue of whether the escalating number of EVs will increase stress on the electric power grid.

"EVs make the perfect load for co-ops," he said. "They can be charged during off-peak hours so they are not detrimental to the grid. Like it or not, EVs are coming. We can't change the wind so we'll have to adjust our sails."

Visit Co-op Connections Plus

Take a moment to visit our new online companion to *Cooperative Connections*. Co-op Connections Plus is a YouTube channel that features a more in-depth treatment of stories appearing in this publication as well as other subjects of interest to rural South Dakotans.

Search for "Co-op Connections Plus" and you'll find videos on human trafficking, support programs for veterans, grain bin safety, the Co-ops Vote campaign and more. Be sure to "like" and "subscribe."



Your Family Is Unique

(And so are your energy needs!)



Sheila Gross

Energy Services Specialist

Many members are looking for ways to control their energy use and reduce their impact on the environment. The best way to do this is to be aware of how much energy you use each month and where it is being used. SmartHub, our online billing tool, helps you to track your electricity use. You can also install third-party devices such as Sense (sense.com) to gain visibility on your household's biggest energy users. With that information, you can then make

informed decisions to help incorporate more energy-efficient habits into your daily routine.

If you still have questions, call the energy experts here at Sioux Valley Energy. We're here to help.

Lifestyle Makes a Difference

You have control over your electricity use by choosing the appliances and devices you use on a regular basis. The way you use these electric devices has a greater impact on your consumption of electricity than the number you own. There are other factors to consider when reviewing your monthly electricity use. Our Time of Use rate may be a good option for your family.

Family Size

There is a direct relationship between the number of people living in a home and the amount of energy used. If friends or relatives visit, you can expect to use more energy for hot water, charging and using electronics, cooking/baking, doing laundry, etc.

Space Heating and Cooling

According to the U.S. Department of Energy, space heating, space cooling and water heating are some of the largest energy expenses in any home. To be comfortable, most of us prefer to be cool in summer and warm in winter. Humidity also plays an important role in our year-round comfort. If you operate dehumidifiers (and, to a lesser degree, humidifiers in winter), this contributes to household energy consumption. Portable space heaters, air

conditioners and fans also add kilowatt-hours (kWh) to our electric bills. There are many ways to use energy wisely while maintaining a comfortable temperature and humidity level in your home. These range from adding insulation, weather-stripping and caulking around windows, to utilizing the settings on a programmable or "smart" thermostat.

Electric Water Heaters

An electric water heater can comprise up to 40 percent of the electricity used in the average American home. Hot water plays an important role in everyone's lifestyle, but it's the quantity of water used and the temperature setting on your water heater that determine energy use.

Consider trying these tips to help save electricity and water in your home:

- Use water sparingly when taking a bath rather than filling the tub full. Keep showers brief.
- Have you ever put a container under a leaky faucet to realize how much water you can lose in a day? Take a few minutes to fix the leak.
- Wait to run clothes washers and dishwashers until you have a full load.
- Contact us to learn about load programs and water heaters we offer.

Appliance Use

Electricity powers many time- and labor-saving devices. These appliances work around the clock, whenever you need them. The wise use of appliances can reduce your electricity consumption.

Think about how you use your appliances:

- Are your appliances ENERGY STAR® certified?
- Turn off the television (and connected devices) when you leave the room.
- Reheat leftovers in the microwave instead of the oven.
- If you have more than one refrigerator or freezer, are they all utilized? Even unplugging one that you do not need can help save electricity.

These are prime considerations that affect the amount of electricity you use to maintain your lifestyle. Everyone can make small changes that make a difference!

Want to learn more? Download the "Use Energy Wisely" booklet at www.siouxvalleyenergy.com.



Tell Me More!

- | | | |
|---|--|--|
| <input type="checkbox"/> Heat Pump Rebate | <input type="checkbox"/> SmartHub Account Tool | <input type="checkbox"/> Renewable Energy Credit |
| <input type="checkbox"/> Electric Heat Rate | <input type="checkbox"/> Smart Thermostat Rebate | <input type="checkbox"/> Energy Saving Tips |
| <input type="checkbox"/> Energy Audit | <input type="checkbox"/> Commercial/Ag LED Program | <input type="checkbox"/> Interlock Kit/Generator |
| <input type="checkbox"/> Loan Program | <input type="checkbox"/> Commercial Heat Rebates | <input type="checkbox"/> Marathon/Westinghouse Water Heaters |
| <input type="checkbox"/> Electric Vehicle Program | | |
| <input type="checkbox"/> Time of Use Rate | | |
| <input type="checkbox"/> Irrigation Rebate | | |

Please contact me about the topics at left.

Name: _____

Address: _____

City, State, ZIP: _____

Account #: _____

Phone #: _____

Email: _____

Mail this form to: Sioux Valley Energy, PO Box 216, Colman, SD 57017

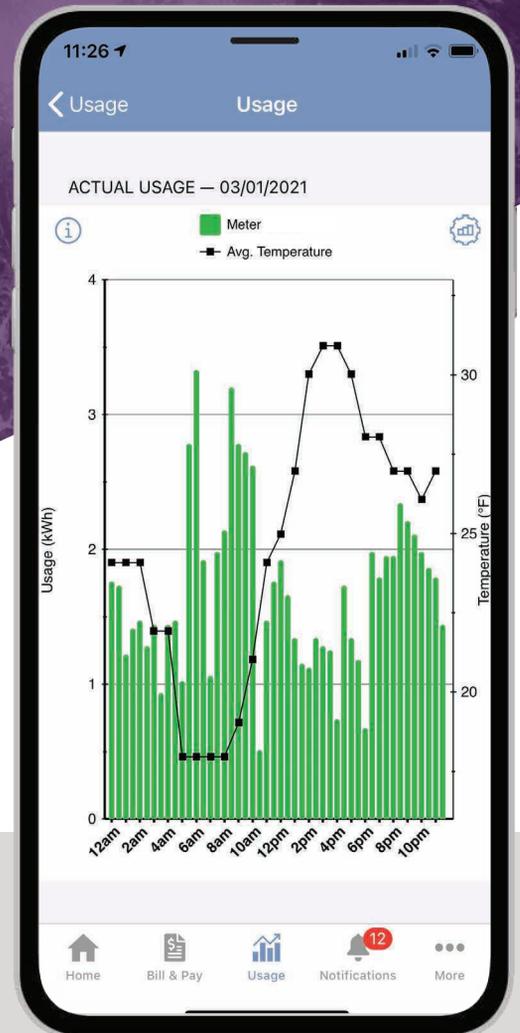


SMART COMMUNICATION

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- Make payments
- Monitor energy usage
- Get alerts on outages and other events



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Note: Please make sure to call ahead to verify the event is still being held.

March 19-20

Sioux Empire Arts & Crafts Show, W.H. Lyon Fairgrounds Expo Building, Sioux Falls, SD 605-332-6000

March 23-24 CANCELED

Shen Yun, Rushmore Plaza Civic Center Fine Arts Theatre, Rapid City, SD 605-394-4115

March 25

A Lakota View of the Dead Hills, Homestake Adams Research and Cultural Center, Deadwood, SD 605-722-4800

March 27

Hill City Community Easter Egg Hunt, Hill City Area Chamber of Commerce, Hill City, SD 605-574-2368

March 27

Lion's Club Easter Egg Hunt, City Park, Groton, SD 605-846-7607

March 27

SD State High School All-State Band Concert, Mitchell Fine Arts Center, Mitchell, SD

April 1-3

ACL Regional #6 Cornhole Tournament, Corn Palace, Mitchell, SD 605-996-5567

April 3

Spring Fling Fun & Glow Egg Hunt, Rush Mountain Adventure Park, Keystone, SD 605-255-4384



April 8

The Wildest Banquet Auction in the Midwest, Sioux Falls Arena/Virtual, Sioux Falls, SD 605-339-1203

April 9-10

Forks, Corks and Kegs Food, Wine and Beer Festival, Main Street, Deadwood, SD 605-578-1876

April 9-18

Four Weddings & An Elvis, Mitchell Area Community Theatre, Mitchell, SD 605-996-9137

April 17

Winefest Renaissance, Boys and Girls Club of Aberdeen Area, Aberdeen, SD 605-225-8714

April 20

All-State Chorus & Orchestra Concert, Denny Sanford PREMIER Center, Sioux Falls, SD

April 22-May 2

Beauty and the Beast, Sioux Empire Community Theatre, Sioux Falls, SD 605-367-6000

April 23-24

Junkin' Market Days, W.H. Lyon Fairgrounds Expo Building, Sioux Falls, SD 605-941-4958

April 30-May 2

Radium Girls, Pierre Players Community Theatre, Pierre, SD 605-224-7826

May 21-23

State Parks Open House and Free Fishing Weekend, All State Parks and Recreation Areas, SD 605-773-3391

May 22

Frühlingsfest & Spring Market, Main Street, Rapid City, SD 605-716-7979

June 4-6

Regional Qualifying High School Rodeo, Multiple Locations, SD 605-529-5868

June 5-6

18th Annual Wessington Springs Foothills Rodeo, Wessington Springs Rodeo Grounds, Wessington Springs, SD 605-770-5720

June 11-13

Regional Qualifying High School Rodeo, Multiple Locations, SD 605-529-5868

June 15-19

SD State High School Finals Rodeo, Stanley County Fairgrounds, Fort Pierre, SD 605-529-5868

To have your event listed on this page, send complete information, including date, event, place and contact to your local electric cooperative. Include your name, address and daytime telephone number. Information must be submitted at least eight weeks prior to your event. Please call ahead to confirm date, time and location of event.