

President's Report



Josh DeWees
President/CEO

Beginner's Guide to The Electric Grid

Electricity plays an essential role in everyday life

It powers our homes, offices, hospitals and schools. We depend on it to keep us warm in the winter (and cool in the summer), charge our phones and binge our favorite TV shows. If the power goes out, even briefly, our lives can be disrupted.

The system that delivers your electricity is often described as the most complex machine in the world, and it's known as the electric grid.

What makes it so complex? We all use different amounts of electricity throughout the day, so the supply and demand for electricity is constantly changing. For example, we typically use more electricity in the mornings when we're starting our day, and in the evenings when we're cooking dinner and using appliances. Severe weather and other factors also impact how much electricity we need.

The challenge for electric providers is to plan for, produce and purchase enough electricity so it's available exactly when we need it. Too much or too little electricity in one place can cause problems. So, to make sure the whole system stays balanced, the electric grid must adjust in real time to changes and unforeseen events.

At its core, the electric grid is a network of power lines, transformers, substations and other infrastructure that spans the entire country. But it's not just a singular system. It's divided into three major interconnected grids: the Eastern Interconnection, the Western Interconnection and the Electric Reliability Council of Texas.

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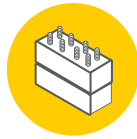
**HAPPY
NEW
YEAR**

Our office will be
CLOSED
Jan. 1-2.

HOW ELECTRICITY GETS TO YOU



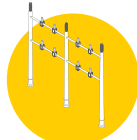
step 1
Generation
Electricity is generated from various sources.



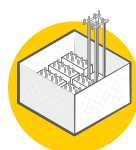
step 2
Step-Up Transformer
Voltage is increased to push the electricity over long distances.



step 3
Transmission Power Lines
Lines carry electricity over long distances.



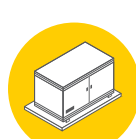
step 4
Transmission Substation
Voltage is lowered so electricity can travel across the local system.



step 5
Distribution Substation
Voltage is lowered further for safe distribution.



step 6
Distribution Power Lines
Electricity travels across these lines in your community.



step 7
Final Stop
A transformer reduces voltage a final time, and electricity is sent to your home.



Spoon River Electric Cooperative

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Spoon River Electric Cooperative – By the Numbers

Miles of line energized: 1,272
Number of members served: 5,022
Number of power poles
in territory: 29,361

Continued from 18A

These grids operate independently but are linked to allow electricity to be transferred between regions when backup support is required.

Within the three regions, seven balancing authorities known as independent system operators (ISOs) or regional transmission organizations (RTOs) monitor the grid, signaling to power plants when more electricity is needed to maintain a balanced electrical flow. ISOs and RTOs are like traffic controllers for electricity.

The journey of electricity begins at power plants

Power plants can be thought of as factories that make electricity using various energy sources, like natural gas, solar, wind and nuclear energy. Across the U.S., more than 11,000 power plants deliver electricity to the grid.

Spoon River Electric receives power from our generation and transmission (G&T) co-op, Prairie Power, Inc. We work closely with Prairie Power to provide electricity at the lowest cost possible. Being part of a G&T benefits members like you by placing ownership and control in the hands of your co-op, prioritizing affordability and reliability, supporting local economic development and fostering a sense of community.

To get the electricity from power plants to you, we need a transportation system

High-voltage transmission lines act as the highways for electricity, transporting power over long distances. These lines are supported by massive towers and travel through vast landscapes, connecting power plants to electric substations.

Substations are like pit stops along the highway, where the voltage of electricity is adjusted. They play a crucial role in managing power flow and ensuring that electricity is safe for use in homes and businesses.

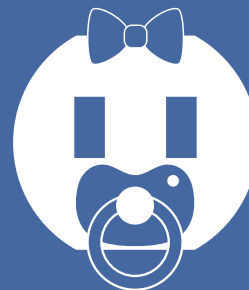
Once the electricity is reduced to the proper voltage, it travels through distribution power lines, like the ones you typically see on the side of the road. Distribution lines carry electricity from substations to homes, schools and businesses. Distribution transformers, which look like metal buckets on the tops of power poles or large green boxes on the ground, further reduce the voltage to levels suitable for household appliances and electronic devices.

After traveling through transformers, electricity reaches you – to power everyday life

We're proud to be your local, trusted energy provider. From the time it's created to the time it's used, electricity travels great distances to be available at the flip of a switch. That's what makes the electric grid our nation's most complex machine — and one of our nation's greatest achievements.

Safety Tip

Start discussions about electrical equipment and safety when children are young. When babyproofing your home, don't forget about potential electrical hazards. Learn child safety tips at SafeElectricity.org.



Safe
Electricity.org



Be prepared 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. Spoon River Electric cares about your safety, and we want you to be prepared.

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.** Plan to use a safe alternate heating source, such as a fireplace or wood-burning stove during a power outage. These are great options to keep you and your loved ones warm, but exercise caution when using, and never leave the heating source unattended. If you are using gasoline-, propane- or natural gas-burning devices to stay warm, never use them indoors. Remember that fuel- and wood-burning sources of heat should always be properly ventilated. Always read the manufacturer's directions before using.

- ◆ **Stay fed.** The CDC recommends having several days' supply of food that does not need to be cooked handy. Crackers, cereal, canned goods and bread are good options. Five gallons of water per person should also be available in the event of an extended power outage.
- ◆ **Stay safe.** When an outage occurs, it usually means power lines are down. It is best not to travel during winter storms, but if you must, bring a survival kit along, and do not travel alone. If you encounter downed lines, always assume they are live. Stay as far away from the downed lines as possible and report the situation to our dispatchers by calling 309-647-2700 if possible.

Winter weather can be unpredictable and dangerous, and planning ahead can often be the difference between life and death. Spoon River Electric is ready for what Mother Nature has in store, and we want you to be ready, too. For more winter safety tips, visit www.ready.gov/winter-weather.

RESPECT SUBSTATIONS

and all other electrical equipment



Please report any suspicious activity in or near substations, other electrical equipment.

Substations are part of the electrical generation, transmission and distribution system. Transformers are contained inside many of them, and their job is to transform voltage from high to low or vice versa, depending on their location within the distribution path.

Besides transformers, substations usually house switches, protective devices and control equipment. In large substations, circuit breakers are used to interrupt any short circuits or overloads that may occur.

No one should approach a substation, touch the fence or enter the gate unless they are authorized to do so.

Paying attention to individuals and activity around substations and other utility equipment helps keep everyone safe. Here are some things to look for:

- Take notice of individuals in street clothes working near or on utility equipment; if you see this, please report it immediately.
- Notice whether individuals are dressed in proper personal protective gear or have utility identification badges.
- Check vehicles or work trucks in the area for utility-branded logos or information.
- Report any suspicious behavior you see, including non-utility employees tampering with utility poles, meters, padmount transformers or other equipment.
- If you notice anything unusual at a substation, please report it to the utility. Examples include the following:
 - An open or unlocked gate
 - A damaged fence
 - Obvious damage to equipment inside the fence

Call 911 and then the electric utility if you see the following:

- Smoke or fire
- Non-utility workers inside the substation fence

Never try to address an issue yourself. Please report any suspicious activity or damage to the police or the utility.

First responder safety

First responders should always wait for the go-ahead from the electric utility before addressing a fire or vandalism at a substation, power plant or solar farm. First responders should also communicate with and wait for the utility before approaching a downed power line or damaged padmount transformer.

General substation safety

Spoon River Electric and Safe Electricity remind you to:

- Never go near a substation.
- Teach children to never go near a substation or climb its fence to retrieve a ball or pet. Let them know they should always stay away and tell a parent or adult, who should call us to report the incident at 309-647-2700.
- Teach children about the dangers of electricity from an early age.
- Never try to extinguish a transformer that is on fire since water and electricity do not mix. Call 911 to report the fire.
- If you see an issue with or notice something unusual about a substation, transformer or power line, contact your electric utility. Never try to address a problem yourself.

REPORT SUSPICIOUS ACTIVITY



Only authorized utility workers should approach a substation, touch the fence or enter the gate.

Paying attention to activity in or near substations and other utility equipment helps keep everyone safe.

Safe Electricity.org[®] Learn more at:

Authorized workers should:

- Wear proper personal protective gear and display an ID badge.
- Use work vehicles that have utility branded logos/information.

Suspicious activity includes individuals in street clothes who are:

- Near or inside a substation fence.
- Tampering with equipment, such as power poles, meters and padmount transformers.

If you notice anything unusual at a substation, please report it to the electric utility. Examples include:

- An open or unlocked gate.
- A damaged fence.
- Obvious damage inside the fence.

Call 9-1-1 and then the electric utility if you see:

- Smoke or fire.
- Non-utility workers inside the substation fence.
- Non-utility workers on a pole or tampering with a meter.