

PowerLines

January 2025

Welcome to the new year 2025!

Yet another calendar year has passed us by. We do not know what the upcoming year may have in store for us, but we all are optimistic for the best. However, I do know that my retirement date of February 28, 2025, is fast approaching. Since this is my next to last column, the last column will be devoted to saying goodbye in many ways to many people, I am modifying the typical column format.

In lieu of providing my normal summary of the year just completed, I want to provide my view of the utility industry going forward. My only brief comment on 2024 is that it was a remarkably busy year with a lot of accomplishments by our employees, and overall, it was a good year for your Co-op.

What is the future of the utility industry and cooperatives in particular?

In my view, electric cooperatives will always exist. Just like more than 85 years ago when electric distribution cooperatives originated, the economics of investor-owned utilities or other parties acquiring rural cooperative market share and territory does not make economic sense for them. This may be different for distribution cooperatives that are exceptionally large and effectively have suburban density levels, but most electric cooperatives serve very rural territories.

We are in effect the last mile provider of electricity to you, our members. We have learned how to be efficient in this work while providing a high level of member service. I also expect in the future (mid to longer term) that cooperatives like EIEC will find benefits to consolidate and gain efficiencies to keep service levels high and prices reasonable. Of course, these decisions are up to the Board of Directors and the membership via voting.

Recent and future industry trends

- Electricity usage in the U.S. has leveled off due to increased efficiency in appliances and lighting, and a reduction in large manufacturing usage. In recent years, data driven electricity usage (think Artificial

Intelligence and the related applications), beneficial electricity use (innovative technologies and conversion from other fuel types), and other increases have become a trend and will continue into the future as well.

- Renewables (wind and solar) will continue to be constructed, especially at large utility scale size projects.
- Battery storage will continue (and increase in importance) to be paired with renewable energy sources to allow more available dispatch of these resources.
- As electricity use continues to rise, at least in the short-term, natural gas will be the fuel of choice to power efficient combined cycle turbines to supply this energy and capacity.
- Speaking of energy and capacity, the capacity market is now seasonal for all four seasons. This makes it imperative to physically own generation resources that can operate around the clock to follow load. Cooperatives remain vertically integrated suppliers with generation ownership through our shared ownership of Generation and Transmission Cooperatives (G & T).

- In various portions of the country, the G & T model has been under pressure by distribution members wanting to control their supply options and/or increase their percentage of renewable energy. The G & T Cooperatives will continue to evolve to meet these challenges and transitions.

On behalf of our employees and directors, please know that we are dedicated to continuing to provide safe and reliable energy and exceptional service to our members. We wish you the best during 2025.

Cooperatively,

Bob Hunzinger

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Space Heater Safety:

Space heaters can provide extra warmth in a drafty room or chilly home, but they can also pose a safety risk. If you rely on a portable heater for supplemental heat, it's important to make space heater safety a priority. Keep the space heater 3 feet away from combustible materials. Also, establish a kid- and pet-free zone around space heaters. Turn them off and unplug them when you leave the room or go to bed.



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Artificial Intelligence will impact electric co-ops

The number of trends, big and small, that are impacting the electric utility industry are almost too numerous and diverse to count. A sector that just a couple decades ago might have confronted no more than a handful of technological and regulatory developments is now faced with hundreds of emerging grid systems and devices, dozens of impactful government policies, vastly different and ever-changing member expectations and unprecedented challenges related to reliability. Artificial Intelligence is one major trend that is particularly relevant to electric co-ops.

Artificial Intelligence, or AI, has entered daily life, showing up in everything from our phones to nearly every interaction with a customer service chatbot. In the electric utility industry, AI has been mostly behind the scenes, but many analysts say its presence is sure to grow. The AI that most consumers interact with is “large language models,” which trains on books and articles to learn how human language works so it can interact conversationally with humans. However, AI comes in many flavors. In the broadest sense, it involves taking in and learning from large amounts of data of all kinds. In that way, features of AI, such as machine learning, are already being used in utility system management.

AI’s ability to ingest data and identify patterns is likely to become increasingly important as the grid grows more complex. AI’s learning capabilities could be particularly valuable in managing the variable nature of renewables. The Electric Power Research Institute (EPRI), for example, has paired with investor-owned power utilities to study the ability of AI to improve wind-power forecasting. Sorting through and analyzing images, whether photographs or system maps, could also become a useful tool for co-ops.

For distribution co-ops, such image analysis could become a valuable tool in vegetation management, allowing a co-op to keep better track of growth along its lines from drone or ground photos that AI could correlate with other data, such as tree and plant varietal growth rates and health, to forecast potential trouble trees. Several co-ops have been investigating the use of AI to analyze drone imagery to improve the inspection of transmission and distribution assets. An EPRI study also found benefits in combining drone inspections with AI analysis to safely inspect cooling towers and containment buildings in nuclear power facilities.

Member relations is being transformed for businesses of all kinds as AI chatbots increase their capabilities and become more common. They are expected to

play a larger role in handling member inquiries at electric co-ops in the future.

Applying AI learning to data from smart meters and appliances could also enable greater personalization in the energy and product offerings co-ops create for members,

providing a Netflix-like experience of options tailored to individual consumers.

The power industry is actively exploring AI’s potential. A third of energy companies worldwide are doing pilot projects on “generative AI,” a form of AI that can generate its own text, images or other content. It’s the kind of AI that gives ChatGPT its ability to interact with the public.

AI’s ability to learn from large data sets and refine its analysis over time as more information comes in makes it a valuable tool for weather forecasting. AI has been used in forecasting for quite some time, but the latest advances in artificial intelligence promise further advances in the scale and accuracy of these forecasts.

Several technology firms are using AI to build better forecasting models. Such simulations could also help electric cooperatives determine where it makes the most sense to make future investments in grid resilience and solar and wind generation.

From a member standpoint, AI can be used to determine the power use of different home appliances, providing a much more granular look at how electricity is being used. A Sense Home Energy Monitor will track energy use in real-time down to the second, identify energy hogs and even set notifications to track the use of specific devices. The Sense Home Energy Monitor reads signals from the electrical panel, analyzes subtle changes, and sends energy data to a smartphone.

Despite the predictions that AI will eventually reach into nearly every facet of the power industry, current applications have been limited, and AI has yet to play a role in a critical part of co-op management: making decisions involving large capital investments for infrastructure such as substations or new generation, but it’s coming.



STRESS-RELIEVING GOALS FOR THE NEW YEAR

Making the most of 2025 resolutions

Ready or not, 2025 has arrived, marking not just a new page on the calendar but new opportunities to set and achieve a resolution or two. According to surveys, about a third of Americans make resolutions in the new year. The most popular goals are to improve finances, eat better, and move more.

Of the people who planned to set a resolution, 42% wanted to lose weight and 38% hoped to better their mental well-being. But as hopeful as we are at the start of a new year, statistics show that most people are not successful in achieving their goals. Statistics from U.S. News & World Report show that 80 percent of New Year's resolutions fail by February.

Is it a lack of discipline? Unlikely. Could it be that we need to reframe our resolutions of how to be a better version of ourselves to how we can live life better? Definitely. Thinking of our goals as a way that will make us happier — and not deprived — can help us set the small steps needed to be successful.

The new year is a fresh start, a time to set intentions that help us feel better and live better. But sticking to resolutions can be tricky, especially when they feel like they are doing chores. What if this year, you chose goals that were as rewarding as they were realistic? From reducing stress to connecting with nature, these ideas are designed to improve your well-being without adding them to your to-do list. There's no doubt that Americans are stressed. Statistics show that three out of four people report feeling stressed in the past month.

But it can be challenging to eliminate things that trigger stress — work, family, and finances. Instead, it's important to find ways to manage stress, so here are some ideas for reducing stress for 2025.

While you may have been involved and very active in sports and other programs and activities as a child or young adult, it's important to keep learning, growing, and doing things you enjoy throughout your adult life. Having a regular hobby can provide a necessary outlet for mental stimulation and stress relief, and help you maintain a balanced lifestyle. The right hobby can also provide you with a healthy dose of eustress, the positive type of stress that keeps you feeling vital and alive.

Who doesn't want to sleep more? Not only does it help us feel more refreshed and ready to take on the day, but it is a key factor in overall health. Setting an intention to improve your sleep habits in the new year can lead to overall happiness. Sleep plays a critical role in immune function, metabolism, memory, learning, and other vital functions, according to Harvard Medical School. When we don't get enough sleep, we can see changes in our mood, judgment, and attention span. Chronically, bad sleep can also lead to other health problems, such as obesity, diabetes, and heart problems. There are several factors, such as stress, diet, and depression, that can affect your sleep. But you can help manage your routine so that you set yourself up for sleep success.

Our daily lives are full of distractions, and it can be easy to find ourselves thinking about what we need to do or what someone has said. We often find ourselves mindlessly scrolling through social media apps or checking emails while trying to catch up with loved ones. Choosing to be more present allows us to see and experience what is going on in the moment. We can fully listen to our partner or appreciate a quiet moment. The benefit of choosing a new year's resolution such as



being present, is that it's a process goal, not a product goal. Unlike "lose 10 pounds" or "save \$1,000 a month," we can decide what present looks like and take small steps to achieve it. For some, it might be setting down the phone and spending more time with family and friends. It might mean taking time for yourself in the morning to enjoy a cup of coffee and the sunrise.

Want to improve your overall health? Just go outside. Spending time in nature has been shown to provide significant health benefits. A recent study reported that exposure to green space can reduce the risk of diabetes, cardiovascular disease, stress and high blood pressure. Being outside also leads to increased physical and social activity, which helps improve health.

So as you begin 2025, go for a walk, sleep in, drink your coffee on the patio, and be present in the moment and 2025 will be the year you live life better.

What to consider when purchasing a generator



Let's face it: rough weather happens. At Eastern Illini Electric Cooperative, our goal is to restore power as quickly and safely as possible. But when a major storm hits power may be out for an extended period of time. Anyone who has experienced an extended power outage has likely mulled over the idea of buying a generator, but before you do – make sure you have all the facts.

The purchase and installation of a generator is an important and serious decision. Properly done, you gain peace of mind knowing your family can ride out any outage with some degree of comfort. But an incorrectly implemented generator can become deadly to you, your family, your neighbors and your electric cooperative's employees.

So, let's look at the decisions you'll need to make when it comes to purchasing a residential generator. First, do you want to back up your entire home or just portions? The biggest drawback to a permanently installed, whole-house generator is the cost. While the advantages are significant, it is a large expense for most folks to cover. The next decision is sizing the generator to your particular situation. Online tools abound, so if you like to research, just type "generator sizing guide" into your browser and off you go.

All this being said, a nice portable generator size is at least 6,500 watts with a startup capacity of around 8,000 watts. When motor loads start, they draw more power than they use when running. This "in rush" of power gets them spinning. Afterwards, their demand for electricity decreases.

The third consideration is how to integrate the generator with your home. Permanent models have dedicated switching devices that handle this chore, while portable models require you to remove them from storage, set them up, connect them and start them up. Here is where the danger mentioned above comes in to play. Improperly connected generators can easily back feed. As electricity flows back into the lines, the transformers boost the voltage to lethal levels. Be sure to closely follow connection instructions, and contact us if you have any questions regarding connecting your generator safely.

Use of the generator can be as simple as plugging appliances directly into it. This is cumbersome and very limiting. Better yet, have a transfer switch installed by a qualified electrician. This device connects to the circuits you want to power. Connect your generator to the dedicated plug, follow the disconnect procedure and fire it up. Now you've got power for your home that's safe for all.

Next, a word about quality. With generators, you definitely get what you pay for. Cheap models are just that. They may last a couple of years, but after that, parts can be impossible to get. Few things are worse than your generator failing to operate when the lights are out. Definitely go for engines with recognizable brand names. They may cost more, but it will certainly be worth it. It's important to exercise your portable generator regularly. Exercising means connecting load to it and turning it on to be sure it will run.

Portable electric generators can offer many benefits when a long-term electrical outage

occurs due to a storm. However, if generators are not used properly, things could turn deadly. Follow these tips to prevent misuse of portable electrical generators:

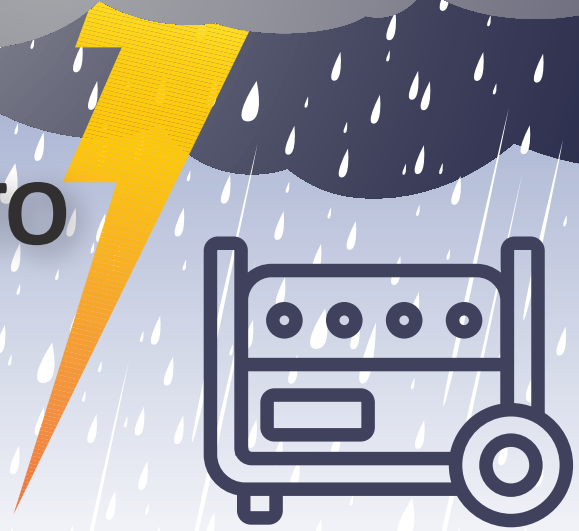
- Be sure to follow manufacturers' directions for installation and operation.
- To prevent electric shock, make sure your generator is properly grounded. The operation manual provides grounding procedures.
- Operate electric generators outside where deadly carbon monoxide fumes can't enter the home.
- Use the generator only in a well-ventilated and dry area located away from air intakes to the house.
- Do not use a generator in an attached garage.
- Do not overload the generator by operating more appliances and equipment than the generator can handle. The operating instructions should have an output rating for the generator.
- Individual appliances should be plugged directly into the receptacle outlet of the generator using appropriately sized extension cords to carry the electric load. Make sure the cords are rated for outdoor use, have a grounded, three-pronged plug, and are in good condition.
- Never connect generators directly to your home's wiring. The reverse flow of electricity can electrocute an unsuspecting utility worker.
- Never plug a generator into a household outlet.
- Do not refuel the generator while it is running.
- Only store fuel outside of living areas and away from heat sources like water heater pilot lights.
- Keep children and pets far away from generators.

While you're at it, why not let us know you have a generator? Eastern Illini can provide safety and connection tips if needed, and it will enhance our line crew's safety.

Safety first when it comes to generators

A QUICK GUIDE TO GENERATORS

With proper use and maintenance, generators provide great convenience during a power outage. Before you purchase a generator, determine your backup power needs to select the right size. Make a list of essential appliances and devices you'll want to power during an outage, then total the required wattage.



RECOMMENDED IF YOU...

... **rarely** lose power.

Recreational Inverter

Up to 2,000 watts

Lightweight, about 60 pounds

Quiet, easy to store

Power: fridge and a few smaller items (i.e. lamp, phone charger and home security system)

Mid-sized Inverter

Up to 3,500 watts

Weighs up to 150 pounds

Power: fridge, laptop, five to 10 lights, phone charger, home security system and 10K BTU air conditioner

... **occasionally** lose power.
Transfer switch required.

Portable Generators and Large Inverters

Up to 7,500 watts

Weighs about 300 pounds

Power: fridge, gas furnace, 10K BTU air conditioner, dishwasher, multiple lights, TV, laptop and more

Ability to connect to home's breaker panel

... **frequently** lose power.
Transfer switch required.

Home Standby

Up to 20,000 watts

Must be permanently installed; starts automatically during outage

Power: nearly all home appliances and electronics (simultaneously)

Can run indefinitely on natural gas or propane

Recommended if you frequently lose power.

SAFETY FIRST!

- Let us know if you purchase a generator that you plan to connect to an electric panel.
- Improperly installed generators can create back feed, which is dangerous to our crews and the community.
Before using the generator, disconnect the normal source of power coming into your home/business.
- Never operate a generator indoors or in an enclosed space.

Disclaimer: Please note safety requirements may differ based on the type of generator you purchase. Thoroughly read the operator's manual and know how to shut off the generator quickly.

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