

Make a severe weather emergency kit

What to include:

- Phone number of the Emergency Manager of your county
- Flashlight with fresh batteries
- Candles and holders
- Matches/lighter
- Three days of nonperishable food (peanut butter, canned meat, crackers, snacks)
- Radio and batteries
- Blankets
- Wind-up clock
- Manual can opener
- Paper plates/plastic utensils
- Bottled water (one gallon per-person, per-day)
- Charcoal grill with charcoal and a lighter
- First aid kit
- Garbage bags
- Prescription medication needed by members of your family
- Three-day supply of all medicines, at a minimum
- Medical supplies like syringes, a walking cane, or hearing aids with extra batteries
- Soap
- Toothbrush and toothpaste
- Baby wipes
- Contact lenses or glasses
- Multipurpose tool (that can act as a knife, file, pliers, and screwdriver)
- Whistle
- Cell phone with charger
- Baby supplies like bottles, formula, baby food and diapers
- Games and activities for children
- A three-day supply of food and water for each pet and bowls
- Sturdy leash, transport kennel or cage, pet's bed or a blanket

Why can't KEM just put all the power lines underground? Wouldn't that solve the problem of winter outages?

Not necessarily. While underground power lines would not be impacted by wind, ice and snow, they may still be fed by an overhead distribution or transmission line at some point, making the line vulnerable to outages and interruptions.

Other reasons:

- Underground is about 25 percent more expensive to build than overhead; that cost would significantly raise rates for member-owners.
 - * Transmission lines are too cost-prohibitive to bury. KEM Electric Cooperative has 120 miles of transmission lines and material is very expensive (\$475,000 per mile or more). However, it is increasingly common for new distribution line to be installed underground.
 - * KEM owns 2,339 miles of overhead power lines. In order for KEM to replace all of the overhead lines with underground, it would cost \$118,500,000. To put that into perspective, KEM currently spends \$3,000,000 annually in system improvements and upgrades.
 - * With the current budget for infrastructure improvements, it would take 39 ½ years to replace all the overhead with underground if KEM delayed all other system improvements.
 - * KEM tries to balance reliability with affordability, and revenue must justify the expense.
- It is expensive and time-consuming to repair underground lines.
- Underground has a shorter life span than overhead.
 - * The lifespan of underground cable is generally 15 to 40 years. It is estimated that as much as 85 percent of the overhead conductor in North Dakota installed more than 70 years ago still stands today.
- It can be difficult to locate faults in underground lines.
- Underground lines are susceptible to dig-ins and flooding.
- Underground lines can still be struck by lightning.
- Underground enclosures are still vulnerable to vehicle collisions.
- Underground enclosures are at risk of damages caused by animals.

Trisha Samuelson, assistant engineering manager for Innovative Energy Alliance, LLC of which KEM is a partner, says, "As overhead lines begin to reach the end of their useful life, we have begun installing more underground cable and retiring overhead lines."

The engineering team and operations department have been focusing on replacing main three-phase lines as those improvements get "the biggest bang for the buck" by impacting a bigger percentage of members than improvements at the end of the line.

Samuelson continued, "By focusing on three-phase structures, we hope to reduce restoration time after a storm, as three-phase structures take longer to repair than single-phase structures do. So, while we have begun to replace overhead lines with underground, we cannot go out and replace 100 percent of KEM's overhead lines with underground tomorrow."

Northern Plains Electric Cooperative members experienced a power outage after an underground enclosure was hit by a dozer clearing snow.



Also in the February issue of *North Dakota Living*:

- KEM wins safety award
- Local #WhoPowersYou nominees inspire
- Board meeting minutes & more

