Record Snowfall Highlights Success of Grid Upgrades

By Ryan Elarton General Manager

The second weekend of November felt like we were inside a snow globe. Giant fluffy snowflakes drifted down from the sky for three days, resulting in record-breaking snowfall for the region. Fortunately, we had only a few short-lived outages and, thankfully, the wind stayed away.

For those of you who are longtime SIEA members, you probably remember we didn't fare so well the last time it snowed as much. In March 2017, a similar snowstorm caused widespread outages lasting nearly a week for most members.

What's changed? The answer lies in the tens of millions of dollars we've invested in our electric grid since then. These investments are being paid for over time, by your grid access charge.

As mentioned in previous issues, in November, the SIEA Board of Directors approved to increase the grid access charge to $35 for residential members, effective January 1. Since the upgrade projects began in 2017, the grid access charge is the only fee on your electric bill that's been raised in an entire decade. These funds are essential for sustaining the reliability improvements you've experienced and for preventing outages like those in 2017.

These upgrades don't just prevent outages — they also play a critical role in providing cost savings to keep rates steady and for wildfire prevention. Fewer outages also translate into cost savings for SIEA member-owners because there are fewer unexpected repair expenses. To reduce the number of people affected by an outage, hundreds of fuses, reclosers, and switches were installed; these can also detect potential fire hazards in our lines. To aid in mitigating fire risks and reducing outages caused by vegetation, we've also increased the size of our tree trimming crews and re-evaluated our tree trimming cycle to prioritize areas of rapid growth.

The impact of these upgrades and preventive measures is clear — not only in the data, but also in the experiences of those who work on the front lines of our system.

In a conversation after the storm, SIEA Communications Manager Paris Daugherty asked lineworker Jesse Madril why outages were so minimal. He didn't hesitate: "It's all the behind-the-scenes work — the upgrades and maintenance we've done over the years." That observation from someone who is usually in the thick of restoring power is a happy and proud moment for all of us.

SIEA lineworkers deserve immense credit for responding to storms and for the hard work they've put in upgrading and rebuilding much of our system. However, these results wouldn't be possible without the contributions of our behind-the-scenes employees — the ones who answer phones, file permits, manage inventory, and ensure every project is planned and funded. Together, these teams, along with the foresight of our Board of Directors, have made our grid stronger and more resilient.

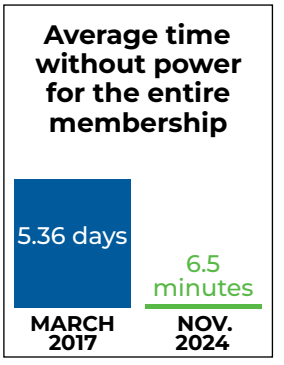
We understand that any increase affects your budget, and we take that responsibility seriously. However, the results speak for themselves: shorter outages, improved safety, and a grid that keeps your power on when you need it most. That peace of mind is an investment worth making.

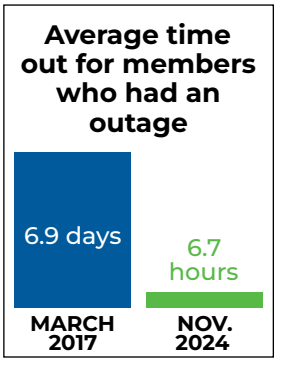
MATERIALS REPLACED DURING UPGRADE PROJECTS SINCE 2017

- 67,000 feet of line
- 1,300 poles
- 22,000 meters
- 1 substation upgrade — Aguilar
- 1 new substation built — Walsenburg

UPGRADE PROJECTS

- 69-kilovolt backbone upgrade
- City of Walsenburg rebuild
- Underground replacement and redundancy
- Reclosers for Wildfire Prevention
- Beulah transmission switch
- Navajo Ranch rebuild
- Highway 160 rebuild
- System-wide meter exchange project





Energy Gap: Renewable Paired with Batteries

The path to a 100% carbon-free energy economy is not straightforward. The challenge lies in meeting the increasing demand for electricity while complying with state and federal mandates for emissions reduction that requires an increasing amount of power from intermittent renewable sources. This gap between current energy production and future goals is the energy gap.

Since October, we've been discussing coal alternatives that could help bridge the energy gap. This month, we're focusing on renewables — specifically wind and solar — paired with batteries.

RELIABILITY

Wind and solar generation are crucial to the energy transition. Both are relatively low-cost and utilize carbon-free fuel, but they have a key limitation: They depend on an intermittent fuel source — Mother Nature. We can reduce their output when demand is low, but we can't increase it when demand is high.

"We can't create more wind or move the clouds," Tri-State Generation and Transmission Vice President of Energy Resources Susan Hunter said.

Batteries, however, can store excess power from wind and solar during low-demand periods and discharge it when demand spikes. These projects are typically referred to as hybrid projects since batteries are paired with a renewable source. Some storage projects use stand-alone batteries that are charged directly from the grid instead of from a renewable source.

"While short duration battery storage projects provide value during normal load patterns and under expected operational conditions, their limited discharge cycle cannot always provide power during unexpected or abnormal conditions." Hunter continued. Most utility-scale batteries have about four hours of storage. This makes them less useful during prolonged extreme weather events. However, private companies are working on long-duration storage technologies, but those efforts are still in development.

It's important for utilities to be able to load shift: the process of when electricity use is moved to off-peak times to save money and help keep the power grid stable; batteries can help accomplish this. An example of this is when a utility charges a battery during off-peak hours and then discharges the energy during higher load, on-peak hours. Doing this is important because power plant outages can happen, and having backup and redundant baseload resources helps ensure a stable supply.

COST

Are wind and solar on their own the most affordable resources? Renewables are not as cheap as they once were. Supply chain pressures, tariffs, and rising labor costs have increased prices. Still, existing wind and solar often remain cost-competitive with coal and natural gas. Often overlooked in considering the cost of utility scale wind and solar resources is the large cost of building transmission lines to bring the energy from remote areas, ideal for building wind and solar, to more populated areas where the demand for electricity is high.

While there is an influx of temporary jobs during the build phase, there are limited local long-term employment opportunities with utility scale wind and solar. The push for more domestic manufacturing may reduce reliance on imports, but trade disputes and higher labor costs could negate the savings.

SAFETY AND THE ENVIRONMENT

All power generation has an environmental footprint. While wind and solar produce no carbon emissions during operation, their large land use and the mining of materials and rare-earth metals for solar, wind, and batteries pose environmental challenges.

Recycling old chemicals and minerals in panels and fiberglass blades remains a hurdle. Solar panels, wind blades, and nacelles, the

cover that houses the generation parts of a wind turbine that sits on top of the tower, have a fairly short usable life of about 20 to 25 years.

Repowering — replacing key components while keeping existing infrastructure — is gaining traction. "It's a better financial decision to maximize lifespan and efficiency without starting from scratch," Hunter said. When constructed, significant investments are made to secure land, permits, and to build the foundations and framework. Plants will keep the basic support structures and just replace the panels, or the blades and nacelles.

Safety is also a priority. Wind and solar farms are sited to avoid wildlife habitats and migratory paths, military training activity, and airspace flight paths. However, incorporating batteries introduces risks like thermal runaway — when a battery heats up too rapidly, potentially leading to a fire or explosion as the battery releases stored energy uncontrollably. Hunter says the key to safety and reliability is hiring an experienced maintenance staff to do visual checks, monitor equipment to prevent overheating, or note a marked decline in production.

A BALANCING ACT

The move from fossil-fuel power generation is complex. "We are seeing growing concerns about where wind and solar projects are being proposed," Hunter mentioned.

The shift to renewables often pits urban demand against rural land use. Many people don't like the impacts of huge solar and wind farms because they may limit the visual enjoyment and usability of the land. They typically end up in rural areas where land is more abundant. Agrivoltaics projects that allow the land to still be used for livestock grazing, farming, and creating pollinator habitats are becoming more popular, but they are still rare and solve only part of the problem.

Bridging the energy gap will require a mix of resources, including reliable baseload power, intermittent resources, storage, and peaking plants.

DONATION IMPACT REPORT

NOVEMBER 2024

The following donations were approved during November's board meeting. All donations were matched by Basin Electric Power Cooperative.

The First National Bank in Trinidad	Senior Santa Gift Tree Program	$750	Las Animas
El Fandango Dance	El Paso ANGF 2025	$500	Huerfano & Las Animas
Beulah Social Club	Parade of Lights/Yule Log	$500	Pueblo
Pet Assistance League Store	Spay/Neuter and Vaccination Clinic	$500	Las Animas
Trinidad State College Foundation	100th Anniversary	$1,000	Las Animas
Christ Church Pueblo West	Gear Up!	$500	Pueblo
Hometown Holidays	Parade of Lights	$250	Las Animas

San Isabel Electric operates under seven cooperative principles which includes practicing a Concern for Community. Each board member lives in the community they serve, and we all work together to help our communities thrive.

Each month, the Board of Directors donates to community projects to help keep our communities strong and growing.

All philanthropic funding comes from unclaimed capital credits not from member rates and electric bills. Our process for using unclaimed capital credits follows state law for unclaimed property. Unclaimed capital credits cannot be used for system improvements, maintenance, payroll or other overhead costs. For more information about capital credits and unclaimed capital credit, visit siea.com/capitalcredits.

When Breakfast is More Than Just a Meal

A record-breaking effort to fight hunger

Imagine trying to eat breakfast with no electricity — no stove, microwave, or fridge to store milk. Did you know instant oatmeal is one of few nutrient-rich foods that can be prepared by just adding water? This is a game changer when there's no kitchen or electricity available. It's why instant oatmeal packets are often on food pantries' most-needed-items lists.

Oatmeal provides essential vitamins, minerals, fiber, and antioxidants and is a great meal or snack for all ages because it replenishes energy stores that are depleted at night. Did you know instant oats are designed to be prepared with cold water? This makes instant oatmeal one of the easiest meals to prepare, especially for a family or individual experiencing food insecurity.

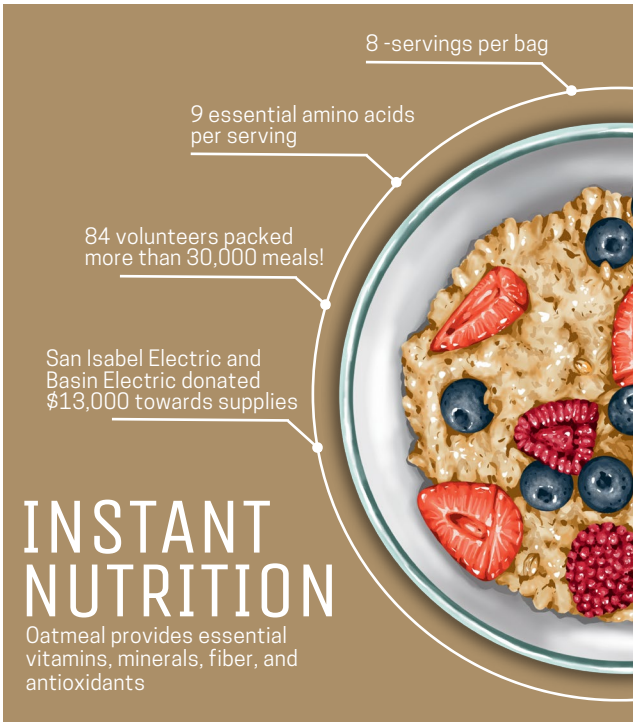
For the second year in a row, San Isabel Electric Association employees and board members teamed up with two nonprofit organizations — Spark the Change Colorado and Harvest Pack — to pack fortified bags of oatmeal to be distributed to food pantries and food distribution services in SIEA's territory.

In a flurry of cinnamon, sugar, and teamwork, 84 volunteers packed more than 30,000 pouches of nutrient-packed oatmeal, doubling Spark the Change's previous record of 15,000.

"Once teams got into their groove, it quickly turned into a friendly competition not just to pack more bags than another team but to break the record for most bags packed," SIEA Communications Manager Paris Daugherty said.

"It was an amazing event that brought our employees together, but more importantly our teamwork will help a parent give their child breakfast, or someone on the street a needed nutritious meal," SIEA General Manager Ryan Elarton said.

The meals will go to Care & Share Food Bank of Southern Colorado and stay within the SoCo area.



SAN ISABEL ELECTRIC ASSOCIATION

Phone: 800-279-SIEA (7432)
Email: contactus@siea.com
Website: siea.com
Facebook: /SanIsabelElectric
X: @sieacoop
LinkedIn: @SanIsabelElectricAssociation
YouTube: sanisabelelectricassociation

MAILING ADDRESSES

Headquarters
781 E. Industrial Blvd.
Pueblo West, CO 81007

Walsenburg Office
122 W. 6th Street
Walsenburg, CO 81089

Trinidad Office
1930 E. Main Street
Trinidad, CO 81082