UPGRADES BRING FEWER, SHORTER OUTAGES

BY **REG RUDOLPH** GENERAL MANAGER

REG RUDOLPH

On average, our member-owners experienced a 112% reduction in the average length of power outages in the last four years.

The average length of an outage spread out across each member served was reduced by one hour and 52 minutes since 2015.

In 2015, our System Average Interruption Duration Index score, the average length of an outage for each member served, was 211.8 minutes. Our 2019 SAIDI score was 99.5 minutes.

We have a talented workforce. Our strategy is to get ahead of outages, rather than respond to them.

Most often, power outages are caused by factors beyond our control: animals coming into contact with our equipment, trees outside of our rights-of-way and storms.

In 2017, we began several projects to tackle the common outage causes within our control and improve reliability for our 24,000 member-owners — things within our control such as equipment failure and trees inside our rights-of-way coming into contact with our lines. Our goals were simple: reduce outages, make the system more resilient to storms and bounce back from major weather events more quickly.

As a rural electric cooperative, with a service area larger than Connecticut, Rhode Island and Delaware combined, most of the rural landscape is only accessible by going off road, up mountains and through creeks, much like the original rural electrification workers did in the late 1930s.

Since the system upgrade projects began in 2017, contract crews and our staff of 22 lineworkers have replaced more than 1,300 poles and 67,000 feet of line from Pueblo West to the New Mexico state line.

Rate stability

The reliability improvement upgrade projects are also part of the co-op's long-term strategy to keep operational costs down and ensure steady rates for many years to come. Because the upgraded equipment will be brand new, there will be fewer outage-related repair costs and maintenance costs.

San Isabel Electric member-owners have only experienced one rate increase in the last decade and we do not anticipate any rate increases in the near future.

More information about all of San Isabel Electric's upgrade projects, including interactive maps and frequently asked questions, is available at siea.com/systemupgrades.

Tree trimming

We also re-evaluated our tree trimming cycle, to trim every three years in areas where there is rapid growth and eight years in slower growth areas. Two additional full-time employees and a contract crew were hired to help keep up with the ambitious new trimming schedule.

Although most trees do not present a problem, some of them grow into or crowd power lines or other utility equipment. When greenery becomes too close for comfort, we have to address it because overgrowth can interfere with power distribution and create a fire hazard.

If you notice that your trees are growing into power lines, contact San Isabel Electric to determine the next recommended step. Only professionals who are trained to safely prune and trim trees for electric line clearance should do this work.

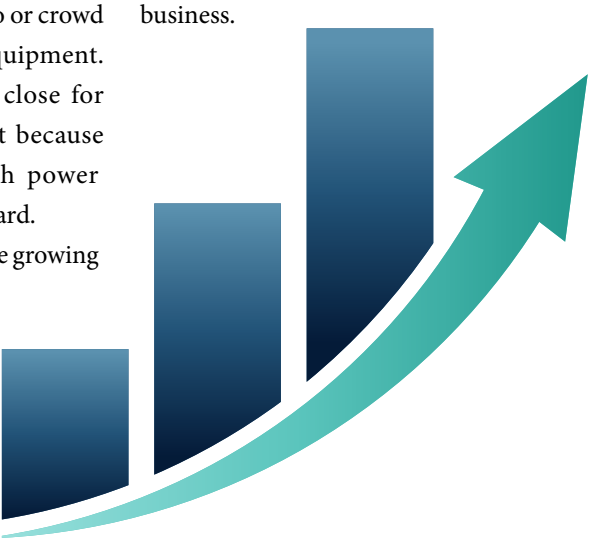
What's next?

In 2020, with most of the upgrade projects near completion, focus is shifting to targeted preventive repairs and maintenance.

The goal of this is to create a "level" where maintenance crews can start each year with a clean slate, responding to current issues instead of problems of the past.

Rather than waiting for a storm or major weather event, engineers will be analyzing meter data, blinks and outages and patrolling lines to identify equipment about to fail. Any deteriorated or failing equipment will be repaired or replaced.

The electricity we provide literally powers our communities. And it takes every person in the co-op to deliver on this promise. Across the country, San Isabel Electric, and the 900 other electric cooperatives, provide safe, reliable and technologically advanced service to 42 million Americans while maintaining a unique, consumer-focused approach to business.



Weather, Animals and Trees All Share the Blame

Most often, power outages are caused by factors beyond our control.

In the summer months, power outages are often caused by animals, such as birds and squirrels coming in contact with our equipment, especially in the early morning hours.

In the winter months, power outages are all about the weather. Snowstorms, ice storms and windstorms can all cause trees to fall on our power lines or cause the wires themselves to be knocked down.

Our vegetation management team routinely inspects vegetation growing near power lines to identify potential hazards, then either prunes or removes any hazardous trees. Unfortunately, they can't get them all.

Since 2013, a major effort has been under way to rebuild old sections of our electric infrastructure that had reached the end of their usable life, as well as sections that were frequently causing trouble. The rebuild projects are part of the co-op's long-term strategy to provide reliable power, keep operational costs down and ensure steady rates for many years to come.

If you come across a fallen or damaged power line, keep a safe distance — at least the length of a city bus.

Another common cause of power outages that can happen at any time of the year is motor vehicle accidents that damage power poles. Power may go out immediately due to the impact of the vehicle, or crews may need to disconnect power when they arrive on site to make the area safe and facilitate repairs. Because electricity can travel through vehicles, an accident involving our equipment can be extremely dangerous, so please keep your distance.

Outage reported, crews dispatched

There are a variety of ways that we're alerted to an outage on our system. Members can report their power is out either by calling 1-800-279-SIEA (7432) or by reporting the outage with SmartHub, the co-op's account management app. It's always helpful to have members provide additional information about an outage whenever possible. For example, if a member can tell us a tree is on the line outside their house, then we know what type of crew we need to dispatch.

Our meters also provide automated alerts and alarms that notify us when there is an outage. Meter outage notifications are best used for individual or smaller scale outages. In large events, information from meter data is used to help determine how widespread the outage is.

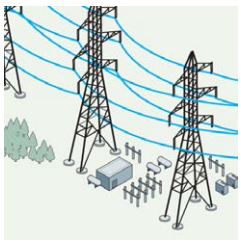
Smart meters aid in restoration effort

Smart meters add a new level of efficiency that we didn't have before.

Previously, we would have sent a crew out to investigate an outage that can now be investigated remotely by checking the meter. Sometimes the outage isn't actually on the electricity system but rather within

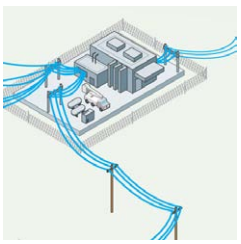
When the power goes out, line crews work to pinpoint the problem.

1 High-Volatage Transmission Lines



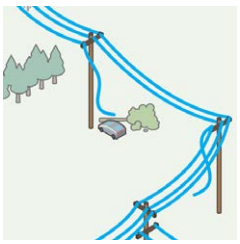
These lines supply power to tranmission substations and rarely fail. But when damaged, crews must repair these lines first.

2 Distribution Substations



Substations can serve thousands of members. When an outage occurs, line crews inspect substations to determine where repairs must be made.

3 Distribution Power Lines



If the outage can't be isolated at the substations, we inspect the distribution lines. These are the lines that carry power to your community.

a member's home, such as a blown fuse or tripped breaker.

Smart meters also allow us to remotely confirm when the power has been restored so crews can focus their attention on other trouble calls. This is especially helpful when there are multiple outages and incidents occurring at the same time.

Estimating restoration times isn't an exact science

When your power goes out, you want to know when you can expect to have it back on. Our mobile-friendly website, siea.com, provides outage maps as well as updates every two hours, between the hours of 8 a.m. and 10 p.m. as soon as we know of the outage.

Restoration times can and will change. That is why we do not provide estimated restoration times. A seemingly simple repair job, such as plugging in a new fuse to a transformer, can become a more complex repair job if that fuse goes too, indicating that there's something more going on.

Once an outage is determined to be affecting more than 100 meters, we post outage status updates at siea.com every two hours until power is restored, to keep you informed about how work is progressing.

The co-op only posts outage information on its Facebook page when more than 2,000 meters are affected, or if the outage is anticipated to be longer than four hours.

Members can sign up for text and email outage alerts, notifying them when there is an outage in their area and when the outage is restored. Currently, the notifications go to members in the area of the outage. So, some members may receive a notification about a power outage in their area, even though their meter is not affected.

In addition to the outage notifications, members can find out if the co-op is aware of their outage by checking the outage map, which is available through the SmartHub app and at siea.com.

Prioritizing work during larger storm events

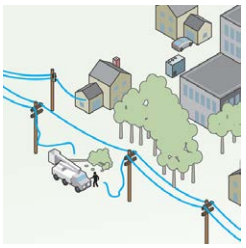
Our number one priority is always public safety. So, in a large-scale outage with extensive damage, we first focus our attention on the largest areas without power.

We also consult with the emergency managers experiencing concern about hazardous conditions related to power outages for their help in determining priority areas for restoration. This would include lines that provide power to hospitals, schools, fire departments and water systems.

Be prepared if the lights go out

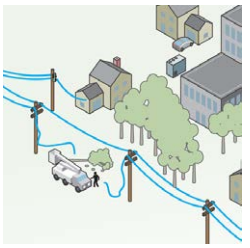
Power outages can be an inconvenience for you and your family, especially when so much of our daily lives rely on having fully-juiced electronics and Wi-Fi access. We invest in and regularly maintain our system to continuously improve reliability for our 24,000 meters. However, power outages are inevitable and it's important to be prepared for when they do happen.

4 Tap Lines



If the power outage persists, we inspect tap lines. These lines deliver power to transformers located on utility poles or pads for underground service.

5 Individual Homes



If your home remains without power, the service line between the transformer and your home may be the culprit.

San Isabel Electric

Our crews work hard to restore power to the greatest number of members in the shortest time possible.

Three Ways to **Electrify Your Lawn Care**

BY ABBY BERRY

Cordless electric leaf blowers are lightweight and easy to maneuver. *Photo: Scott Van Osdol*

Spring is just around the corner, and you can practically smell the freshly-cut grass. If you're in the market to upgrade your lawn care equipment, you may want to consider exploring your options.

Gas-powered lawn mowers and trimmers may be your go-to equipment, but times are changing. Electric lawn care equipment options are becoming more popular than ever, offering consumers faster charging times, longer battery life and quieter, greener products compared to their gas-powered counterparts. Here are three ways you can electrify your lawn care this spring.

Electric lawn mowers

Electric lawn mowers improved over the last few years. Early models required corded connections, which were tricky to manage, but now the cord has been cut. Newer cordless electric mowers are certainly more expensive than gas-powered mowers, but much of the upfront cost can be recovered since electricity is a less expensive fuel than gas, and electric engines generally require less maintenance than gas engines. Cordless electric mowers typically range from $200 to $500.

Electric mowers are suitable for most lawn care needs, with batteries that typically require about one to two hours to fully charge. Most batteries can run for a full hour. That said, if you have a large yard (half an acre or larger), a gas-powered option may be best to suit your needs.

Electric trimmers

Cordless electric string trimmers are a great option for most lawns. Traditionally, like lawn mowers, string trimmers have typically been powered by gas. New versions of electric trimmers are improving and are now considered worthy competitors of gas-powered models.

Cordless electric trimmers are much quieter and easier to use, but most batteries last about 30 to 45 minutes. So, if you have a lot of space to trim, you may want to consider a backup battery or plan to work in short bursts. If you're interested in purchasing an electric trimmer, the main factors to consider are the battery's life, charge time and power. Costs can vary depending on your needs, but you can find a quality version for about $100.

Electric leaf blowers

After cutting and trimming your lawn, you'll need to clear off those walkways and patios for the finishing touch. If you don't want to deal with the maintenance of a gas-powered blower or the restraints of a corded blower, a cordless electric version is a great option.

Cordless electric leaf blowers are lightweight and easy to maneuver, but they don't offer quite as much power as gas-powered and corded blowers. If your leaf blowing and clearing needs are minimal, a cordless electric leaf blower can get the job done. Costs for a cordless electric blower vary depending on power and battery quality, but you can purchase a dependable model for about $150 and up.

If you're looking to electrify your lawn care equipment, be sure to do your homework. Search online for the latest reviews and check trusted websites like ConsumerReports.org. With a little research, you'll be well on your way to Lawn of the Month with less maintenance, hassle and noise, which your neighbors will thank you for.

Abby Berry writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.

March 2020

Energy Efficiency

Tip of the Month

Placing hot food in the refrigerator makes the appliance work harder than necessary, using more energy. Allow food to cool down before you place it in the refrigerator.

Source: energy.gov