

electric grid resiliency

Grid resiliency is one of the most popular concepts being discussed in the electric industry today. Resiliency can and does refer to many things. It refers to reliability in electric service. It refers to our ability to efficiently restore power after an outage. It can refer to how we seamlessly serve our members with various generation sources and integrate new technologies. Ultimately, electric grid resilience is how we deliver on our promise to improve the quality of life for every Carroll Electric member.

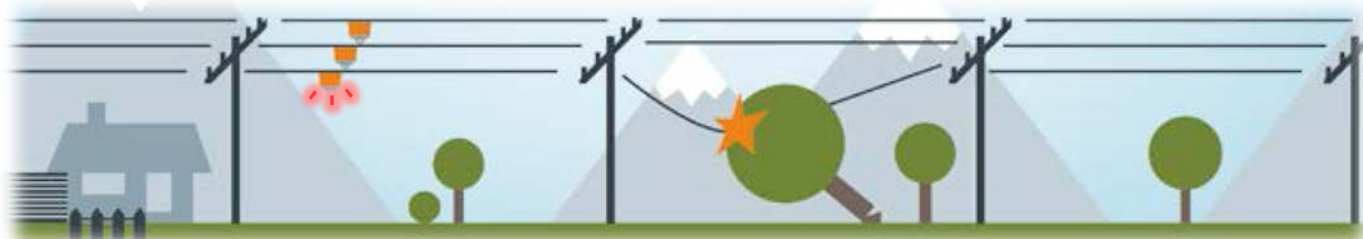
Tracking Down Electrical Faults

Locating electrical faults present one of the biggest challenges during power restoration. In general, electrical faults occur when too much current is placed on an electric circuit. Fallen trees, animal contacts, lightning, and equipment failures can all cause electrical faults. When these events occur, an upstream protective device (such as a fuse or switch) will open the electric circuit, isolate the electrical fault, and result in a power outage.

This operation is very similar to the operation of a breaker box located inside a residential home. When an electrical fault occurs, the corresponding fuse in the breaker box is tripped and the circuit that experienced the fault is isolated from its power source, causing an outage on the circuit. At that time, the homeowner can begin to investigate the problem that caused the issue. A similar practice occurs when electric utilities experience an outage.

During power outages, the Cooperative's outage software will accurately and predict the total number of customers who have lost power. When multiple customers are affected, account locations are grouped and identified by an upstream protective device. This data informs our highly trained linemen where to begin their investigation, so they can safely restore power to our members.

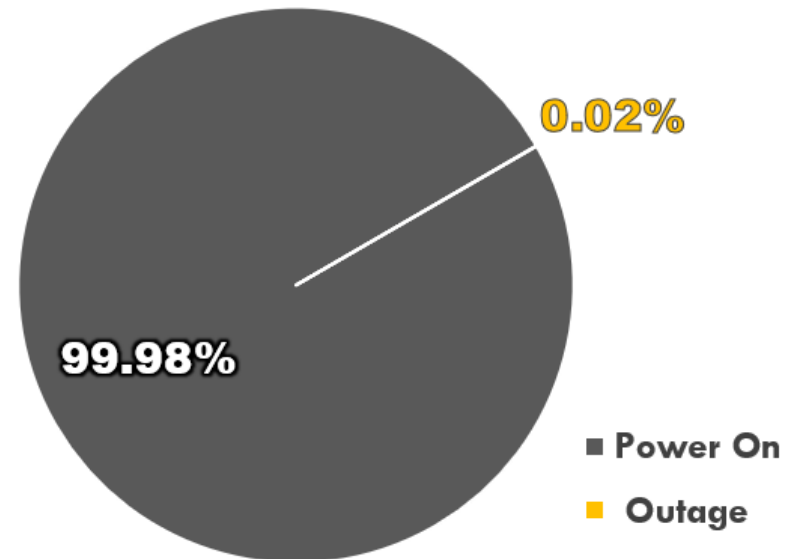
Carroll Electric is always looking for ways to improve reliability. In recent years, the Cooperative has installed electronic short-circuit and ground-fault indicators on both overhead and underground electric lines. These fault indicators have built in LEDs that light up when a fault is recognized downstream of the indicator's location. Before our linemen can safely restore power, they must assess the electric line to determine the precise location of the electrical fault and fix the problem that caused the outage. In fewer words, these indicators help send our linemen to the actual source of the fault. Having fault indicators installed on our electric grid helps reduce the time it takes to properly assess outages and the overall time it takes the Cooperative to restore power. This is just one of many ways Carroll Electric is striving to improve electric grid resiliency and reliability.



reliability

Excluding weather related events, the Cooperative provided safe and reliable electricity 99.98% of the time in 2019. What does this mean exactly? That means, barring weather-related outage events that are outside of the Cooperative's control, the average consumer of Carroll Electric experienced only 1.75 hours of service interruptions for the entire year of 2019. In short, the electricity you needed in 2019 to power your home or business was safely and reliably delivered.

Imagine the pie below represents the total time of power supply. Can you even see the tiny orange piece of the pie that represents non-weather related outage events?



did you know?

In 2019, the Cooperative experienced two major storm events that triggered our Emergency Restoration Plan. This included the severe wind storm that occurred on the night of August 26 and the two tornados that caused extensive damage on October 20-21. While the Cooperative made every effort to get power safely restored in the shortest amount of time possible, these two events accounted for 86% of the total outage hours reported in 2019.

DON'T FORGET

Valentine's Day
is
Friday,
February 14th.



Energy Efficiency Tip of the Month

Let the sunshine in! For additional warmth, open drapes over windows that receive sunlight during the day. Close them at night, which can reduce heat loss from a warm room up to 10%.

Source: energy.gov

