

CVEA's Power Reliability and Outage Tips



Photo by Mark Henspeter

Copper Valley Electric Association's (CVEA) mission is to provide exceptional customer service through safe, reliable, cost-effective electric service and programs. In the electric utility industry, reliability refers to a utility's ability to provide electricity to its consumers. To ensure reliability, CVEA strives to keep electrical outages to a minimum. The goal of many utilities is to have less than five outage hours per consumer, annually. CVEA has achieved this goal for the past three years.

CVEA does many things to maintain and enhance electric system reliability.

Transmission line inspections

Quarterly aerial inspections of the transmission line are performed to ensure the integrity of the structures.

More in-depth climbing inspections of the 648 structures are conducted periodically.

CVEA coordinates with the Four Dam Pool Power Agency, owner of the line, to schedule repairs and will soon be responsible for repairs after CVEA takes ownership of the T-Line in early 2009.

Distribution line maintenance

Line patrols are conducted periodically and, in some cases, after major events to identify issues with distribution lines. Right-of-way issues are identified, such as danger trees, and equipment trouble, such as broken insulators. Distribution line issues are reported to the operations manager, who prioritizes and schedules the repair work.

Right-of-way clearing

Tree and brush clearing in the utility's right of way can help reduce the number of outages and enable emergency repairs to be completed faster, reducing the length of outages.

Generation preventive maintenance

Maintenance and inspections at each of the four generation plants are performed on a regular basis. At the hydro plant, water flow, temperatures, pressures and many other items are monitored every day, in addition to many scheduled routine inspections and repairs.

In the diesel plants, inspections are performed to catch potential problems that can be caused by the major forces of heat and vibration. The cogeneration plant undergoes similar

inspections and preventive maintenance to ensure long term reliability.

System design and improvements

The engineering, operations and production departments continually look for ideas to improve reliability. Protective relays detect and isolate electrical faults. Oil circuit reclosers automatically reset themselves if the problem that caused them to open—such as a tree branch contacting the line—is no longer present. Looped feed systems allow a section of line to be isolated while work is being completed so the remaining sections may be re-energized.

In 2008, numerous underground and overhead fault indicators were installed to assist in identifying faults during outages. Fault indicators help minimize the time it requires to get the line re-energized to the member.

Production plant control systems and alarms identify problems so other production units can be brought online before an outage or system disturbance is ever seen by a consumer.

All of this and more is done by your cooperative to ensure your electricity stays on and, when it does go out, that it can be restored as quickly as possible.

Why are the Lights Blinking?

When the lights in your home or business blink, it means that the system is working to keep your lights on as well as protecting itself from damage.

Just as circuit breakers or fuses protect the electrical system in our homes, CVEA has devices to protect the power lines that deliver electricity to our homes and businesses. These devices are called Oil Circuit Reclosers (OCRs). OCRs automatically reset themselves if the problem that caused them to open is no longer present. Problems that cause a power line to trip off (fault) include a tree falling on the line, a conductor slap due to wind, snow or ice, or critters getting into the line.

An OCR reacts to a fault by beginning a series of internal switching operations. It opens and closes a switch, as many as three times, testing to see if the fault has cleared itself. This is why you see your lights sometimes blink up to three times. On the fourth operation, if the fault is still there, the OCR will remain open and disconnect the



line segment. This results in a power outage for that section of line.

Before OCRs, if any problem on the line existed, there would be a definite outage and the crews would be dispatched to fix the problem before your electricity could come back on. OCRs, while causing the lights to blink, help to keep your lights on.

Outage Tips

Where will you be when the lights go out? What will you do? Here are some tips:

- Before you call CVEA to report the outage, make sure you have not blown a fuse or tripped a circuit breaker.
- During normal business hours, call CVEA at 822-3211 or 835-4301. After hours, call (866) 835-2832, so we can determine the location and possible cause of the outage. If you heard any noise before the power went out, or you can see a tree in the line or damaged equipment, please be sure to report it.
- Make sure you have at least one good flashlight with fresh batteries available. Better yet, make sure there is a flashlight on every floor of your house and one for each family member. If you do not have sufficient flashlights or batteries, add them to your shopping list.
- A battery-operated radio is a good idea. If a lengthy outage or an outage associated with an emergency occurs, CVEA will report to the local radio stations for broadcast to keep you informed of the situation. Replacing these batteries annually will ensure your radio is working when you need it.
- Remember that some telephones with answering machines rely on electricity to operate.
- Keep the refrigerator door closed. Food will keep for several hours or days in a closed refrigerator and up to a week in the freezer, depending on the outside temperature, and provided the door stays shut.

Many more safety and conservation tips are available at www.cvea.org under the Energy Info section.