



Spring sometimes brings severe weather

With the coming of March wind, it can't be long until spring will begin, and April showers bring May flowers. These phrases express our expectation as seasons change from winter to spring. In West Tennessee, the beauty of spring is sometimes overshadowed by the threat of severe weather.

At Pickwick Electric Cooperative, one of our challenges to providing reliable electricity is the phenomenon most prevalent in spring and early summer — lightning. We refer to these weather events as thunderstorms, but the discharge of lightning must take place first for thunder to be

heard. Power lines, because of their elevated perch in the air, are a natural draw for lightning.

With that in mind, we design our electric system with an engineered path for lightning to flow to the ground. We install lightning arrestors on every transformer and at thousands of locations on our system. The name of this device is probably a misnomer because I don't believe there is anything that can "arrest" lightning. This natural electrical force can reach a magnitude of millions of volts and thousands of amps, and its power can melt rocks and make splinters out of giant oak trees.

As a youngster, you may have read about the man who tried to harness lightning by flying a kite in a thunderstorm with a metal key tied to its tail. In a book about that man titled "Benjamin Franklin," the author gave more details about the experiment.

For centuries, lightning had been considered a devil's fire or God's anger at mankind. The religious authority Thomas Aquinas proclaimed that whenever a thunderstorm was

imminent, the church bells should be rung to ward off the demons and dispose of the lightning. It was finally realized that this method was not very effective when in Germany alone during

the mid-1700s, almost 400 churches caught fire and more than 100 bell ringers were killed by lightning. At one church where tons of gun powder was stored, 3,000 people were killed when lightning struck the stockpile. Franklin decided it was time to try a new trick to deal with this "devil."

In 1749, almost 150 years before the electron was discovered, Franklin surmised that the water vapor in a

cloud became charged, some positive and some negative, and when such clouds passed over large trees, masts of ships or tall church steeples, the electrical fire was drawn out and the cloud discharged, thus the appearance of lightning and the sound of thunder. His idea was not far off, and he went on to develop two tests for his theory.

In one test, he proposed giving a metal rod to a man in a dry box on a tall steeple. The aloft investigator could determine by sparks coming off the rod if lightning could be drawn out of a cloud. In hindsight, we can see the potential danger of this, and the experimenters soon found out that the rod did draw the "fire" from the sky — and some participants were killed by the experiment.

The other more famous test was the one performed by Franklin and his son, William, with the kite and the key. They both survived, and Ben's subsequent invention of the lightning rod made him famous at home and abroad. He proposed that lightning rods be installed on tall buildings and



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Pickwick Electric Cooperative

**Serving members in all of
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counties in Tennessee and
Alcorn and Tishomingo
counties in Mississippi**



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These five pages contain local

news and information

for members of Pickwick

Electric Cooperative.

connected with metal to the earth, and in June 1752, the first lightning rod protection system was installed in Philadelphia. Franklin did have his critics as some believed the lightning rods were an offense to God and that man should not attempt to harness the power of heaven. But his theory is still

in use today with little change from his original protection system.

A lightning strike on a power line tends to gain momentum as it moves along the line. Therefore, during a thunderstorm, our protective equipment turns off the electricity for a few seconds, which interrupts the path of

the lightning and hopefully causes it to exit our power lines through one of our arresters. So, when you see the lights go off and on during a thunderstorm, we may be trying to dump the devil's fire into the ground like Ben Franklin did 250 years ago. We just don't use the kite.

Severe weather tips

Rudy Moore, McNairy County's Emergency Management director, coordinates the plans and operations of the various components of the emergency management system. These components consist of the civil defense, emergency medical service, fire and police, electric and other utilities, volunteers and other groups that work with the management of emergencies and disasters. Moore works with organizations in getting each prepared for a disaster and helps coordinate response and recovery.

Moore offers the following precautions as protection against lightning and thunderstorms.

- Listen to a National Oceanic and Atmospheric Administration weather radio or commercial radio or watch the television for the latest weather forecasts.
- Check on the elderly, handicapped or those who may have trouble taking shelter.
- If you can hear thunder, you are close enough to the storm to be struck by lightning. Seek shelter immediately.

- Move to a sturdy building or car. Do not take shelter in small sheds, under isolated trees or in convertible automobiles.
- If lightning is occurring and a sturdy shelter is not available, get inside a hard-top automobile and keep the windows closed.
- Power lines and metal pipes can conduct electricity. Unplug appliances. Avoid using the telephone or any electrical appliances.
- Report downed power lines to your electric cooperative immediately. Do not go near downed power lines or attempt to remove anything in contact with them.
- Avoid taking a bath or shower during a storm.
- Turn off the air conditioner or heat pump. Power surges from lightning can damage compressors.

Remember, the best defense against storms is to learn all you can about them, stay abreast of the latest weather bulletins and be prepared to move to safety should one develop.

Employees recognized for safe driving



Phillip Burns



Trent Chandler



Stacy Dancer

Three Pickwick Electric Cooperative employees recently received awards for safe driving. Phillip Burns and Trent Chandler, right-of-way men, and Stacy Dancer, meter reader, have a combined 30 years of safe driving, each compiling 10 years of safety.

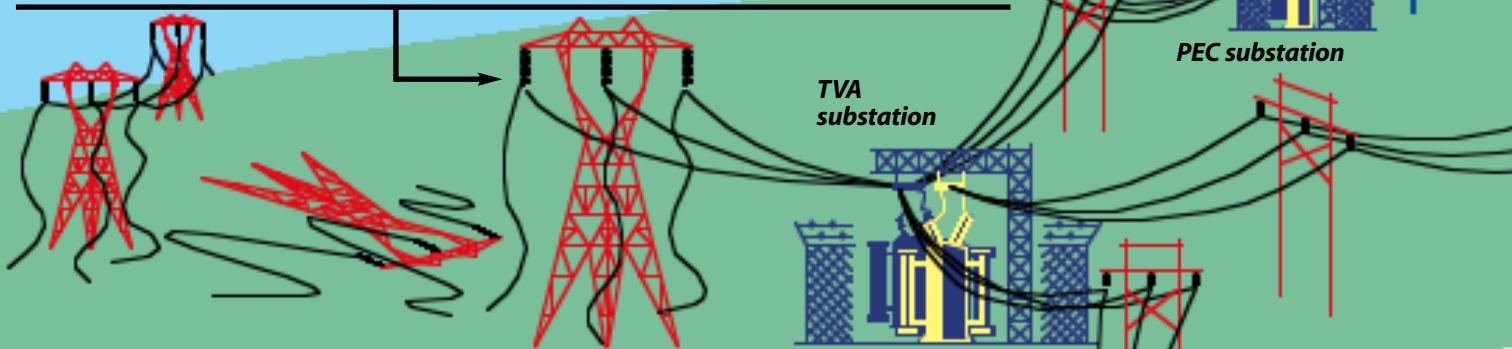
To be eligible for an award, employees must meet the requirements outlined by the National Safety Council. These rules are followed in determining the number of years of safe driving while PEC policy determines the award.

After a major power outage

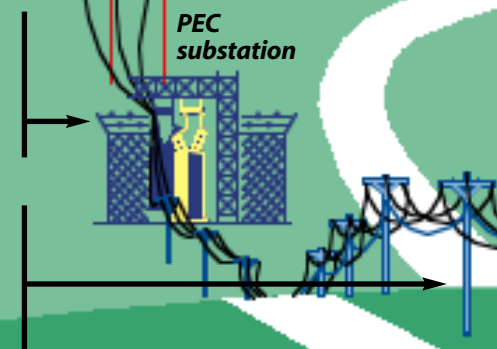
The steps to restoring power

Illustration by Katherine Fowler

Step 1. Tennessee Valley Authority transmission towers and lines supply power to one or more transmission substations. These lines seldom fail, but they can be damaged by a buildup of snow and ice or by a tornado. Tens of thousands of people could be served by one high-voltage transmission line, so if there is damage here, it gets attention first.



Step 2. Pickwick Electric Cooperative has several local distribution substations, each serving thousands of consumers. When a major outage occurs, PEC's distribution substations are checked first. A problem here could be caused by failure in the transmission system supplying the substation. If the problem can be corrected at the substation level, power may be restored to a large number of people.



Step 3. Main distribution supply lines are checked next if the problem cannot be isolated at the substation. These supply lines carry electricity away from the substation to a group of consumers such as a town or housing development. When power is restored at this stage, all consumers served by this supply line could see the lights come on as long as there is no problem farther down the line.

Ice storms, tornadoes and thunderstorms. Pickwick Electric Cooperative members have seen them all. And with such severe weather comes power outages. Restoring power after a major outage is a big job that involves much more than simply throwing a switch or removing a tree from a line.

The main goal is to restore power safely to the greatest number of members in the shortest time possible.

The major cause of outages is damage caused by fallen trees. That's why PEC has an ongoing right-of-way maintenance program.

This illustration explains how power typically is restored after a major disaster.

Area enlarged: Consumers themselves (not PEC) are responsible for damage to the service installation on the building. PEC can't fix this. Call a licensed electrician.

Step 5. Sometimes damage will occur on the service line between your house and the transformer on the nearby pole. This can explain why you have no power when your neighbor does. PEC needs to know you have an outage here so a service crew can repair it.

Tap line

Other co-ops

During a major outage, other electric systems send line crews to assist PEC with restoring power. These additional crews as well as communications equipment and supplies are coordinated through the cooperatives' statewide organization.

PEC substation

To report a power outage, please call 645-3411, 632-3333 or 1-800-372-8258. Remember that a major outage can affect thousands of other members. PEC appreciates your patience.

PEC local office

Step 4. The final supply lines, called tap lines, carry power to the utility poles or underground transformers outside houses or other buildings. Line crews fix the remaining outages based on restoring service to the greatest number of consumers.

Certain main lines will receive special attention if the lines feed critical infrastructure such as hospitals, nursing homes and water or waste systems.

Tap line

DANGER!

Stay clear of fallen lines.

Holt wins In-Home Energy Evaluation

Dottie Holt was already considering installing replacement windows when she registered at the 2009 Pickwick Electric Cooperative Annual Meeting for a chance to win a \$150 cash prize for an in-home energy evaluation.

As it turned out, Holt was a winner, and with the additional cash she was eager to get the job started. Bobby Barnes, PEC member services director, along with Tennessee Valley Authority-certified energy evaluators Jerry Prince and Rob Weatherford, visited Holt's home to complete an energy survey. During the survey, they

explained to Holt how the program worked and that she could earn up to \$500 in cash incentives if she made the recommended home improvements, including replacement windows. And, in addition, she could also qualify for a tax credit for up to 30 percent of the material cost.

Holt was given a list of TVA-approved contractors for the recommended home improvements. After carefully considering several contractors, she chose Selmer Glass and Aluminum for the job.

"I was well pleased with the workmanship of Selmer Glass and Aluminum," she said. "They did a superb job installing my windows."

So how does the In-Home Energy Evaluation Program work? First, contact PEC to arrange for an in-home energy evaluation by a TVA-certified energy evaluator. The home must have had permanent electric



Dottie Holt accepts a check from Bobby Barnes, Pickwick Electric Cooperative member services director, for recommended home improvements made through the In-Home Energy Evaluation Program.

service from the cooperative for a minimum of one year. There will be an upfront fee of \$50, but if the participant spends \$150 or more to implement recommended actions, the fee will be reimbursed.

The evaluator reviews your home and creates a report outlining the potential energy-efficiency modifications and available cash incentives or financing. Modifications must be made by a member of the TVA Quality Contractor Network, except for

self-installed insulation, caulk and weather stripping rehabilitation. The evaluator will provide the names of qualified contractors.

All home improvements must be completed within 90 days of the evaluation. Once the work is finished, it will be inspected to ensure that everything is installed properly to maximize savings.

After the inspection, the participant must submit receipts for the completed work to be eligible for the cash incentives. For financing, your contractor will be paid directly upon successful completion of the inspection. Incentives will not be paid when financing is used.

For more information on the In-Home Energy Evaluation Program, incentives or financing options, call Pickwick Electric Cooperative at 731-646-3786 or 731-646-3825.

Holiday closing

The Pickwick Electric Cooperative office will be closed

Friday, April 2, in observance of Good Friday.

Have a safe and enjoyable holiday.