

SILENT SENTINELS

Electric Co-op Poles Remain the Key to Safe, Reliable, Affordable Power

By Megan McKoy-Noe, CCC

The path of power to your home is guarded by silent sentinels—utility poles that are under constant attack by Mother Nature and, sometimes, by people.

“More than 97,000 miles of line, supported by utility poles, keeps power flowing across North Carolina,” says Tom Pritchard, chief utility engineering officer at the Jones-Onslow EMC cooperative in Jacksonville.

Nationwide, electric cooperatives own and maintain 2.5 million miles of line stretching across three-quarters of the U.S. landmass. Some lines are buried, but more than 2 million miles of lines are above ground. Since there are generally 18 wood poles for every mile of distribution line, electric co-ops rely on more than 37 million poles to safely and reliably deliver affordable power to your home.

POLE PATTERNS

Utility poles take several forms: concrete, steel, ductile iron, composite fiberglass, and—overwhelmingly—wood. Why do utilities prefer treated timber?

Tried-and-true wood poles are more affordable—steel and composite fiberglass poles often cost at least twice as much, although these alternatives



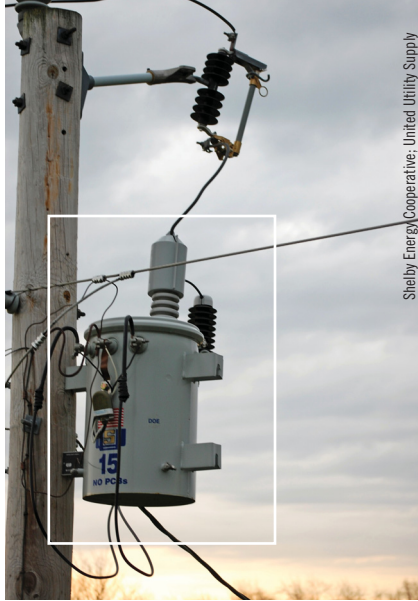
Capacitors improve the power factor on the utility lines—they prevent power from being wasted and help boost the voltage on long rural distribution lines.



Reclosers protect lines and consumers from short circuits, and they allow temporary faults to clear, which helps keep service energized to the member without needless interruptions.



A Blue Ridge Electric pole carrying high-voltage transmission lines (upper) and lower voltage distribution lines (lower).



Transformers lower voltage to a level that's safe for use in your home. Homes served by electric co-ops can often be identified by transformers sporting redundant mounting brackets on the outside of the canister.



Four County EMC linemen replacing a pole for distribution line.

claim a longer lifespan (most have not been in service long enough to verify the claims). Combined with a proven service life that can span several decades, treated wood poles provide the most affordable choice for most cooperatives.

“Generally, utilities turn to alternative poles when nothing else will work,” says Pritchard. “If you’ve got a woodpecker problem, wood simply won’t cut it. Utilities in storm-saturated parts of the country may turn to underground lines, but more often than not these utilities opt to ‘harden’ their lines by installing larger wood poles and shortening the span between poles to help the system weather storms more successfully.”

“Co-ops expect poles are going to last at least 40 years in the field, barring unpreventable storm damage and other accidents,” says Jim Carter, executive vice president for Wood Quality Control, Inc. (WQC), a subsidiary of the National Rural Electric Cooperative Association. WQC estimates cooperatives are responsible for between a quarter to a third of the nation’s annual wood pole production.

Each year, electric co-ops spend

roughly \$300 million to purchase close to 1 million wood poles and 2 million crossarms—amounting to a whopping 20 percent to 33 percent of a co-op’s annual materials budget. WQC, created in 1982, works closely with both manufacturers and co-ops to monitor pole construction conditions and make sure co-ops invest in high-quality poles that meet strict federal Rural Utilities Service (RUS) standards.

HAZARDOUS MISSION

Affordable wood poles stand the test of time—each pole’s lifespan ranges from 30 to 50 years, and in the right conditions, a wood pole can last much longer. To lengthen a pole’s life, wood is pressure-treated with preservatives. But no matter how strong a pole may be, both nature and people threaten a pole’s ability to serve.


Wood poles battle a wide array of adversaries: acidic, heavy moisture, woodpeckers. North Carolina electric co-ops generally inspect poles on a 5- to 10-year cycle to identify potential problems.

Poles age differently depending on region. Poles in Louisiana, Florida, Hawaii and the coastal regions of

Alabama, Mississippi, Georgia, North Carolina, South Carolina and Virginia sustain the highest risk. Utilities generally replace 2 to 3 percent of aging and decaying poles every year.

Natural decay, storm damage, and bird and bug attacks aren’t the only concerns. People shorten a pole’s lifespan, too.

The National American Wood Council estimates 5 percent of poles replaced annually were broken by car accidents. Attaching signs, basketball hoops, clothes lines, birdhouses, satellite dishes or other items to wood poles with staples or nails can also shorten a pole’s lifespan. Not only do these items create safety hazards when lineworkers need to climb a pole, they also speed a pole’s decay.

To learn more about how North Carolina’s electric cooperatives are looking out for you by providing safe, reliable and affordable energy, visit www.ncelectriccooperatives.com. 

Megan McKoy-Noe writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association, the service arm of the nation’s 900-plus consumer-owned, not-for-profit electric cooperatives. Will Linder contributed to this article.