Underground or Overhead POWER LINES?

Cooperatives consider all angles when building and repairing power lines. Underground lines are much more expensive, but there are times and places where they make sense.

By Kristie Aldridge

The debate about which distribution system is more practical—overhead power lines or underground power lines—presents itself after almost every major storm, like a hurricane or ice storm, in our state. Each system carries its own set of benefits as well as concerns, and North Carolina's electric cooperatives consider these carefully on a case-by-case basis when installing new distribution lines.

Underground lines are most frequently installed when a new development or subdivision is being built, which is also when the installation of underground lines makes the most economic sense. In these cases, electric cooperatives comply with zoning ordinances or developers' requests, and the costs are usually absorbed in a developer's pricing structure.

Since underground lines became practical in the early 1990s, developers, especially those in high-end or resort communities, have more frequently requested the installation of underground lines, mainly for aesthetic reasons. Underground lines cost three to four times as much as overhead lines, but they limit visual pollution and are well protected from damage caused by ice and wind, including falling trees and branches.

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Although underground lines are protected from damage, they are harder to repair than overhead lines. Faults on the line are more difficult to find, and as a result, it takes longer for the repair to be made. Repairs to underground lines are also more costly and time consuming than those made to overhead lines. However, overhead lines are more likely than underground lines to suffer damage because they are exposed to ice and wind. Even though overhead lines are more susceptible to outages than their underground counterparts, the reliability of overhead distribution lines remains strong. In the absence of a severe storm, electric cooperative members rarely experience much more than dimming lights. And as repairs and upgrades are made to the electric infrastructure system, reliability will further increase.

Just as they did decades ago, North Carolina's electric cooperatives serve their members with reliability and affordability in mind, and each cooperative will continue to independently weigh the benefits and concerns when choosing between overhead and underground lines.

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