

CONSTRUCTION OF UNDERGROUND TRANSMISSION LINES



1) PREPARING FOR CONSTRUCTION

Existing utilities are located so crews do not interfere with underground gas, water and sewer lines. The line route must accommodate the vehicles, equipment and materials needed throughout the construction process.

2) TRENCHING

Crews remove the topsoil in unpaved areas or use a saw to cut the concrete/asphalt in paved areas. Then, the trenching begins like an assembly line: A crew digs a trench, which can vary in size depending on the type of cable. Another crew follows behind, installing conduits made of a strong but lightweight plastic. These conduits serve as a sleeve through which electrical cable is pulled. The conduits are encased in concrete, the trench is backfilled, and the surface is ready for restoration.

During construction, crews occasionally use a trenchless technique. This happens primarily around railroads, major highways and environmentally sensitive areas like streams where traditional trenching is not feasible. Trenchless methods typically involve drilling a hole underground horizontally or diagonally to get utilities from one side of an area to the other side without destroying the ground or obstacles in between.

3) VAULT INSTALLATION AND CABLE PULLING

Crews may install vaults – large concrete boxes with manhole covers – at regular intervals along the route. Afterward, cable is pulled through the conduit system and spliced together.

4) RESTORING THE CONSTRUCTION SITE

After construction, crews restore roadways and surfaces to their original condition.

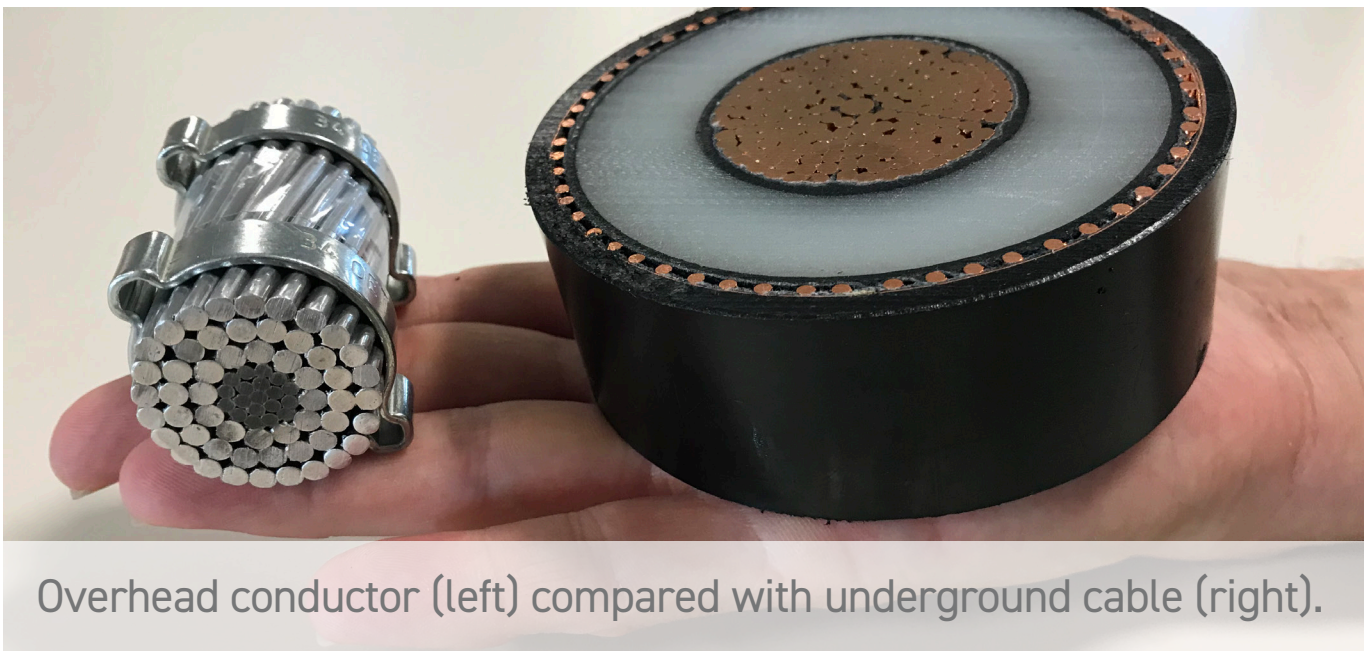


DID YOU KNOW?

Even if transmission lines are buried underground, a transition structure called a riser is often installed above ground. The riser can reach 90+ feet tall and connects an overhead system to an underground system.

MYTH VS FACT

Myth: Crews can use the same type of line for overhead and underground transmission construction.



Fact: Underground transmission cables are much bigger than overhead cables. Overhead cables have the benefit of the air to help cool the conductor. Underground cables require an outer protective jacket, shielding and insulation to keep the conductor cool.