

# How power is restored after an outage

Make sure you report any outage to your electric co-op, even if you think a neighbor already has called. This will help line crews isolate and repair the problem as soon as possible.

## High-Voltage Transmission Lines

1. Transmission towers and lines that supply power to one or more transmission substations rarely fail. However, when damage does occur – usually due to high winds or ice buildup – these towers and lines must be repaired before other parts of the distribution system are inspected, because they serve thousands (or ten of thousands) of people.

## Transmission Substation

## Local Distribution Substation 1

2. A co-op usually has several local distribution substations, each serving hundreds or thousands of co-op members. When a major outage takes place, these substations usually are checked first to see if the problem is in the transmission system to the substations or the substations themselves.

5. Finally, isolated outages – caused, for example, by a damaged service line between a transformer and an individual home – are repaired.

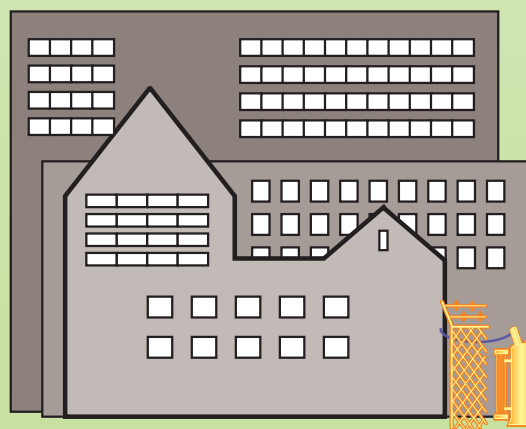
Do not connect a generator directly to household wiring. The power from a generator can back-feed to power lines and injure or electrocute line workers making repairs.

If you or a family member depends on life-support equipment, call your electric co-op immediately. Then your co-op can try to prioritize power restoration to you or can advise you to seek shelter elsewhere.

## Local Distribution Substation 2

3. If the problem cannot be isolated at a local distribution substation, the next step is to check the distribution lines that carry power to groups of customers such as towns or housing developments. In Iowa, the largest cause of outages is fallen trees, which is why your co-op has an ongoing right-of-way maintenance program.

4. Then, the line crews work on outages that are more localized by inspecting the final supply lines – called tap lines – that carry power to utility poles or underground transformers outside small businesses, schools and homes.



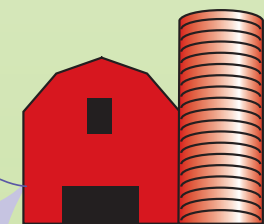
Large Industrial User



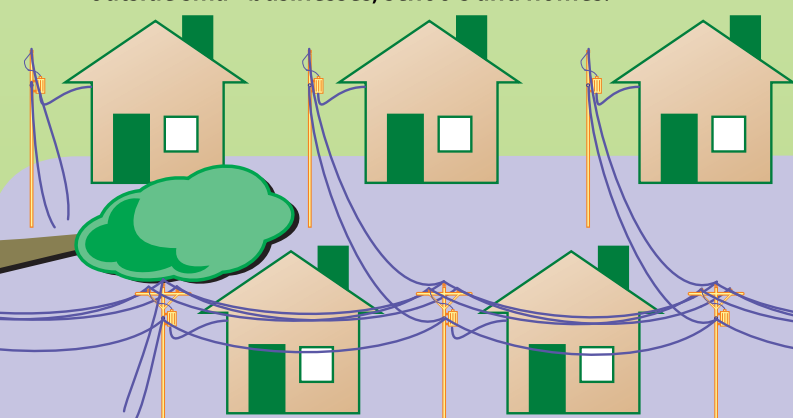
Small Businesses

Schools

Homes



Farms



Restoring the power after a severe storm involves much more than just flipping a switch at a substation or pulling a fallen tree off a downed power line. Highly trained workers from local electric cooperatives, crews from neighboring states and specialists from the Iowa Association of Electric Cooperatives work together around the clock to restore service.

Shown here are the steps co-ops follow in restoring power. At each stage, the primary goal is getting the greatest number of co-op members back online in the shortest time possible.