

# Restoring the Power

*A step-by-step guide to how your utility brings customers back on line*

Snowstorms, heavy rainfall, strong winds and devastating floods can knock out your power. Restoring power after an outage is a complex job. It involves more than simply throwing a switch or removing a tree from a line.

At Klickitat PUD, the goal is to restore power safely to the greatest number of people in the shortest time possible. Sometimes, that results in one neighbor coming back on line before another.

If you lose power, please report the outage to KPUD. Please be patient when calling. Because so many people can be affected by an outage, phone lines may be busy.

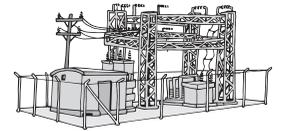
Below is an explanation of how local crews work to restore power after an outage.



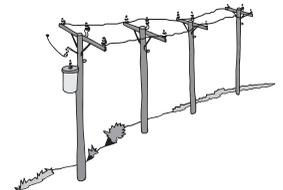
**Step 1:** Transmission towers and lines supply power to one or more transmission substations. Without these lines being energized, power cannot be

restored to customers. Since thousands of people can be served by one high-voltage transmission line, damage here must get attention first.

**Step 2:** With transmission lines down, substations have no power. Each distribution substation serves thousands of customers. When a major outage occurs, distribution substations often are affected. Once a problem can be corrected at the substation level, power may be restored to a large number of people. However, not everyone in the same area will be back on line.



**Step 3:** If the problem is not at the substation, main distribution supply lines are checked. These lines carry electricity away from the substation to a group of consumers, such as a town or a neighborhood. When power is restored at this stage, all customers served by this supply line could see the lights come on—as long as there is no problem farther down the line.



**Step 4:** Secondary distribution lines carry power from the main lines to utility poles or underground transformers. Line crews fix these remaining outages based on restoring service to the greatest number of customers at a time. It is a slow, tedious process.



**Step 5:** Sometimes, damage will occur on the service or “tap” line between your house and the transformer on the nearby pole. This can explain why you have no power, and your neighbor does. If this is the case, you must notify your utility you have an outage so a service crew can repair it. ■



Lineworkers for Klickitat PUD untangled trees from the utility's Glenwood transmission lines after snow and ice in January 2012 brought down limbs and trees.

# Winter Storms Took a Toll

By Lori Froehlich

Winters in Klickitat County always bring challenges. This past November and December were no exception.

It was a tough couple of months for Klickitat PUD employees and customers who experienced multiple outages due to a lot of rain, wind and snow.

One location that experiences winter power outages is Flat Top Mountain, above Trout Lake. Originally the location of a fire lookout for the Gifford Pinchot National Forest, it eventually became a communication radio site for SDS Lumber Co.

Today, Klickitat PUD provides electrical service to this 4,400-foot mountain with approximately 2.1 miles of overhead line. Meters there include two cell phone towers and the radio tower for Klickitat County Dispatch, which make it important for many forms of communication in Klickitat County.

The elevation and terrain make it a suitable place for cell phone and radio towers, but these factors also make it a challenge to provide electrical service.

These locations have back-up generators in the event of power loss. However, keeping the generators fueled with propane also presents a challenge to the customer due to the difficult access, especially in severe weather.

One of those days was Monday, December 21. Customers in Glenwood, Trout Lake, the Highway 141 corridor, Snowden, Wishram, Bickleton, Appleton and the Old Highway 8 area were all affected by power outages from the weather.

Flat Top also experienced power loss

during the storm, but customer outages take precedence over communication sites. This prevented our line crews from responding until all other customers' power had been restored.

The line crew quickly discovered access to the site was going to be a problem because of the type and the depth of snow. Luckily, the Bonneville Power Administration was able to assist us with their large Sno-Cat, making an access trail. This allowed our line crews to use snowmobiles and track equipment to patrol the entire line and bring in material to repair the multiple locations of damage from the storm.

Thank you to BPA for assisting us with their equipment and to our hard-working line crews. ■



Access is always tough, no matter what time of year, but the amount of soft snow that fell in December made for an even bigger challenge, as seen above when TJ Lutz attempts to access the line.