

Protecting the Lines From Trees

Vegetation growing outside rights of way often pose as great a risk as trees growing next to power lines

By Pam Blair

When Mother Nature sends a tree toppling into a power line, nobody wins.

The tree earns a date with a chain saw, the power line requires a visit from a repair crew and the people who rely on service from the line are left without electricity.

That is why utilities patrol their lines, trimming away threatening branches and removing trees that pose a danger to the lines.

However, the utility's authority to address problems is limited to trees and brush in the right of way—and towering trees outside the right of way do not respect boundaries.

Like trees in the right of way, they fall on lines and wreak havoc.

"We pretty aggressively maintain the rights of way," said Roman Gillen, president and chief executive officer of Consumers Power, Inc. (CPI), based in Philomath, Oregon, "but outside of our legal easement, there are clearly trees that pose an imminent threat to lines."

Following a major snow and ice storm the winter of 2003-2004, CPI staff evaluated its outages.

"We had a number of tree-related outages," said Greg Pierce, CPI's director of operations. "As a result,



we focused on more cutting and clearing, versus simply pruning new growth. The outage information also highlighted we have an out-of-right-of-way tree problem."

Pierce said he was surprised when he calculated the repair cost associated with damage from just one tree during a 2005 storm.

"The tree went through the line and broke crossarms, but no poles," Pierce said. "It cost us \$20,000 to put that wire back up. Labor was on double time, and the location was a long way from our headquarters."

Other tree problems—smaller in scope—have cost CPI \$10,000 to \$15,000 per "event," Pierce said.

CPI has 2,300 miles of overhead power line in rural, often steep, hilly and remote parts of six counties in Western Oregon.

The utility runs three to four line crews and contracts with five to

eight right-of-way crews year-round. While all members of the line crews look for problems, one employee's full-time job is to inspect all of CPI's line for hazards.

"It would take too much time, effort and money to go after all the trees that pose a problem, but we want no outages," Gillen said. "That's our goal."

CPI generally trims vegetation in the right of way down to the ground, but outside the right of way "sometimes it's really difficult to convince the owner to remove a tree that is clearly a hazard," Gillen noted.

At West Oregon Electric Cooperative (WOEC), based in Vernonia, Oregon, heavy rains early last year saturated the ground, causing leaning trees to simply fall over.

"It didn't even take wind," said Marc Farmer, general manager at WOEC. "We used up our full outage time in 2½ months."

Virtually all of that was due to problems with trees, which grow three to six feet a year, Farmer said.

"We say we serve over a million trees, with 4,300 meters sprinkled in," said Farmer. "We call the trees the blessed curse. We love how they look, but are cursed by how many we have—and how fast they grow."

Definition of Terms

Easement—An agreement allowing a utility to use property belonging to another individual or organization for a specific purpose, such as building a power line.

Right of way—A strip of land owned by another party on which a utility places its facilities.



*Justin Glasgow, foreman of Utility Tree Service, puts a harness on a tree uprooted by high winds during a November storm in Oregon's Willamette Valley. The tree is propped up by utility lines below it. **Opposite page**, trees take down a line in the Kings Valley area, west of Philomath, Oregon. Photos courtesy of Consumers Power, Inc.*

Pierce said there always will be tree problems and outages, "but a disproportionate share of outages are due to tree problems—and a disproportionate share of those are out-of-right-of-way tree problems."

Because leaving dangerous trees in place is a risk to the public—and opens the door to litigation—CPI documents its efforts to address problems with property owners.

"When you identify a hazard tree—one that due to disease or injury obviously will cause failure—and the property owner refuses to let us deal with it, that becomes a problem," Pierce said.

Refusing to act on an identified hazard exposes the property owner to legal risks, Gillen said, noting it can affect a large number of people.

If the tree comes down and lands on a highway, it could cause a serious—even fatal—accident.

Trees that fall into power lines can result in a fire, destroying homes, timber and watersheds. In addition to inconveniencing people, the resulting outages can be costly.

"When a tree goes through a line it is not an organized shutdown," Gillen said. "Surges are possible, and they can damage equipment. An energized line on the ground also poses a hazard to the public."

Failure to take care of problem trees—both inside and outside the right of way—will continue to drive electric rates up, Pierce said.

"It's an operating expense," he explained. "We need to educate the property owner about how that fits into their rates, then make an on-site visit and address the problem."

"We can't avoid all costs, but if we can get some cooperation ..."

Maintaining the right of way and beyond is a never-ending problem.

"There is no panacea," Gillen said. "Underground lines and services are more protected from weather-related incidents, but you can't see the lines—which makes it more difficult to fix problems and check on the condition of the line."

Even underground lines can be susceptible to tree problems.

"Some people think underground solves all the problems," Farmer said. "It doesn't. It is more expensive to install, maintain and repair."

During a storm in November, the root ball of a tree in his area pulled up an underground distribution line when it fell over, Farmer noted.

"If we were to cut down any tree with the potential of coming down onto power lines, we would never stop cutting—and that's not reasonable," said Gillen. "This is not a problem we are going to fix. It's a problem we must manage." ■