



# Safety ALERT!



May 16, 2008

## Hydro Fuse Cut-Out Hazard

This following information needs to be brought to the attention of every member who will likely come into contact with joint-use poles. Discuss this issue with your work groups.

There is an immediate danger to TELUS and Shaw members who climb joint-use poles. BC Hydro has informed TELUS that many of the new red banded cut-outs are failing and that the 25 Kv and 35 Kv cut-outs are failing at a higher than expected rate. A danger to members exists if the pole becomes energized. BC Hydro is investigating cut-out failures but it is expected to take some time to complete. This is an industry-wide issue and is not specific to BC Hydro.

TELUS or Shaw members should not be working close enough to primary to be at risk of direct contact with the primary side of a failed cut-out or its riser. However, a failure could cause a pole to become energized, putting members at risk of electrocution. The failed cut-out may contact the member, the pole or pole hardware such as a cross arm or transformer.

Many of the new red banded cut outs are failing. Porcelain cut-outs that have been in service for 30 years are failing. Although Hydro reports that the failure rate is relatively small, because there is an estimate 310,000 cut-outs in service, employees' exposure to poles with cut-outs is frequent. According to BC Hydro, "the change of a worker encountering a pole having a broken cut-out, or a cut-out that could break while the worker is on the pole, is not negligible".

Previous TELUS Safety Flashes in 2005 and 2007 have identified the issue. The following is information from a past bulletin: When doing a pre-job survey, look for situations where the lead from the top of the fuse cut-out attaches to the primary and picture what would happen if the top of the insulator were to break off. Would the primary wire swing free and possible contact the pole or plant? For installations where the primary could contact the pole or plant do not climb the pole, contact your Manager to report this situation and discuss whether the work can be completed safely.

There is another cut-out failure mode that can expose workers who climb poles to risk. The cut-out could have a hairline fracture not visible to employees from the ground. This fracture could serve as a path for leakage current to flow down the pole, which in turn could create dangerous voltages on the pole. Members should use their voltage detector before climbing a pole to check for stray voltage on the pole.

There was near-miss incident in Armstrong, BC recently where a TELUS employee could have been electrocuted. The member performed a voltage check prior to climbing and found that there was no voltage on the pole, but there was stray leakage current flowing down the pole via the cut-out prior to the employee arriving at the pole. The pole was dry when it was first attended by member, but was likely wet when the failure occurred. In this case there were two problems; there was voltage leaking down the cut-out and the cut-out failed and, in breaking away, fortunately swung away from the member and the pole. The TWU is also aware of three cut-out failures in one day in Williams Lake and one in Quesnel.

BY Hydro has recently approved a polymeric cut-out for use on their system, which do not have the same failure mode as those made from porcelain. This change is expected to eliminate the hazard posed by porcelain cut-outs. BC Hydro will be replacing all 310,000 of their porcelain cut-outs but this will take several years before this hazard is eliminated.

Be aware of the danger and act accordingly.

Members are strongly urged to perform a voltage check before coming in contact with any pole. If a danger exists, do not climb the pole. Immediately contact your manager and report the hazard.

Be aware that even if the cut-out has not already failed when you arrive at a pole, it could fail after you have climbed the pole. Also, remember that voltage on a pole could change if the pole becomes wet after the initial voltage check.