



Your take on Safety

Logging Near Power Lines in BC

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In December 2018, a severe storm caused widespread damage along the south coast affecting more than 750,000 BC Hydro customers. Winds and falling trees damaged 1,900 spans of wire, 386 poles, 700 crossarms and 230 transformers. Some of damage was caused by unstable cut block fringes left from recent forestry operations next to power lines.

As industry experts, BC Hydro is committed to the safety of forestry workers, utility workers and the public (Bylaw 11: Code of Ethics 11.3.10 1). Forestry operations occurring in close proximity to power lines pose several safety challenges for workers and the public. To address the electrical hazard for logging operations, BC Hydro, WorkSafeBC and industry have developed a referral process that provides electrical safety information essential to worksite safety; helping forest operators comply with the Occupational Health and Safety Regulations.

When working on trees near power lines, workers must be aware of the Limits of Approach (LOA), which is the distance that must be maintained between workers (including their extension of reach caused by tools, falling trees, equipment, or unplanned movements) and energized electrical conductors and equipment. The hazardous area is the area that includes any tree that may fall within the LOA. It is hazardous because electricity seeks any available path to the ground from a tree, mobile equipment, tools or the human body. Whenever a line is energized and there is a path to ground, the electricity will energize the ground. This effect will dissipate over distance in what is called the *Ground Gradient Ripple Effect*. If a person walks

across this gradient, they could be exposed to *Step Potential* as the difference in voltage pushes electricity up one leg and down the other.

Touch Potential is a similar hazard which occurs if a tree or piece of equipment contacts an energized line and a person touches the object. The difference in voltage between the person and the ground causes electrical current to flow through the body, which may result in serious injury or death. At high voltages, *Step and Touch Potential* can even occur without directly contacting a power line which is called a Flashover and is elevation dependent. When working adjacent to transmission lines with voltages of 230kV and higher, electromagnetic induction on large equipment and cable logging systems must also be considered, as induced electrical currents on logging equipment can present a safety risk to workers.

Referral Process

When planning a forest operation with power lines nearby or within your harvesting area, contact a BC Hydro representative to discuss Regulations and your options. BC Hydro will require a map showing the power line, harvest area boundaries and roads. Initiating contact with BC Hydro early in the planning process will help avoid operational delays.

For work adjacent to BC Hydro's rights of way and/or power lines, a field review with a qualified utility representative is required to provide electrical safety information, review the harvest area(s) to identify powerline related issues and discuss options for proceeding. The representative can also

identify any additional permitting required if the proposed logging utilizes existing road crossings or construction of new roads under the power line.

Many forestry operations near power lines require a Qualified Electrical Worker (QEW) or a Certified Utility Arborist (CUA) to supervise the work. CUAs are specialists authorized to work on trees in close proximity to power lines, direct fallers that may fall within LOA and obtain an assurance of no re-close permit (ANRP) from BC Hydro that is required for falling work near power lines.

Any works that cross, are on, or have the potential to affect one of BC Hydro's statutory rights of way will require a properties referral. BC Hydro will review the application details and provide a written response before the activities can occur. When approved, a compatible use agreement is issued and the site review can proceed with a qualified utility representative.

Logging near a power line can be hazardous. BC Hydro wants to work with you to make sure your operations are conducted safely and efficiently, recognizing where risks exist and making a plan to deal with those risks rather than respond to a power outage, fire or serious injury.

For referral requests and queries, please contact BC Hydro Properties Helpdesk by phone: **1-800-667-1517** or via email: properties.helpdesk@bchydro.com

For more information about the BC Hydro referral process, please visit: www.bchydro.com/energy-in-bc/operations/right-of-way-management.html

REFERENCES

1. ABCFP Bylaw 11: Code of Ethics 11.3.10, online at www.abcfp.ca/web/ABCFP/ABCFP/Governance/OnlineBylaws/Bylaw-11.aspx
2. Occupational Health and Safety Regulation, Parts 19.30, 19.31 and 26.2, online at www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation

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