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## Overhead power-line fatalities

There have been numerous accidents involving overhead conductor contacts, resulting in death and severe injury, this Flash is outlining typical scenarios that are repeated in these incidents.

### Examples of recent incidents:

- A.** Three workers were electrocuted in dump truck-related overhead powerline contacts between April and July, 2006. Sadly, these fatalities could have been prevented had the workers known what to do when working near powerlines.

None of the victims in these fatalities understood the hazards of coming too close to a powerline. In one fatality, the dump truck with his load raised, made contact with a powerline as the vehicle was reversing. Unaware that the truck had become energized, the victim was electrocuted when he touched the rear of the vehicle. In the other two fatalities, each of the dump trucks contacted the powerline and the drivers knew something had gone wrong; however, both were killed by step potential as they stepped off their equipment. They would still be alive had they stayed on their equipment and radioed for help.

- B.** A worker was relocating a ladder in the extended position, on a residential housing project, when it contacted the Utility's overhead primary line. **This scenario is happening far too frequently.**

Employers have a responsibility to educate their workers on the hazards surrounding construction sites, particularly overhead conductors. The Occupational Health and Safety Act must be followed with respect to Limits of Safe Approach.

All workers must look up, prior to extending, moving or climbing a ladder or scaffold, to ensure it is safe to proceed.

Persons employed to operate boom trucks, dump trucks, cranes or hoisting equipment, require proper training to identify the hazards overhead.

Using swimming pool skimmers, painting poles, pruning tools or erecting TV antennas we must exercise extreme caution that we do not impede on the Limits of Safe Approach. **Look above!**

- C.** Two fatalities involving contact with energized overhead power lines. One incident claimed the life of a young male while seriously injuring another. This incident occurred when the two victims were lowering the long metal support pole of a party tent and it contacted the overhead power line. Three weeks later, four scout leaders were killed doing exactly the same thing, lowering a tent pole in a jamboree in the United States.

Unfortunately, such accidents are not uncommon to Ontario and The Electrical Safety Authority. Fatalities involving power lines account for 50% of all electrocutions in Ontario in the past 8 years.

One common thread in these incidents is the victim's lack of awareness of where the overhead energized power lines are. Power lines are everywhere and the public often treats power lines no differently than a fire hydrant. It has always been there and it is not seen as a threat or danger.

*Contact with overhead power lines will likely result in serious injury or fatality*

Accidental contact with an energized power line is not forgiving. History has shown that contacting a power line while moving a ladder, using a tree trimmer, erecting an antenna or flagpole, or other similar work usually results in a fatality or serious injury.

The Electrical Safety Authority (ESA) continues to warn the public to use caution when working near overhead power lines. Ladders, antennas, tree trimmer, flagpoles, rolling scaffolds, boom trucks have all contributed to electrical fatalities at home and workplace over the last decade.

Respect the power of electricity – ensure that you, your family and co-workers apply caution when working near electric power lines.

As these fatalities demonstrate understanding the dangers and knowing what to do when working near overhead powerlines is crucial to worker safety. For that reason, when working in close proximity to powerlines, the Occupational Health and Safety Act and Regulations (OHSA) requires workers and supervisors to:

- a) Conduct a hazard assessment of the jobsite; and
- b) Use a dedicated signaler to ensure that no equipment or vehicle comes within a dangerous proximity of a powerline.

**Follow these key safety steps when working near overhead powerlines:**

1. Conduct a hazard assessment before starting work; determine the location of the power line.
  2. If possible, relocate the work so that it is not near the power line. When this is not practical, a safe work procedure should be followed which includes;
    - a. Determine the safe distance of approach (limit of approach). The limit of approach is not the same for all power lines. It depends on the voltage the line is carrying. The higher the voltage, the further the distance required..
    - b. Hire qualified persons to do jobs near overhead electrical lines, such as tree trimming or have the line de-energized by the local electrical utility or power supply authority.
    - c. Mark the safe distance or limit of approach. If the work is on the ground, use cones or barriers. Using a person as a spotter will work as well. Make room for swing areas for tools, ladders and cranes. Keep far enough away so that if an object such as an antenna were to fall it would not be close enough to contact the power line.
    - d. Be aware of the location of powerlines *at all times*. Moving equipment, raising a load or a vehicle under a powerline creates the potential to come into contact with the energized conductor, and thus the potential for fatalities. OHSA requires the use of a signaler when working in proximity to powerlines
  3. Signs are required to warn workers of the dangers of powerlines if a work location has overhead powerlines running through it.
  4. Stay in the vehicle and radio for help if your vehicle or equipment comes into contact with a powerline.
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If you see other workers putting themselves at risk by working in close proximity to overhead conductors -- stop them, educate them, and **help save a life**.

**Remember: always conduct a hazard assessment before beginning work; be aware of the location of powerlines at all times; and take steps to ensure that you and your equipment stay a safe distance from powerlines as defined by OSHA below:**

**Table F1: Minimum safe distances from Power-lines**

<b><u>Voltage</u></b>	<b><u>Minimum Distance</u></b>
Up to 150,000 Volts	3.0 m
More than 150,000 to 250,000 Volts	4.5 m
More than 250,000	6.0 m