

# POWER LINES & UNDERGROUND HAZARDS SAFE WORK PRACTICES

#### **REVIEWED NOVEMBER 17 2014**

**OH&S CODE PART 17 & SCHEDULE 4** 

Power lines can be overhead or underground and are closely regulated by legislation. Safe distances from overhead power lines must be determined and adhered to. Underground lines must always be located by the power company having jurisdiction over the power lines in question. Confirm location of underground lines by hand, using a shovel.

## Power lines and underground hazards safe work practices and procedures

The following power line and underground hazards safe work practices and procedures should be implemented.

- Notify the power company for a locate of underground lines and to know the voltage in overhead lines. This will assist in determining safe limit for approach.
- Perform a hazard assessment and ask the following questions:
  - O What equipment will you be using?
  - o If constructing a building, will it be too close to the power lines?
  - Are the materials and building components being used awkwardly and at risk due to power line closeness?
- Notify the power company for disconnection or relocation of the line if needed, or have the line isolated or de-energized

**Warning:** Under no circumstances shall workers work within the limits of approach specified in the following table.

**Warning:** Materials shall not be stacked, scaffolds erected, or tools or equipment operated closer to power lines than the distances specified in the following table.

# Schedule 4 Safe Limit of Approach Distances [See sections 225, 226]

Table 1 Safe limit of approach distances from overhead power lines for persons and equipment Operating voltage between conductors of overhead power line

Safe limit of approach distance for persons and equipment

0 — 750 volts Insulated or polyethylene covered conductors (1)	300 millimetres
0 — 750 volts Bare, uninsulated	1.0 metre
Above 750 volts Insulated conductors (1) (2)	1.0 metre
750 volts — 40 kilovolts	3.0
metres	
69 kilovolts, 72 kilovolts	3.5
metres	
138 kilovolts, 144 kilovolts	4.0 metres
230 kilovolts, 260 kilovolts	5.0 metres
500 kilovolts	7.0 metres

**Note:** Sufficient distance must be added to the specified distance to prevent unplanned or accidental movements bringing the worker, tools, equipment or material within the specified distance.



The specified distance applies to all parts of the equipment, including booms, hoisting cables and any part of the load being raised. Distances must be increased to provide for any change in boom angle, swing of the hoisting cable and the load while it is being raised, lowered, or moved laterally, to ensure that safe distance is maintained at all times. Operators must give consideration to the probability of hazard from switching surges, altitude, humidity, line configuration, wind etc.

- Where required, post signs above buried cables for the duration of construction indicating the location of the lines
- When power lines are encountered within a work area, the Supervisor must be alerted, and the Supervisor must determine the voltage and minimum distance required and complete any forms required
- When job circumstances require that work be done closer than the limits of approach stated above, the following must be done prior to commencing work:
  - Obtain a signed assurance in writing from the person(s) controlling the electrical system (The assurance must state that during the work period, the electrical conductors will be de-energized or effectively guarded against contact, or displaced/re-routed from the work area)
  - o Make the assurance available for inspection at the project site
  - Use a trained signaler
  - Keep an eye out overhead at all times
  - o Look out for uneven ground that may cause a vehicle to bounce or weave
  - o Never ride or climb on equipment or a load when near a power line
  - Do not ground equipment around a power line
  - o Remember electricity is invisible and do not take chances near it
  - o If a power line comes in contact with your vehicle, stay in the vehicle until help arrives

### Striking a power line procedure

If you strike a power line, do the following:

- 1. Report the details of the incident to the power company that controls the line (the power company will inspect and repair the area).
- 2. Report the incident to the head office of the provincial safety authorities.

NOTE: Consult Trenching & Excavating HAA & SWP