

## > BUILD SMART, BUILD SAFE

### A Guide to Required Clearances from Overhead Power Lines



#### Planning a new building or renovation near overhead electrical lines?

- > **Remember, the only way to build smart is to build safe.**

To protect public safety, ensure a reliable supply of electricity, and adhere to provincial laws and regulations, Hydro Ottawa has defined minimum clearance requirements between buildings and overhead electrical power lines. Architects, engineers, developers, planners, contractors, building owners, and all others involved in the planning, design or construction of buildings must ensure safe clearances. If you plan on building anything near overhead power lines, you must follow important safety standards.

#### Hydro Ottawa's Clearance Standards

To make sure that the same clearances are consistently followed across our service area, Hydro Ottawa established "Standard OLS0002" for any construction or renovation work performed near overhead power lines. This standard is based on the provincial laws and regulations that preserve public and worker safety.

In keeping with these regulations and codes, Hydro Ottawa's standard specifies two types of clearances:

- The **working clearance requirement** states that no person or the operation of equipment may come within three (3) metres of overhead power lines. Any person operating the equipment must have the necessary training and qualifications.
- The **permanent structure clearance** applies to all permanent structures including awnings, balconies, flag posts, and signs. It states that no part of a structure can be constructed within five (5) metres of an overhead power line (conductor). This five (5) metre clearance requirement is based on "conductor swing" or the greatest horizontal displacement of a conductor from its position at rest. In other words, this clearance takes into account the three (3) metre working clearance requirement and the two (2) metres that an overhead power line can potentially swing in any direction.

These clearances apply to all overhead power lines. The power lines on Hydro Ottawa's poles have voltage levels ranging from 120 volts to 44,000 volts. Voltage levels greater than 750 volts are considered medium voltage. However, the electrical equipment on poles changes over time, since there is ongoing maintenance, repair and expansion to accommodate changing customer demographics. As such, these clearances generally apply to all overhead power lines.

#### Purpose of Clearance Requirements

These requirements keep people safe by reducing the risk that someone may come into contact with electrified distribution system components, which can result in serious injury or death. These clearances also ensure that Hydro Ottawa employees have the space required to safely inspect, maintain and upgrade the overhead distribution system. And they help to prevent damage or interference with electrical equipment, ensuring our customers benefit from safe and reliable electricity service to their homes and businesses.

Hydro Ottawa is required to certify to the Electrical Safety Authority on an annual basis that these clearances have been maintained. They are based on provincial laws and regulations and similar clearance requirements are followed by other electrical utilities across Ontario.

#### Establishment of Hydro Ottawa's Standard for Clearance Requirements

Hydro Ottawa's standard is based on the following provincial codes and regulations:

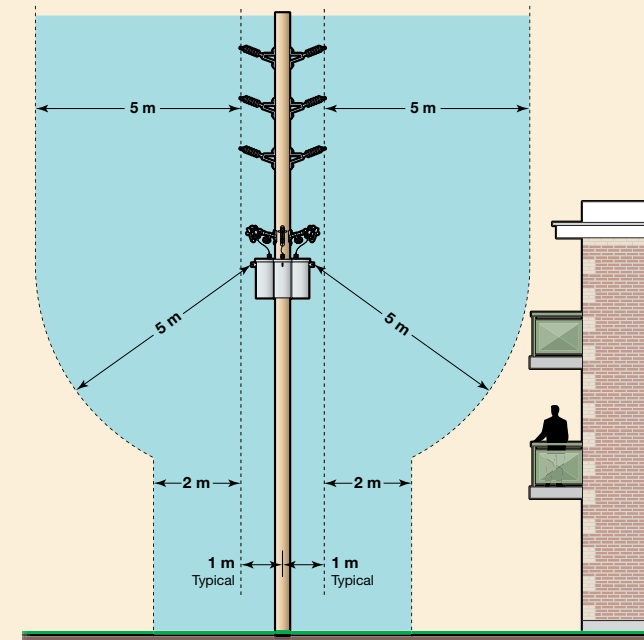
- Regulations under the **Ontario Occupational Health and Safety Act** specify that no object or non-qualified personnel can come within three (3) metres of a medium voltage line. This includes ladders, flags, and clotheslines.
- The **Ontario Building Code** states that a horizontal clearance of three (3) metres must be maintained between the a building constructed near an overhead medium voltage conductor and the *maximum swing* of medium voltage conductors (Parts 3.1.19 and 9.1.1.5).

- The **Ontario Electrical Safety Code** states that there must be a horizontal clearance of three (3) meters between the *maximum conductor swing* and any structure (Section 75-708).
- **Ontario Regulation 22/04, Electrical Distribution Safety**, requires that all electrical distributors define technical and electrical safety standards and consistently apply these standards.
- Hydro Ottawa has a two (2) metre maximum conductor swing.

Copies of these codes or regulations are available from local government offices and some are available online at [ontario.ca/laws](http://ontario.ca/laws).

Several publications outlining these clearance requirements and describing their implications can be also downloaded, free of charge, from the Electrical Safety Authority's website at [esasafer.com](http://esasafer.com).

This diagram illustrates Hydro Ottawa's clearance standards and its requirements.



**Maximum swing:** The greatest horizontal displacement of any point on a power line, from its position at rest. In other words, the maximum swing is the distance a wire strung on a pole can potentially swing in any direction.

#### Medium-voltage (>750 volts) line clearances

Clearance from power line (radial to conductor)	Five (5) metres (5000 mm)
Clearance along pole line (from a vertical line drawn from power line to ground level)	Two (2) metres (2000 mm)

## Contact Us

If you have a comment, question or would like more information including information about the ownership or voltage of overhead lines:

#### Customer Service

Telephone: 613-738-6400

- Monday to Friday, from 8:00 a.m. to 8:00 p.m.
- Saturday, from 9:00 a.m. to 3:00 p.m.

(excluding statutory holidays)

Fax: 613-738-6403

Online: [hydroottawa.com/contact](http://hydroottawa.com/contact)

Visit [hydroottawa.com/clearances](http://hydroottawa.com/clearances) for more information on Hydro Ottawa's Standard OSL0002, our Developer's Guide, and other safety codes and guidelines.