

1 Q. **System Design**

2 What are Hydro's minimum allowed vertical and horizontal clearances for each
3 transmission operating voltage?
4

5

6 A. Hydro meets or exceeds the latest edition of the CSA Standards, CAN/CSA – 22.3 –
7 Overhead Systems, for vertical and horizontal clearances.
8

9 **Vertical Clearances**

10 As an internal standard for particular situations (as noted below), Hydro follows
11 Table 1, which lists Minimum Vertical Clearance of Conductor to Ground in Meters
12 for the various transmission operating voltages:

1
2
3
4

Table 1
Minimum Vertical Clearance of
Conductor-to-Ground in Metres (Feet)

CLEARANCES REQUIRED WHEN CONDUCTORS CROSS OVER	Nominal Phase-to-Phase Voltage in kV		
	69	138	230
1. Railway tracks	9.0 (29.5)	9.0 (29.5)	9.0 (29.5)
2. Roads a) Trans Canada Highway (TCH)	9.0 (29.5)	9.0 (29.5)	9.0 (29.5)
b) Secondary Roads i.e. Viking Trail	9.0 (29.5)	9.0 (29.5)	9.0 (29.5)
c) Woods Roads	6.7 (22.0)	6.7 (22.0)	6.7 (22.0)
3. Land that may be traversed by vehicles such as cultivated, grazing, forest orchards, etc.	5.5 (18.0)	5.5 (18.0)	5.5 (18.0)
4. Spaces and ways accessible to pedestrians only	5.5 (18.0)	5.5 (18.0)	5.5 (18.0)
5. Municipal roads, streets or alleys in urban districts, lots or driveways.	6.7 (22.0)	6.7 (22.0)	6.7 (22.0)
6. Designated gravel pits	9.0 (29.5)	9.0 (29.5)	9.0 (29.5)
7. Water areas not suitable for sailboating or where sailboating is not permitted	6.7 (22.0)	6.7 (22.0)	6.7 (22.0)
8. Water areas covered under the Navigable Waters Protection Act	See Note 1		

5

1. Crossings over navigable water require the approval of the Federal Minister of Transport as prescribed in the *Navigable Waters Protection Act Application Guide TP2495*. The authority to determine the navigability of the waterway rests with the Minister of Transport.

1
2
3
4
5
6
7
8
9

Horizontal Clearances

Similarly, as an internal standard for particular situations (as noted below), Hydro follows Table 2, which lists Minimum Horizontal Clearance from Conductors to Objects near in Meters:

Table 2
Minimum Horizontal Clearance from Conductors
To Objects Near in Meters (Feet)

Clearance Area	Line Voltage		
	69 kV	138 kV	230 kV
Buildings, signs, bridges, chimneys, antennas, and tanks containing non-flammables not classified as buildings.	6.88 (22.6)	7.28 (23.9)	7.81 (25.6)
To signs, billboards, lamp and traffic sign standards, and similar plant.	6.68 (21.91)	7.08 (23.22)	7.61 (24.96)
Edge of swimming pools.	6.88 (22.6)	7.28 (23.9)	7.81 (25.6)