

## HIGH VOLTAGE POWER LINE SAFETY AND RELIABILITY

### The Myth:

*Overhead high voltage power lines and towers are safe and reliable.*

### The Facts:

- Overhead high voltage power lines and towers have been destroyed during tornadoes and ice storms, and deteriorate from exposure to the weather.
- For example, during the July 31, 1987 tornado in Edmonton that killed 27 people, injured nearly 300, and left at least 750 families homeless (The Edmonton Sun 1987), high voltage transmission towers and lengths of overhead lines were brought down by winds estimated up to 330km per hour. (Members of the RETA Board witnessed the downed towers and heavy power lines scattered along the tornado's path between 17 Street and 34 Street in Mill Woods, and took numerous photographs.)
- In total, the 1987 tornado caused between \$6 million and \$8 million damage to TransAlta power equipment. The storm destroyed TransAlta's Stelco substation, as well as 49 240kV double circuit steel towers, 17 138kV double circuit steel towers, and 134 138kV single circuit wooden structures (The Edmonton Sun 1987).
- 8 tornadoes, including the one in 1987, have hit Edmonton and area since 1879, killing 49 people (The Edmonton Sun

1987). Considering that an average of 8 tornadoes per year hit Alberta, it is a known fact that additional torna-

does will hit Edmonton and the rest of Alberta in the future. The danger of death, injury and significant economic loss becomes increased with every overhead high voltage power line that is constructed in Alberta.

- Close to 1.5 million homes in Quebec and 230,000 homes in Ontario were



without electricity during the January 1998 ice storm that hit Canada and the U.S., dubbed the worst of its kind in Canadian history (Wikipedia 2009). Rain for 6 days froze onto power equipment and completely crippled parts of the Hydro-Quebec power grid for up to 33 days in the middle of winter. More than 1,000 high voltage towers collapsed in Canada alone, including the associated 735kV, 315kV, 230kV, and 120kV lines. Significant social and economic damage resulted including 46 deaths attributed to lack of electric heating, and from house fires and carbon monoxide poisoning as people built fires trying to compensate for no electric heat (CTV 2008). Hydro-Quebec's repair costs were about \$800 million plus another \$2 billion in upgrades in an attempt to prevent similar damage in the future to overhead power lines.

- 6 million people were without electricity for 9 hours in March 1989 in Quebec and area, due to a severe geomagnetic storm induced by the sun that knocked out power in Hydro-Quebec's overhead high voltage grid (Wikipedia 2009). The storm caused \$10 million in damage to Hydro-Quebec, and tens of millions of dollars to its customers.

**For information on what you can do go to [www.reta.ca](http://www.reta.ca)**

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