

Introduction to Power Generation and Transmission

Electricity is produced at nuclear, fossil fuel, gas and hydroelectric generating stations and at wind generation or other industrial facilities throughout the Province of Ontario. Hydro One operates a network of transmission lines in Ontario, which transmit the electricity over great distances at high voltage (i.e. 115 kV, 230 kV, 500 kV in Ontario) to local transformer stations. There are approximately 280 of these local 'TS' located throughout the Province of Ontario.

The 'TS' role is to transform the high voltage power input to a lower voltage output that is usable by the energy customers (i.e. large industrial customers and distribution companies). The local distribution companies (LDCs) then supply other customers (i.e. residential and commercial) through the use of smaller distribution stations (DS), pole mounted transformers and pad mounted transformers. This sequence of electricity generation, transmission and transformation to a usable power supply by customers is illustrated in **Figure 1**.

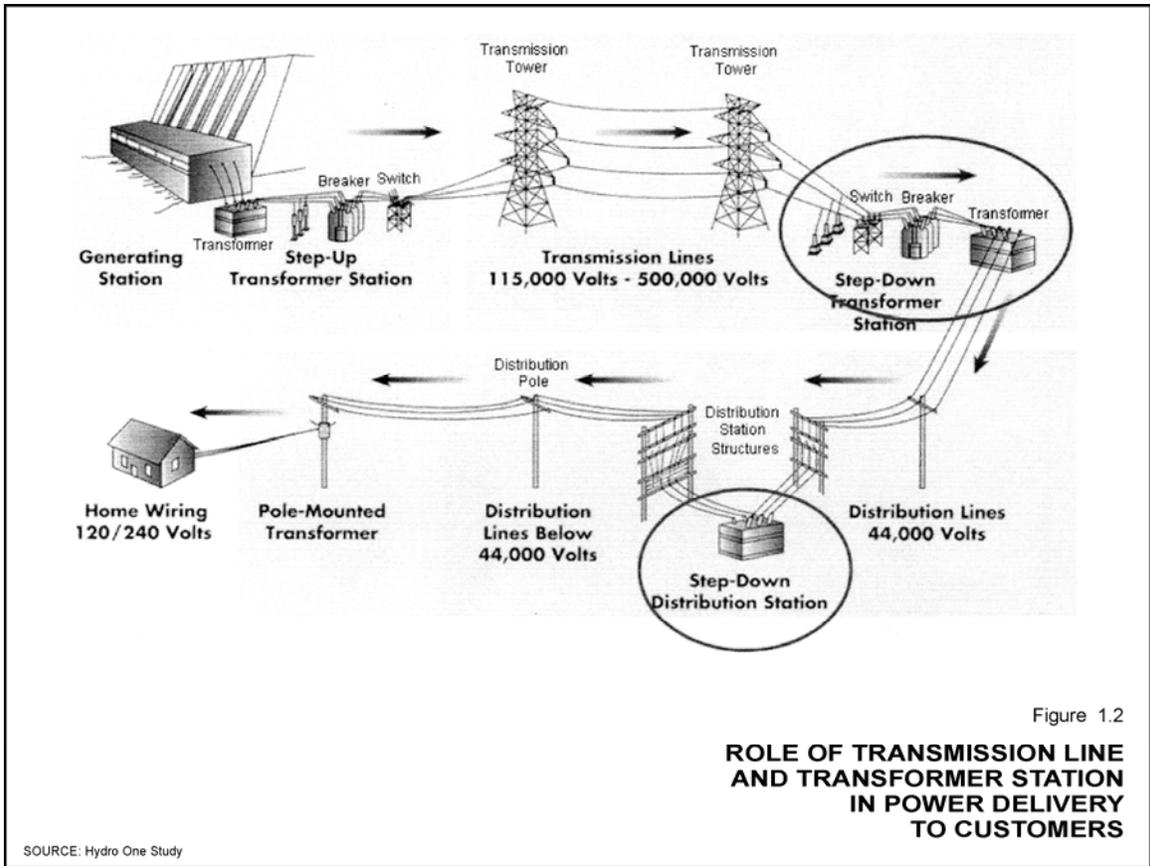


Figure 1. Role of Transmission Line and Transformer Station in Power Delivery to Customers