

LINE LOSSES

Reducing your costs by being efficient

Niagara
on-the-Lake
HYDRO

There are three reasons for the existence of line losses:

1. The primary reason is that power is naturally lost as it is distributed around the Town. Some is lost as the electricity travels along the wires as heat or "friction", some is lost as the voltages are reduced in the transformers and some is lost as the electrical energy is used at the point of utilization. One of the benefits of our voltage conversion program is that line loss is reduced as we move more of our distribution system to a higher voltage.
2. A second reason is electricity theft or meter data not being captured. Undetected high impedance faults that result in low current flow that does not trip circuit protection is included in uncaptured meter data. The use of smart meters has greatly reduced the risk of both these events but we cannot guarantee they do not happen.
3. Finally, meter data may be incorrectly calculated. This is not a risk with standard residential meters as they capture the actual usage and the billing multiplier is 1. Meters for our bigger commercial customers are more complicated and a billing multiplier must be applied to the reading to get the actual usage. The multiplier required is based on how the meter is set-up. This can be seen in the example above. This creates a greater risk of error. NOTL Hydro has been reviewing the meter set-ups with its larger customers, sometimes using a third party, to ensure we have no errors of this sort.

As noted above, the primary cause of line losses is natural dissipation during the distribution of electricity. The natural amount of line loss will be determined by the nature of the system. Urban systems have lower line losses as you have more customers and greater load per km of line. In contrast, with a rural system, like much of NOTL, you have long stretches of line with no customers. Systems with larger loads, such as with a large industrial base, may also have a lower loss rate as losses are averaged over the larger load.

