

Underground Cable Rejuvenation Program at Hydro One Brampton

Hydro One Brampton is the eighth largest local distribution company (LDC) in Ontario serving over 140,000 customers. Its business strategies carry momentum of continuous innovation that ensures a modern, flexible and advanced distribution system which satisfies customers through reliable delivery of electricity. Since the early 1960s, Hydro One Brampton has been installing underground systems to supply service to its customers. Similar to many LDCs, Hydro One Brampton has a broad variety of underground cables in its asset base, each having limited and varied life cycles that require significant investment to replace.

The LDC completed several large scale re-cabling projects in the past and found them to be expensive, resource intensive, and very disruptive to established customers. It recognized that managing cable performance over the long-term would be a significant challenge, and worked on identifying feasible alternatives to replacement.

After an extensive search of the market place in 2000, Hydro One Brampton identified an innovative cable injection solution as an alternative to cable replacement. Staff researched the product in depth, meeting with the vendor to explore the benefits of this process. Considering this as a potential option, the company launched several pilot projects from 2002 to 2007. These pilot projects were structured on a cable-by-cable basis only, allowing staff to study, analyze the viability and application of this product.

As a result of successful pilots which solidified confidence in the product, the company launched a large-scale underground residential distribution (URD) injection program in 2011, completing approximately 20 km of cable treatment. For this project, Hydro One Brampton partnered with Seattle-based, Novinium, to perform TDR and cable injection treatment, with the LDC providing civil contractor and high voltage contractor services. Site selection criteria focused on the age of the cable systems and historical fault occurrence. Subdivisions with rear lot primary servicing and submersible single-phase transformation were excluded.

Following successful completion of the 2011 program scope, Hydro One Brampton carried out a lessons learned evaluation with staff, Novinium and the contractors. The team identified key opportunities for improvements to work execution and contractor coordination. Hydro One Brampton improved on the implementation methods and retained Novinium to treat an additional 23 km of cable in 2012.



Injecting a XLPE Cable.

“Hydro One Brampton is committed to building and maintaining a modern, flexible and advanced distribution system that cost-effectively and reliably delivers electricity to our customers,” said Remy Fernandes, President and Chief Executive Officer of Hydro One Brampton. “Partnering with Novinium to implement this innovative cable injection solution demonstrates our dedication to advancing the technology, maximizing the usefulness of assets and improving productivity.”

Hydro One Brampton is an early adaptor of this new and innovative technology. Using the continuous improvement model and working with Novinium has enabled it to refine the process to suit its specific needs. It will continue to explore new methodologies and processes to maximize efficiencies and shareholder value. ■