

Littleton Electric Re-Injects Cable with New Novinium Solutions

Highlight

- Cable rejuvenation project completed in one visit
- 40-year warranty sways decision to re-inject line segment
- Standard elbows and 3M splices used, saving additional costs

Overview

The Littleton Electric Light Department has been providing reliable power to the towns of Littleton and Boxborough, Mass. for over a century. By using the new Novinium cable rejuvenation process, Littleton Electric avoided the cost of replacing an important set of previously injected underground power lines.

The company and situation

Located approximately thirty miles northwest of Boston, Mass., the Littleton Electric Light Department is a growing, publicly owned electric utility, established in 1912 to supply low-cost, reliable energy to residents of the town of Littleton, Mass. In 1926, the Electric Light Department also began servicing the adjoining town of Boxborough, Mass.

In November 1997, the cable in a Boxborough neighborhood had begun to fail. At the time, the forward-thinking engineers at Littleton decided to inject these cables to extend their life. By the fall of 2008, 11 years after the original injection, these cables in Boxborough had begun to fail again.

“ [...] I would recommend the Novinium rejuvenation process to other utilities, especially if they have older injected cables that are now starting to fail. ”

– Nick Lawler
Manager of Operations and Engineering
Littleton Electric Light



Company

Littleton Electric Light Department

Location

Littleton, MA, USA

Website

www.lelwd.com

Cable Sizes and Length

25 kV, XLPE #2 cable (42.4 mm²), 2,237 feet

Method

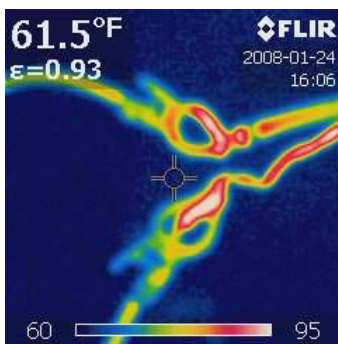
Cablecure® 732 fluid formulated for cold weather with Novinium® Thermally Enhanced Rejuvenation™ (N-Ter) technology

Evaluation process

Nick Lawler, Manager of Operations and Engineering at Littleton, faced the decision of replacing the cable, or attempting to re-inject the cables. Because of the cost of replacement was very high due to local soil conditions, Nick investigated the potential of re-injecting these cables. He was especially interested in Novinium's new offerings because of the associated 40-year warranty.

Solution

The Novinium® Cablecure® 732 fluid and new N-Ter™ process was chosen to re-inject these cables. The N-Ter process allows the reinjection of cables treated with prior generations of injection technology.



Thermally Enhanced Rejuvenation

An infrared image shows a low voltage current source gently warming a cable. This increases the quantity of fluid which can be supplied to the cable. Fluid permeates more quickly into the conductor shield and surrounding insulation where it alters the chemistry and physics of the insulation to rival that of new cable in hours. The fluid in previously injected cables resists reinjection. The patented Novinium N-Ter™ process solves that problem by reducing the fluid's viscosity and creating more space in the strand interstices, allowing new fluid to replace the legacy fluid formulation.

Results

Because of the success of this process, the utility plans to do more re-injection next year.

Novinium completed the injection in only one visit to the transformer. The utility was able to use standard elbows and did not have to purchase costly injection elbows. Additionally, standard 3M splices were used, saving time and money.