

Retrofilling for Canadian pharma company delivers environmental safety assurance

A leading pharmaceutical company in Toronto, with global outreach and a reputation for rapid deployment of critical and affordable medicines, identified a potential environmental concern at its corporate headquarters.

A Canadian-made, on-site transformer, rated at 4500/6000kVA 27.6kV-600/347V delta-wye had been acquired in 2012 and was operating with mineral oil as its insulating fluid. The company was advised by an Ontario-based High Voltage (HV) Maintenance Contractor of some concerns about mineral oil being used in the transformer, namely:

- mineral oil's slow rate of biodegradability
- mineral oil's potential flammability

These disadvantages presented the pharma company with challenges to its stance on Corporate Social Responsibility and its guiding value of making and using products with a reduced impact on the environment. Clearly, alternatives to mineral oil in the transformer needed to be explored.

The HV contractor recommended retrofilling the transformer (replacing the mineral oil) with a biodegradable MIDEL ester fluid, in this case MIDEL eN 1204. Sustainably sourced from canola crops, this is a K-class fluid with a fire point of >300°C (compared to mineral oil's fire point of 170°C). MIDEL eN 1204 also provides superior cold weather performance with its pour point of -31°C, and can extend the life of the transformer by slowing the ageing rate of the solid insulation inside the transformer.

"In this case, MIDEL eN 1204 helped a major corporation reinforce its environmental credentials to further enhance its robust stance as a responsible corporate citizen."

- Pierre Barras, Senior Sales Engineer, MIDEL

Retrofilling the transformer ensured that in the event of the unit rupturing and leaking insulating fluid, the environmental damage would be mitigated; clean-up costs would also be dramatically reduced and there would be no risk of a pool fire (due to ester fluid's low calorific value) - a risk substantially increased with the use of mineral oil as a transformer fluid.

When performed by an experienced service company, following specific guidelines provided by the MIDEL technical team, retrofilling is a safe and straightforward process. Replacing the transformer fluids takes place on-site and requires only a brief shutdown of the unit, minimizing any disruption to business and operations.

MIDEL ester transformer fluids have been used in the retrofilling of distribution transformers since the 1970s. They offer a proven solution for transformer owners looking to substantially improve fire safety, environmental protection and transformer life expectancy.