



Online Transformer Oil Decontamination: New Service Proven Effective

During its service life, a power transformer is subjected to numerous stresses that degrade the mechanical and dielectric properties of the oil and paper, eventually compromising its function. Electric utilities continually need to reduce the level of contaminants and oil degradation products in transformer oil to help maintain performance, prevent failure, and prolong life.

Oil Treatment Service

Powertech Labs offers a service that utilizes online oil treatment technologies to restore oil quality without requiring equipment outages. The technologies have been proven effective in field demonstrations.

The online oil decontamination system uses rechargeable extraction cartridges with proprietary absorbent technologies to selectively remove contaminants from the mineral-based transformer oil of an in-service power transformer. The system removes all oil and paper decomposition products (acids, polar components, furans, moisture, particulate matter, and corrosive sulfur) from transformer oil, restoring in-service oil quality to near new conditions.

After restoring the oil properties, the units will keep the oil clean and continuously dry. This will prevent the accumulation of moisture and other oil and paper degradation products from reaching harmful levels, thereby extending the life of the transformer.

Advantages of Powertech's Decontamination Unit:

- Operates online with an in-service transformer, avoiding system shutdown.
- Allows for significantly lower cost than other methods.
- Can be installed in a few hours and left unattended.
- Safety features include leak detection sensors, flow disruption sensors, and solenoid valves as measures to safely and automatically shut down the unit.
- Capable of selectively performing one or more functions, including removal of impurities, acids, moisture, corrosive sulfur, and PCBs and for de-gassing of the oil.

Successful Demonstrations

Powertech's decontamination unit has been successfully demonstrated at several BC Hydro facilities, including Kent substation; G.M. Shrum, Peace Canyon, and Stave Falls Generating Stations; as well as several U.S. utilities. These field trials demonstrated results showing the transformer oil is cleaned to as-new condition in terms of dielectric strength, acid content, power factor, colour, IFT, and other oil quality parameters.

ABOUT POWERTECH LABS:

Powertech Labs Inc. is one of the largest testing and research laboratories in North America, situated in beautiful British Columbia, Canada. Our 11-acre facility offers 15 different testing labs for a one-stop-shop approach to managing utility generation, transmission and distribution power systems.

Outside of the utilities industry, Powertech provides routine testing capabilities, product development, research and consulting services to support an array of industrial-type operations, electrical equipment manufacturers and automotive original equipment manufacturers.

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