

CONDITION ASSESSMENT TRAINING PAYS DIVIDENDS

While Partial Discharge testing in-house is becoming increasingly widespread there remains a lot of misinformation and uncertainty among those tasked with performing this vital role, and despite the evolution in equipment capability there is still no substitute for years of experience.

Powerco is New Zealand's largest distribution network in terms of length, and second largest by electricity connections. It is one of only two of the country's dual-energy distributors which includes natural gas. It operates electricity networks in the Taranaki, Whanganui, Rangitikei, Manawatu and Wairarapa regions as well as Tauranga and surrounding rural areas and the eastern and southern Waikato, Thames and Coromandel regions.

DELIVER TRAINING SESSIONS

Their Asset Management team recognised inconsistencies in the Condition assessment program for ground mounted HV switch assets across their Network and engaged specialist Partial Discharge company HV Diagnostic Services to deliver Training sessions in both the Eastern and Western Network regions for the Contracting staff involved in the data collection.

ESTABLISH THE FUNDAMENTAL CONCEPTS

A half-day session includes both classroom time (25%) to cover basic theory and establish the fundamental concepts required to be successful, complimented with essential hands-on time (75%) in the field to encourage good habits and practice the newly acquired skills on a wide variety of Distribution equipment. This is essential to ensure data quality by having all team members perform in a consistent and repeatable manner.

The following photos were subsequently supplied from the Western session held in Whanganui where Discharge was identified from an outdoor RMU Termination Box by trainer Mr Greg Linton, using only an UltraTEV Detector - the Award Winning entry level instrument from the EA Technology Partial Discharge Solutions range.

The Switch featured here had a manufacture date of 2014 and amazingly was in-service for the site visit, conducted in late February 2017.





Ultrasonic discharge was detected, which is generally surface related and can often be a combination of factors such as contaminants, lack of clearances or poor stress control.

As it turns out a feeder fault had occurred on this circuit in January this year, the feeder contained a mix of Underground and Overhead and there was some bad weather around at the time. It was duly sectionalised and livened back up in stages with no fault being found. The shutdown and investigation was carried out in April and while the cause of the extensive damage is unknown, it should be noted that there was no failure of the termination itself, with the Switchgear now having been replaced in its entirety.

PRO-ACTIVE APPROACH TO ASSET MANAGEMENT

HV Diagnostic Services, a trusted Practitioner on all things PD is also the New Zealand expert on equipment from EA Technology - as they actually use the gear that they sell. The author wishes to acknowledge Powerco for their openness in allowing the benefits around Partial Discharge surveys, and in this case the Training received to be shared with the Industry. They realised help was needed in order to get the most out of their own inspection regimes and should be recognised for their pro-active approach to Asset Management improvement.

SPECIALIST Condition Assessment Services, Products & Support









Why HVDS?

- Experience with over 15 years of local NZ insight to share
- Expertise with a proven and successful track record
- Independent, knowledgeable and candid advice
- Consultancy incl. CBRM via our Australian colleagues

Core Activities

- In service PD surveys for ground mount switch assets
- Overhead Ultrasonic, UHF and IR assessment in Switchyards
- VLF mapping of Cables, Offline and accurate
- Instrument Training, basic Calibrations and Spares

Distribution Portfolio

- UltraTEV family of Testers, Alarms and Monitors, EA Technology
- Thermal Cameras - Entry level to Professional, Guide Infrared
- The Safety assured maintenance aperture system, Viewsafe UK



New Zealand | +64 3 962 0225
 greg.linton@hvds.co.nz
 www.hvds.co.nz

Australia | +61 7 3256 0534
 neil.davies@eatechnology.com
 www.eatechnology.com



