WG B1.28

On-site Partial Discharge Assessment of HV and EHV Cable Systems

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Introduction

• HV and EHV extruded cables are tested after installation, according to IEC 60840 and 62067 using an applied AC voltage

• The AC test is more effective than DC, however both carry the risk of rupture

• The PD test on site is an additional test which provides an opportunity for finding problems pre rupture
Present Status

Utilities are interested, however:
• There are no formal requirements – the commonly used phrase “no measurable PD’s” has a limited meaning,
• The application of the PD test is often complicated
• In most cases intensive interpretation is required
• The interpretation is strongly dependent upon
  – Noise conditions (weather),
  – PD technology
  – Cable system technology
  – Sensitivity / Calibration
Scope

• Work should be limited to HV and EHV extruded AC cables
• Addresses both:
  – Commissioning tests
  – diagnostic tests
Route Map

- Collect experience with PD testing, with respect to methods, timing, implementation, equipment, results and subsequent actions
- Evaluate the added value of the PD testing at site for commissioning and diagnostic testing
- Evaluate the applied technology, taking into account what previous CIGRE and ICC WG’s have done so far
- Recommend the protocol, to validate the on-site measurement results (calibration, sensitivity assessment)
- Recommend guidelines for PD test procedures at site (voltage level, measuring time, measuring conditions)
- Identify widely acceptable requirements for commissioning and diagnostic testing
The Working Group is currently forming:

- Nigel Hampton  US  Convener
- Mark Fenger  CA
- Matt Mashikian  US
- Edwin Pultrum  NL