Working Group B1.28
On-site Partial Discharge Assessment of HV and EHV cable systems

Terms of Reference
The work should be limited to HV and EHV extruded AC cables, but addressing both commissioning and diagnostic testing.

The WG shall:
- collect experience with PD testing, with respect to methods/equipment and results
- 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

DELIVERABLES
**Deliverables**

An Executive Summary article for Electra

A full report to be published as a Technical Brochure

A Tutorial

The full report shall be made available for final review at the B1 annual meeting in 2011.

**Timeline**

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
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<td>2008</td>
<td></td>
<td></td>
<td>TOR Approved</td>
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<td>2009</td>
<td>Meeting 1</td>
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<td>Annual Report Poland Meet</td>
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<td>2010</td>
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<td>2011</td>
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<td>Final Report</td>
<td>Electra Paper Tutorial</td>
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**Task I Collect experience with PD testing**

What do we wish to collect?
What do we believe we can collect?

- System Voltage
- Length
- Year
- PD used – Y / N
- PD Type – On, Off (Power, DAC)
- Commissioning / Diagnostic
- Test Voltage
- Test Time
- Test Sequence
- Findings – no PD, PD
- References
- Detection points

**Responses from WG meeting**

- HV Commission
  - 76.2%
  - 7.5%
  - 0.8%
  - 5.2%
  - 0.0%

- HV Diagnostic
  - 95.2%
  - 4.8%

- EHV Commission
  - 68.8%
  - 31.3%

- EHV Diagnostic
  - 87.5%
  - 6.3%
  - 6.3%
Task II Evaluate the added value of PD test

Utilities believe that there is value in PD tests
Value is more of an impression rather than an assessment
Will try and garner Case Studies to provide definitive information
PD Used
PD Not Used

Task III Evaluate the applied technology

Calibration vs Sensitivity
Technologies
- Online
- Offline
Open Issues