



**Study Committee No : B1**  
**WORKING BODY FORM**

**Group No : WG B1.30**

**Name of Convener : C. ROYER (Canada)**

**TITLE of the Working Group : Review of Cable Systems Electrical Characteristics**

**Needs of Target Groups:**

**Background:**

It is now well known that underground transmission cables have significantly different electrical characteristics than overhead lines, and that these differences must be taken into account during cable system planning, design, and operation.

For all these topics, reliable input data are necessary and therefore accurate impedance calculations are of the highest importance. This is not always easy to achieve.

In-depth analysis of the topics related to cable integration in network may require sophisticated calculation computer programs and a detailed and reliable knowledge of the components and system characteristics at any time.

**Terms of Reference:**

- To prepare proper definitions for "Cable Characteristics"
- To list relevant cable systems types: cable construction, configuration of installation, bonding
- To list the information to be collected for each cable system study
- To review relevant formulae existing in literature
- To identify relevant missing formulae when necessary
- To establish if possible these formulae or propose alternate methodology
- If possible, to collect and analyse case studies

**Scope of work :**

- Paper cable systems (SCFF and HPFF) for land and submarine AC applications
- Extruded cable systems for land and submarine AC applications
- Power frequency
- Voltage range 45 kV and above

**Deliverables:**

- Final report in 2011
- Technical brochure and Electra paper in 2011
- Tutorial

Created: **2008** Duration : **3 years**

**Members :** Belgium, Canada, Denmark, Finland, France, Greece, Israel, Italy, Korea, Mexico, South Africa, United States

**Other stakeholding SCs:** D2, C2, C4, B5

**Approval by TC Chairman :Klaus Fröhlich**

**Date :30/03/2009**