CIGRE Study Committee B1

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP (1)

WG B1.42	**Name of Convenor :** Gunnar Evenset (NORWAY) **E-mail address**: Gunnar.Evenset@Nexans.com
Technical Issues # (2): 3	**Strategic Directions # (3): 1**
The WG applies to distribution networks (4): No	
Title of the Group: Testing of Transition Joints Between HVDC Cables with Lapped and Extruded Insulation up to 500 kV	

Scope, deliverables and proposed time schedule of the Group :

Background :

Although the extruded HVDC cable technology is developing very fast, lapped HVDC cables will still be on the market for many years. There are projects that consider mass-impregnated cables for the submarine part of the route and extruded cables for the land part of the route. There is a need to define test specifications for how to qualify transition joints between these two technologies.

Scope :

1. Review relevant test recommendations for testing of HVDC cables
2. Review relevant test recommendations for testing of transition joints for AC cables
3. Prepare a Technical Brochure on testing of transition joints between lapped and extruded HVDC cables
4. Prepare report for Electra
5. Prepare a tutorial

Deliverables : Technical brochure with summary in Electra and tutorial

Time Schedule : start : March 2013 **Final report** : 2014

Comments from Chairmen of SCs concerned :

Approval by Technical Committee Chairman :
Date : 28/02/2013

(1) Joint Working Group (JWG) - (2) See attached table 1 – (3) See attached table 2
(4) Delete as appropriate

Table 1: Technical Issues of the TC project "Network of the Future" (cf. Electra 256 June 2011)

1	Active Distribution Networks resulting in bidirectional flows within distribution level and to the upstream network.
2	The application of advanced metering and resulting massive need for exchange of information.
3	The growth in the application of HVDC and power electronics at all voltage levels and its impact on power quality, system control, and system security, and standardisation.
4	The need for the development and massive installation of energy storage systems, and the impact this can have on the power system development and operation.
5	New concepts for system operation and control to take account of active customer interactions and different generation types.
6	New concepts for protection to respond to the developing grid and different characteristics of generation.
7	New concepts in planning to take into account increasing environmental constraints, and new technology solutions for active and reactive power flow control.
8	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics.
9	Increase of right of way capacity and use of overhead, underground and subsea infrastructure, and its consequence on the technical performance and reliability of the network.
10	An increasing need for keeping Stakeholders aware of the technical and commercial consequences and keeping them engaged during the development of the network of the future.

Table 2: Strategic directions of the TC (cf. Electra 249 April 2010)

1	The electrical power system of the future
2	Making the best use of the existing system
3	Focus on the environment and sustainability
4	Preparation of material readable for non technical audience