


**CIGRE Study Committee B2**

**PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP**

<b>WG* N° B2.57</b>	<b>Name of Convenor:</b> Frank Schmuck (Switzerland) <b>E-mail address:</b> frank.schmuck@sefag.ch	
<b>Technical Issues: # 9</b>		<b>Strategic Direction: # 2</b>
<b>The WG applies to distribution networks: No</b>		
<b>Title of the Group:</b> Survey of operational Composite Insulator Experience and Application Guide for Composite Insulators		
<b>Scope, deliverables and proposed time schedule of the Group :</b>		
<b>Background :</b>		
<p>In 1990 and 2000, the “Insulator WG” of B2 published in Electra the results of two composite insulator surveys. Since the number and kind of application of composite insulators has since then significantly increased, the submission of a new questionnaire and the publication of its outcome including HVDC-cases is considered as important contribution for the exchange of information as well as further material development and standardization work. The structure of the survey will be similar to the previous documents for direct comparison. Voltage levels &gt; 100 kV will be covered. As a result of the survey, an application guide for composite insulators will be developed, which will take also into consideration the current status of international product standards as well as application cases, which are not yet covered by standards. The application guide will cover all types of composite line insulators and their electrical as well as mechanical aspects. An important part of the document will be the identification whether gaps exist between existing standards and the state-of-the-art used in service.</p>		
<b>Scope :</b>		
<ol style="list-style-type: none"> <li>1. Composite Insulator Experience Survey (ELECTRA Paper)</li> <li>2. Composite Insulator Application Guide (Technical Brochure)</li> </ol>		
<b>Deliverables :</b> see above		
<b>Time Schedule:</b> start January 2014		<b>Final report :</b> 2017
<b>Comments from Chairmen of SCs concerned :</b> The expected results of the new WG will be very helpful for users and manufacturers of composite line insulators and D1 supports the establishment of the new WG. In view of the importance of the material the WG may consider to include in the survey questions on insulator design and materials used (core, housing, structural). D1 experts are ready to contribute to the work of the WG.		
<b>Approval by Technical Committee Chairman :</b>  <b>Date :</b> 14/03/2014		

- (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)**

<b>1</b>	Active Distribution Networks resulting in bidirectional flows within distribution level and to the upstream network.
<b>2</b>	The application of advanced metering and resulting massive need for exchange of information.
<b>3</b>	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.
<b>4</b>	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.
<b>5</b>	New concepts for system operation and control to take account of active customer interactions and different generation types.
<b>6</b>	New concepts for protection to respond to the developing grid and different characteristics of generation.
<b>7</b>	New concepts in planning to take into account increasing environmental constraints, and new technology solutions for active and reactive power flow control.
<b>8</b>	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics.
<b>9</b>	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.
<b>10</b>	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)**

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