

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

JWG* N° B1-B3.49	Name of Convenor : Pierre Mirebeau (France)SC B1 E-mail address: pierre.mirebeau@nexans.com
Technical Issues #: 10	Strategic Directions #: 1
The WG applies to distribution networks (4): No	
Title of the Group: Standard design of a common, dry type plug-in interface for GIS and power cables up to 145 kV	
<p>Scope, deliverables and proposed time schedule of the Group :</p> <p>Background: Taking into account the market trend in some countries towards a commoditisation of the High Voltage cables lower or equal to 145kV, the working group B1-B3.33 had concluded that there is room in these voltage levels for a standard design in parallel with the present designs.</p> <p>Scope :</p> <p>The goal of the JWG is to recommend a functional design of an insulator with a common interface.</p> <ol style="list-style-type: none"> 1. Current is $\leq 1000A$, short circuit $\leq 40kA$ 1 sec. Cross sections are $\leq 1000mm^2$ Cu or $1600mm^2$ Al 2. Technology has to be defined (inner or outer cone), with a detailed evaluation of technical advantages/disadvantages of the two technologies. 3. The number of sizes has to be defined; the short circuit current can be altered for the smallest sizes. Dimensions of insulator components have to be defined (current connection, electric design and properties, mechanical design and properties). The type and dimension of the main current connection have to be defined 4. Consideration to be given to the consequence of a termination failure, the upgrading of the cable link for higher current loads and installation constraints, with a special focus on the basement dimensions. 5. The design has to meet the requirements of IEC 62271-209 and IEC 60840 and there is a need to define the initial and cross qualification processes 6. The stress cone design and material, the lubricant and the design of the compression device should be left to the discretion of the accessory manufacturer within the limits of the standardised insulator properties. <p>Cigre TB 303 and the work of WG B1.44 and WG B1.46 should be taken into account.</p> <p>Deliverables : Report to be published in Electra or technical brochure with summary in Electra, tutorial</p> <p>Time Schedule : start : 2014 Final report : 2017</p>	
Comments from Chairmen of SCs concerned : B3 (+Nomination of experts)	
<p>Approval by Technical Committee Chairman : </p> <p>Date : 30/06/2014</p>	

(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