

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

WG* N° D1.44	Name of Convenor : Igor Gutman (SE) E-mail address: igor.gutman@stri.se
Technical Issues # (2): TI3	Strategic Directions # (3): 2, 3
Title of the Group: Testing of naturally polluted insulators	
<p>Scope, deliverables and proposed time schedule of the Group :</p> <p>Background :</p> <p>There is a lack of standards with respect to test methods for the evaluation of the power frequency dielectric strength of naturally polluted external insulation including ceramic and polymeric insulators. This is true both for AC and DC. In particular:</p> <ul style="list-style-type: none"> • many utilities have identified the need to obtain the flashover performance of naturally polluted ceramic and polymeric insulators, removed from service, to investigate the cause of the so-called “unknown” flashovers and to evaluate the pollution performance at site. • a number of UHVDC systems will be built at higher altitude where pollution performance can be more critical than impulse performance, but there are as yet no generally accepted correction factors that can be applied. <p>Scope :</p> <p>On the request from IEC TC 36 a CIGRE working group shall consider methods and past experiences of the evaluation of insulator performance under natural environmental conditions. The work will comprise the following activities:</p> <ol style="list-style-type: none"> 1. To provide guidelines for tests on naturally contaminated insulators. 2. To give guidelines for altitude correction under pollution, notably at UHVDC <p>The aim of the study shall be the development and publication of a</p> <ul style="list-style-type: none"> • Cigre Technical Brochure “Guide for testing naturally polluted insulators” <p>Deliverables : Technical brochure with summary in Electra</p> <p>Time Schedule : start : March 2012 Final report : 2015</p>	
Comments from Chairmen of SCs concerned : Other SCs concerned by the work: A3, C4	
Approval by Technical Committee Chairman : Klaus Fröhlich Date : 24/10/2011	

(1) Joint Working Group (JWG) - (2) See attached table 1 – (3) See attached table 2

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	Interactive communication with the public and with political decision maker