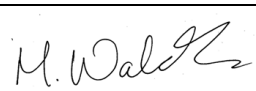


PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP ⁽¹⁾

WG* N° D1.59	Name of Convenor : Jens SEIFERT (DE) E-mail address: jseifert@lappinsulators.com	
Technical Issues # ⁽²⁾: --		Strategic Directions # ⁽³⁾: 1
The WG applies to distribution networks ⁽⁴⁾: Yes		
Title of the Group: Methods for dielectric characterisation of polymeric insulating materials for outdoor applications		
Scope, deliverables and proposed time schedule of the Group :		
Background : There is an increasing use of polymeric materials in HV AC and DC outdoor applications. In this context, materials with new types of fillers or surface structures start to play an important role, which calls for a need to precisely define their physical and long-term properties. For properly evaluating them and assessing their long-term and ageing performance, dielectric diagnostic and fingerprinting procedures need to be defined.		
Scope : Elaborating guidelines for performing precise and repeatable measurements of dielectric properties (including conduction and polarization phenomena) for various non-ceramic materials used in outdoor applications. These will include recommendations for (i) sample preparation procedures and (ii) selection of measurement ranges in both time and frequency domains that can provide information useful for characterisation and detection of typical ageing phenomena. The activities will include:		
<ol style="list-style-type: none"> 1. Review and assessment of the state of the art on applicability of dielectric spectroscopy methods for detecting the effects of material preparation, conditioning and ageing in polymeric composite materials on polarisation and conduction processes. 2. Exploring, comparing and assessing selected methods in terms of their sensitivity and repeatability for the relevant material groups. 3. Performing Round Robin Testing (RRT) with the selected methods and materials. 		
Deliverables : Report to be published in Electra or technical brochure with summary in Electra		
Time Schedule : start : February 2014		Final report : 2017
Comments from Chairmen of SCs concerned : B3		
Approval by Technical Committee Chairman : Date : 30/01/2014		

(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)

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