

CIGRE Study Committee D1

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

JWG N° D1/B1.49	Name of Convenor : John-Peter Mattmann (CH) E-mail address : John-Peter.Mattmann@nexans.com	
Technical Issues # ⁽²⁾: 8	Strategic Directions # ⁽³⁾: 3	
The WG applies to distribution networks : Yes		
Title of the Group: Harmonised test for the measurement of residual inflammable gases in insulating materials by gas chromatography		
<p>Scope, deliverables and proposed time schedule of the Group :</p> <p>Background :</p> <p>During cross-linking process of XLPE insulation, methane and other inflammable gases are evolved as by-products. These gases can represent a potential danger (excessive pressure, fire, and/or explosion). Currently, no standardised test exists for the evaluation of residual gas content. There is a need to develop a harmonized test for the measurement of residual inflammable gases in insulating materials. The final report of WG D1.26 “Basic principles to determine methane content in cross-linked solid extruded insulation of MV and HV cables” (to be published as a Technical Brochure in June 2012) serves as a good basis to harmonise the different methods using gas chromatography (GC).</p> <p>As this proposal has obvious links with the cable production process, it is therefore decided to involve B1 directly and consequently to launch a JWG D1/B1.</p> <p>Scope :</p> <ol style="list-style-type: none"> 1. Define/optimize a harmonised test procedure for the measurement of residual inflammable gases in insulating materials. 2. Specify details of test procedure such as the sampling method, equipment and equipment calibration, measurement method, precision evaluation. 3. When possible a rationale will also be given to explain the basis for the chosen parameters. <p>Notes:</p> <ul style="list-style-type: none"> • This WG will not define requirements for the maximum acceptable inflammable gas concentration. • The WG will not deal with the degassing procedures used by manufacturers for degassing cables. • The WG will take care that the harmonized test procedure will not influence the common cable production process and related degassing procedures. <p>Deliverables : Report to be published in Electra or technical brochure with summary in Electra</p> <p>Time Schedule : start : 2012 Final report : 2015</p> <p>Approval by Technical Committee Chairman : Klaus Fröhlich Date : 12/04/2012</p>		

(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