



CIGRE Study Committee B1

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

WG N° B1.37	Name of Convenor : Colin PEACOCK (AU) E-mail address: cpeacock@ausgrid.com.au
Technical Issues : 9	Strategic Directions : 2
Title of the Group: Guide for the operation of fluid filled cable systems	
Scope, deliverables and proposed time schedule of the Group :	
Background : The paper cables are very reliable and should continue their service as long as possible. The present risk is to see the cable suppliers leaving the field, without anybody able to repair the existing cable circuits.	
Scope : The scope will exclude pipe type cables. It will cover AC and DC land and submarine cables which have in principle the same problems. The voltage range is from EHV to distribution levels.	
Terms of reference :	
<ul style="list-style-type: none">• To establish the appropriate terminology• To collect information and experience on the operation of fluid filled cable systems, using a questionnaire developed by the WG. The WG should consider refurbishment strategies for the continued operation of self contained fluid filled cable systems.• To collate, summarise and review the information• To produce a working group report as a brochure recommending guidelines on the best practices for the continued operation of self contained fluid filled cable systems. The WG will address the technical aspects on the continued operation of these cables such as: recommended maintenance, testing (routine and after repair), refurbishment and modifications for improved performance, operational availability and constraints, fault repairs, oil system capacity reviews, fluid monitoring and analysis, leak location techniques and a cable and accessories suppliers list.	
If time permits the following could also be studied: extension of service life, extension strategies including use of transition joints, cable cooling systems	
Deliverables :	
The WG will deliver : <ul style="list-style-type: none">- a technical report to be published as a technical brochure and an executive summary in Electra- a tutorial presenting the results	
WG members from: Australia, Belgium, Brazil, Canada, France, Ireland, Italy, Japan, Netherlands, Norway, United Kingdom	
Time Schedule : start : September 2011	Final report : 2014
Comments from Chairmen of SCs concerned :	
Approval by Technical Committee Chairman : Date :	

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