




CIGRE Study Committee B1

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

WG* N° B1.55	Name of Convener : Marc Jeroense (SWEDEN) E-mail address: marc.jeroense@se.abb.com
Technical Issues # (2): 9	Strategic Directions # (3): 1
The WG applies to distribution networks (4): Yes	
Title of the Group: Recommendations for additional testing for submarine cables from 6 kV (Um = 7.2 kV) up to 60 kV (Um = 72.5 kV)	
Scope, deliverables and proposed time schedule of the Group : Background : As a result of the growing demand for the connection of the offshore facilities there is a need to develop an international standard on medium voltage submarine cable systems. To this end an IEC TF within TC20/WG16 has been created and is already working. The IEC TF will consult existing documents like IEC60520, IEC60840, CIGRE TB490 and CIGRE TB623 in order to write the new standard. The role of this CIGRE WG is to support with recommendations for testing medium voltage submarine cable systems that are not covered by the named documents. The topic, for instance, that is known not to be covered by these documents is the aspect of new cable constructions up to 60 kV being of the wet type. In addition there might be other topics that are not or wrongly covered. Scope : <ol style="list-style-type: none">1. A survey of existing standards and recommendations. The survey must also contain those dealing with wet constructions.2. The recommendations shall apply to armored single-core and three-core cables in combination with their accessories, termination and joints, for usual conditions of installation and operation.3. The recommendations shall cover both static and dynamic applications. The latter wrt to the growing interest of floating wind-parks.4. The scope is limited to "extruded" meaning extruded of either filled (e.g. with mineral or carbon) or unfilled crosslinked (e.g. crosslinked polyethylene, ethylene propylene rubber, etc.) insulations.5. The scope is limited to AC cables.6. This recommendation is applicable to submarine cables installed in relatively shallow water having depths of the order of some tens up to few hundreds, i.e. 200 of meters.7. The recommendation shall at least cover: Long Term 'wet' test, Type tests, Routine tests, Sample tests and After installation tests.8. The recommendation shall focus on topics NOT covered by IEC60520, IEC60840, CIGRE TB490 and CIGRE TB623 and focus on tests in these documents that otherwise are not or wrongly applicable to medium voltage submarine cable systems. Deliverables : Technical brochure with summary in Electra and tutorial Time Schedule : start : January 2016 Final report : October 2017	
Comments from Chairmen of SCs concerned :	
Approval by Technical Committee Chairman : Date : 28/01/2016 	

(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