



Study Committee No : B1

WORKING BODY FORM

Group No : WG B1.32	Name of Convener : B. Sanden (NO)
TITLE of the Working Group : Recommendations for testing HVDC extruded cable systems for power transmission at a rated voltage up to 500 kV	
Background: TB 219, published in 2003, deals with the same subject matter, but limited to 250 kV. Today cable systems above that voltage are available. An update to 500 kV is needed.	
Terms of Reference: <u>General scope of work :</u> <ul style="list-style-type: none">• To prepare recommendations for testing of HVDC extruded cable systems at rated voltages up to 500 kV	
<u>The WG shall work in 2 steps :</u> <ul style="list-style-type: none">○ Review existing recommendation in TB 219 to higher voltage levels that may be required for commercial projects in the near future, e.g. 350 kV, and draw conclusions on applicability and modifications○ Develop a recommendation for rated voltages up to 500 kV	
<u>The work scope and structure shall to greatest extent possible follow the content and structure of TB 219, i.e.:</u> <ul style="list-style-type: none">• A survey of existing laboratory and operational experience shall be carried out by WG members.• The recommendation shall cover the voltage range where laboratory and/or operational experience exist. The WG shall, however, assess the impact of extrapolation of the recommendation to 500 kV.• The recommendation shall consider both submarine and land applications, with due consideration to the aspects related to testing of long lengths of cables.• The recommendation shall cover electrical, thermal and mechanical aspects.• Where appropriate standards/recommendations exist, the WG shall recognise and refer to these, with particular attention to the specifics related to the electrical aspects of extruded DC cables. In case the existing standards not being appropriate, the WG shall identify this issue and either propose a resolution or refer the issue to the SC.	
<u>The recommendation shall at least cover :</u> <ul style="list-style-type: none">• Prequalification tests, Type tests, Routine tests, Sample tests, and After installation tests• The WG may consider a range of type approval and, if applicable, tests/verifications that may demonstrate the consistency between the prequalified system and the actual system to be supplied.• The recommendation shall take actual operational and installation conditions into account (e.g. ambient temperature, polarity reversal, impulse level, etc.), when developing the test conditions and requirements.	
Deliverables: Step 1: - A short report, to be published in Electra, summarizing the findings for step 1 (ready 2009) Step 2: - An Executive Summary article for Electra (ready 2011) <ul style="list-style-type: none">- A full report to be published as a Technical Brochure (ready 2011), to be presented also to IEC TC20- A Tutorial (ready 2011)	
Created: 2008, Duration 3 years	
WG members from: AU, CA, DE, FR, IT, JP, KR, NL, NO, SE, US	
Other stakeholding SC's: B4	
Approval by TC Chairman : Klaus Fröhlich	Date : 4/12/2008