

CIGRE Study Committee B1
PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP (WG)¹

WG N° B1.68	Name of Convenor: Jacco Smit (THE NETHERLANDS) E-mail address: jacco.smit@tennet.eu
Strategic Directions #²: 2	Technical Issues #³: 8
The WG applies to distribution networks⁴: No	
Potential Benefit of WG work #⁶: 5	
Title of the Group: Condition evaluation and lifetime strategy of HV cable systems	
Scope, deliverables and proposed time schedule of the Group: Background: <p>The Technical Brochure (TB) 358 "Remaining life management of HV cable systems" was published in 2008, almost 10 years ago. When TB 358 was published, it was already announced that reviewing of the document after 5 years would be quite appropriate. During the Study Committee B1 meeting it was decided to change the title to 'Condition evaluation and lifetime strategy of cable systems'.</p>	
Scope: <p>The WG will :</p> <ul style="list-style-type: none"> • Collect past experiences, a questionnaire will be prepared and sent to relevant parties, taking into account what previous WG B1.09 have done so far; • Make the analysis more complete, taking into account what the results of previous taskforces (TF) and WGs have done so far; • Focus on maintenance strategies for increasing cable Remaining Life (RL); • Investigate on defining new Health Indices (HI) and Reliability Indices (RI) in accordance with the proposals of TFs/WGs working on maintenance / failure data / on- and off-line measurement; • Investigate on new developments on methodology and analysis for cable RL strategies. 	
<p>The following scope of work is proposed:</p> <ul style="list-style-type: none"> • Applicable for extra high voltage and high voltage cable systems; • Applicable for underground and submarine cable systems; • Covering both alternating and direct current cable systems; • With respect to fluid filled, mass impregnated and extruded insulation types of cable systems; • Excluding super conducting cable systems and gas insulated line systems. 	

Deliverables:

- Technical Brochure and Executive summary in Electra
- Electra report
- Tutorial⁵

Time Schedule: start: January 2019**Final Report:** December 2021**Approval by Technical Council Chairman:****Date:** January 25th, 2019

Notes: ¹ or Joint Working Group (JWG), ² See attached Table 2, ³See attached Table 1,
⁴ Delete as appropriate, ⁵ Presentation of the work done by the WG, ⁶ See attached table 3

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
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 (ref. 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

Table 3: Potential benefit of work

1	Commercial, business or economic benefit for industry or the community can be identified as a direct result of this work
2	Existing or future high interest in the work from a wide range of stakeholders
3	Work is likely to contribute to new or revised industry standards or with other long term interest for the Electric Power Industry
4	State-of-the-art or innovative solutions or new technical direction
5	Guide or survey related to existing techniques. Or an update on past work or previous Technical Brochures
6	Work likely to have a safety or environmental benefit