

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

WG N° B1.36	Name of Convener : Aude Laurens (FRANCE) E-mail address: aude.laurens@rte-france.com
Technical Issues: 7	Strategic Directions: 3 - Focus on the environment and sustainability
The WG applies to distribution networks: Yes	
Title of the Group: Life cycle assessment and environmental assessment of underground HV cable systems	
<p>Scope, deliverables and proposed time schedule of the Group :</p> <p>Background :</p> <p>Different High Voltage Cable types as well as their associated civil works and installation techniques do not impact the environment in the same way. In order to minimize such impact, it is important to develop the necessary tools that would enable the engineers and the decision makers to compare the Global Environmental Impact (GEI) of different underground cable systems over their whole life cycle (including end of life and disposal). A few methods have been devised by electric utilities, particularly in Scandinavian countries and Japan, to assess the environmental impact of Underground High Voltage Systems over their life cycle.</p> <p>Terms of reference :</p> <ul style="list-style-type: none"> - To analyze methodology and existing tools and to ascertain their range of application for High Voltage Underground Cable Systems. - To develop methodologies as appropriate for Life Cycle Assessment of Underground High Voltage Cable Systems and possibly appropriate to MV Cable Systems. - To provide a picture of the interaction of an underground High Voltage cable systems with the environment. - To provide the engineers and the decision makers with information which identifies opportunities for reducing the global Environmental Impact of Underground High Voltage Systems. <p>This working group will not cover environmental or biological effects of EMF associated with Underground HV and MV Cable systems.</p> <p>Scope :</p> <ol style="list-style-type: none"> 1. High Voltage AC and DC underground Land Cable systems. 2. Lapped and extruded dielectric insulation <p>Deliverables :</p> <ul style="list-style-type: none"> - Electra article - Technical guide (containing technical data, discussion, and case studies) - Proposal for tool for assessment - Tutorial for presentation at CIGRE conferences and workshop - Draft of ToR for a future WG or JWG covering other technologies (GIL) or other voltage ranges(MV) <p>Time Schedule : start : March 2012 Final report : 2015</p>	
Comments from Chairmen of SCs concerned : C3 (appointment of an expert from C3), B2(possible overlap with JWG C3/B1/B2.13 to be limited), B3 (include GIL)	
Approval by Technical Committee Chairman : Klaus Fröhlich Date : 10/06/2012	

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