



PROPOSAL FOR CREATION OF A NEW WORKING GROUP

WG* N° B2.64	Name of Convenor: Dr. Bálint Németh (Hungary) E-mail address: nemeth.balint@vet.bme.hu
Technical Issues # 8	Strategic Directions # 2
The WG does apply to Distribution Networks: Yes	
Title of the Group: Inspection and Testing of Equipment and Training for Live-Line Work on Overhead Lines	
Scope, deliverables and proposed time schedule of the Group	
<p>Background:</p> <p>Live-line maintenance of power lines is widely used worldwide at low, medium and high voltage levels. This way of work requires special tools to guarantee the maximal safety of the workers. All the equipment used for different tasks executed by live-line methods must undergo various inspections before use. These inspections could be type tests at the factory, acceptance tests before the first use, on-site tests before every use and periodic tests after a pre-defined period of time.</p> <p>Nowadays there are many different international standards and national regulations regarding the inspection of different live-line working equipment. Unfortunately there is no common framework to define the different kinds of tests and their frequency, so the condition, the way of certification and expiration of inspections can be very different depending on the country, even in some cases within the company where they are used.</p> <p>Another important aspect regarding the different live-line working activities is related to the education of workers. Basic and refresher training might be very different in each country, as well as the examination/certification requirements. Similar theoretical and practical topics of education and the same requirements of knowledge would assist with the possibility of cross-country working. Consistent education can guarantee the same level of knowledge and the safety of the work at any time – and also make the possibility of independent and international audits and certifications. Refreshment courses after a specified period of time are especially important to recognize faults and improve skills of workers to guarantee an up-to-date knowledge base and to ensure the safety of live-line maintenance at all voltage levels.</p> <p>This WG will extend the JWG B2/B3.27 work, and further increase the awareness of live-line working requirements for equipment certification and personnel training.</p> <p>Scope:</p> <p>The aim of the proposed WG is to:</p> <ol style="list-style-type: none">1. Review the existing live-line working equipment and tools inspections, procedures and applications, including tabulating any regulatory or standards referenced.2. Review existing technical and safety standards, regulations and assess their relevance to live-line working.3. Develop and create detailed guidelines for testing and inspection (both electrical and mechanical). Define and evaluate the proposed test procedures.4. Analyze benefits of the different live-line working techniques and technologies.5. Summarize experiences of education for live-line maintenance and trainings at different voltage levels (training rules, materials, training center requirements, certification etc.).6. Based on established relationships and analysis of the necessary components, develop methods and indicators which can identify requirements for live-line working certification and different level of trainings (from linemen to managers).	



7. Provide a methodology and concept for building a live-line maintenance training center.

Specific Actions are:

1. Undertake an industry wide survey.
2. Prepare a Technical Brochure on the state-of-the-art of live-line working testing procedures and regulations for training. The brochure will include detailed guidelines for testing, inspection, and education and training methodology for live-line working, as well as a detailed glossary and reference list of relevant standards, as well as documenting experiences with live-line working and training.
3. Prepare a tutorial.

Deliverables : Technical Brochure, Electra report, tutorial.

Time Schedule: Start: Fall 2015

Final Report: December 2018

Comments from Chairmen of SCs concerned:

Approval by Technical Committee:

Date: 27/09/2015

A handwritten signature in black ink, appearing to read "M. Wald", is written over the approval line.



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