

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP¹


WG N° B3.51	Name of Convenor: Dr. Mark Kuschel (Germany) E-mail address: mark.kuschel@siemens.com	
Strategic Directions #²: 1		Technical Issues #³: 4, 5, 10
The WG applies to distribution networks⁴: Yes		
Potential Benefit of WG work #⁶: 2, 3, 6		
Title of the Group: Service continuity guide for the maintenance, repair and extension of HV GIS		
Scope, deliverables and proposed time schedule of the Group: Background: <p>The operators of GIS systems require more planning security for service deployments and need to deal with current technology-related differences in availability during maintenance, repair and extension work with regards to different available manufacturer solutions.</p> <p>There is currently no binding requirement for GIS manufacturers in the product standard IEC 62271-203 (Annex F as an "informative" appendix), furthermore there is no definition of the availability classes for maintenance, repair and extension scenarios (MRE: Maintenance, Repair, Extension). This CIGRE guide will support a future revision of the IEC standard 62271-203.</p> Scope: <ol style="list-style-type: none"> 1) Description and definition of the availability level definition (MRE level) 2) Investigation of concepts for service continuity in the context of maintenance, repair and extension, to examine and document the advantages and disadvantages of different approaches such as "adaptation of the system design" or "application of special service modules". The analysis will consider the different connection arrangements for GIS e.g. double busbar, one and half CB, double CB etc. 3) All aspects relevant to the work including EHS and re-commissioning will be investigated and instructions for users elaborated, counter measure will be defined <ul style="list-style-type: none"> - Working on gas partitions exposed to operating pressure - Working on operating and energized GIS systems including GIS secondary systems - Disassembly / assembly of individual GIS modules - Temporary earthing and short-circuiting devices and other tools - Aspects of working instruction 4) Definition of the maintenance, emergency and extension scenarios including benefit / efforts considerations Deliverables: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Technical Brochure and Executive summary in Electra <input checked="" type="checkbox"/> Electra report <input checked="" type="checkbox"/> Tutorial⁵ Time Schedule: start: April 2018 Final Report: 2020		
Approval by Technical Committee Chairman: Date: 09/04/2018 		

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