A.4.4.

Development and prequalification of large conductor VHV cable systems

L. Moreau, F. Gahungu, D. Dubois, D. Sy, P. Mirebeau
Nexans, 536 Quai de la Loire, BP 849, 62225 Calais – FRANCE

Due to the improved management of available power generation plants, this last decade has seen the need to increase power transmission. On the other hand, environmental concerns make more and more difficult the erection of new overhead lines. They are locally replaced by buried links. This has led to the design of large conductor ($\geqslant$ 2000 mm²) VHV solid insulated cables systems.

The authors describe the development works

- on conductors (optimised use of copper),
- on cable design
- on connectors for joints and termination (mechanical and electric tests)
- on accessories

that have led to the definition of the large conductor insulated cable systems properties.

On the other hand, the cable makers knowledge base has been use to optimise the system handling and installation while keeping its environmental impact to a minimum level.

Results concerning 2000 mm² aluminium, 2000 and 2500 mm² copper cable system are presented. Extension to 3000 mm² copper and 2500 mm² aluminium is discussed.

A 2000 mm² copper system has been subjected to a prequalification tests according to IEC 62067 and French standard C 33-253.

2000 mm² aluminium and 2500 mm² copper systems have been submitted to short term tests according to C 33 253 and type tested according to IEC 62067.