

Development of 500kV XLPE cable accessories

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XLPE cable accessories for 500kV underground power transmission lines are developed, and have undergone type test and prequalification test in accordance with IEC62067, at Wuhan High Voltage Research Institute (WHVRI, China) known as the reputable impedance third party certification authority. The certificate has been issued from WHVRI upon successful completion of the tests.

The developed cable accessories consist of straight through joint, outdoor sealing end and GIS sealing end. A Rubber Block insulated type Joint (RBJ), which the main insulation component is made of cold shrinkable rubber, is developed as the straight through joint for 500kV XLPE cable. The factory expansion technology is developed and applied, because it allows reduction of construction times due to its skill-less assembly processes. Moreover, the outdoor sealing end was developed which consist of a rubber stress relief cone with the application of the factory expansion technology, porcelain bushing or composite bushing with heavy pollution level, and liquid insulating compound. The GIS sealing end was developed with a traditional prefabricated structure, an epoxy bushing, a rubber stress relief cone and a springs device for rubber stress relief cone.

This paper describes the specifications and the test results of the developed cable accessories.

KEYWORDS

500kV, XLPE cable accessory, pre-moulded one piece joint, factory expansion technology