

عنوان مقاله:

DC fault protection methods in high voltage transmission lines

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خلاصه مقاله:

HVDC power transmission is an economical way to move large amounts of power in long distances. HVDC uses current source converters (CSCs) based on thyristors. With the development of semiconductor devices, a voltage source converter (VSC) based HVDC system was introduced and widely used for integration of renewable energy sources at large scale and connecting networks. However, the VSC based HVDC system is vulnerable to DC faults and the protection of it becomes more important with the rapid growth of installations. In this paper provides detailed information about DC faults in VSC-HVDC systems. DC fault current has a large peak and constant values over several milliseconds, so high-speed fault detection, location and isolation methods are required in HVDC networks. Therefore, the development of a protective scheme for a VSC-based HVDC system is a multi-terminal voltage source converter challenge. Various methods have been developed, and this paper provides a review of different techniques for the detection, location and isolation of DC faults in CSC and VSC based HVDC systems in network configurations

کلمات کلیدی:

HVDC, VSC, DC fault, Fault detection and location

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