

电力系统

过电流导致的HVDC换流阀失效机制研究

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摘要:

为保障特高压直流输电装置的可靠性, 有必要研究HVDC换流阀的失效机制。分析了HVDC换流阀的结构、桥臂及换流器外部短路引起过电流的情况, 讨论了HVDC换流阀部件各种失效情况(如晶闸管开通失效、晶闸管关断失效等)的发展过程, 确定了过电流引起故障导致换流阀失效的机制。

关键词:

Study on Failure Mechanism of HVDC Valves Caused by Overcurrent in UHVDC

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Abstract:

To ensure reliability of UHVDC power transmission devices research on equivalent mechanism, it is necessary to research the failure mechanism of HVDC converter valves caused by overcurrent. The structure of HVDC converter valve and the overcurrent caused by short circuit in bridge arm and converter's external components are analyzed. The expansion process of various failure conditions of different components of HVDC converter valve is analyzed, such as failures of thyristor firing and turn-off and so on, then the failure mechanism due to different faults of converter valve caused by overcurrent at different stages is determined.

Keywords:

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