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国家重点基础研究项目

电压源换流器高压直流输电换流阀的试验方法

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摘要：

对柔性直流换流阀进行型式试验可保证其安全可靠运行，型式试验通常采用等效试验的方法。介绍了串联阀和模块化多电平换流器阀2种柔性直流换流阀的结构，指出阀试验方法研究应包括试验对象分析、应力分析、应力数学模型的建立、试验要求及试验内容分析、等效试验方法研究等，并针对上述2种柔性直流换流阀试验方法的各项内容进行了研究，以期为可关断器件阀等效试验的理论研究奠定基础。

关键词：

Test Methods of Converter Valves in VSC-HVDC Power Transmission

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Abstract:

To ensure its secure and reliable operation, the type test of flexible voltage source converter based high voltage direct current (VSC-HVDC) converter valves is necessary, and the substitute equivalence methods are usually applied to the type test of converter valves. In this paper, the structures of two kinds of flexible VSC-HVDC converter valves, i.e., series-connected valves and modular multi-level converter (MMC) valves, are presented, and it is pointed out that the research on test methods for converter valves should consist of analysis of tested valves, valve stress analysis, establishment of stress mathematical model, test requirements, analysis of testing contents, research on equivalence test methods and so on. The testing methods for above-mentioned two kinds of VSC-HVDC converter valves are researched in the hope of laying the foundation for the theoretical research on equivalent test of self-turn-off devices.

Keywords:

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