

中俄背靠背换流站直流系统与静止无功补偿器的协调运行

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摘要

为解决中俄联网背靠背换流站中国侧交流系统较弱的问题, 在换流站中国侧安装了配合直流系统运行及提高交流系统暂态稳定性的静止无功补偿器(static var compensator, SVC)。从抑制换流母线暂态电压波动、提高交流滤波器/电容器分组容量及提高换流站中国侧交直流系统稳定性的角度考虑, 通过仿真确定了换流站装设SVC的容量。同时结合SVC的特性及直流系统的性能要求, 分析了直流系统和SVC在不同运行方式下的运行特性, 提出了SVC的控制目标及SVC配合直流系统运行的协调控制原则。

关键词 [中俄联网](#); [背靠背换流站](#); [静止无功补偿器](#); [无功配置](#); [协调运行](#); [电压波动](#)

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Coordinated Operation of HVDC/SVC in China-Russia Back-to-Back Converter Station

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Abstract

The AC system at the China side of China-Russia back-to-back converter station located at China-Russia border is weak, to solve this problem a static var compensator (SVC) will be installed to match up with the operation of HVDC system and enhance transient stability of AC system. By means of simulation the capacity of the SVC is decided while following factors, such as restraining transient voltage fluctuation of converter bus, increasing the capacity of sectionalized banks of AC filter/capacitor and improving the stability of both AC and HVDC systems at China side, are taken into account. According to characteristics of SVC and performance verification of HVDC system, the operation characteristics of HVDC and SVC under different operating conditions are analyzed; on this basis the control objectives of SVC and the coordinated control principle by which SVC matches up with the operation of HVDC are proposed.

Key words [interconnection of power grids of China and Russia](#); [back-to-back converter station](#); [SVC](#); [reactive compensation](#); [coordinated operation](#); [voltage fluctuation](#)

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