

## HVDC送端孤岛运行方式的附加控制策略

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收稿日期 修回日期 网络版发布日期 接受日期

### 摘要

直流工程用于远离主干网架的水电站或火电厂的电力送出时, 送端交流系统形成相对独立的“孤岛”。在这种运行方式下, 在交流系统有扰动时常规定功率或定电流控制方式有可能引起系统功率的持续不平衡, 进而导致交、直流系统稳定运行的破坏。提出了一种附加控制策略, 该附加控制策略根据系统频率的变化改变直流系统的功率或电流指令, 从而实现系统功率的平衡。采用实时数字仿真器对该附加控制策略进行了验证, 仿真结果表明, 该附加控制策略可以明显增强系统的稳定性。

关键词 [高压直流输电; 孤岛系统; 附加控制; 实时数字仿真器](#)

分类号 [TM712; TM721.1](#)

## Additional Control Strategy for Islanded AC System at Sending Terminal of HVDC

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### Abstract

When HVDC project is used for the power transmission from large hydropower station or thermal power plant located far away from the main power grids, the AC power system at sending end falls into an islanded system. In the circumstance, the conventional control mode of constant power or current may cause persistent power unbalance in the grid while the AC system is disturbed, and then leads to the instability of AC and DC systems. The authors propose an additional control strategy, which changes the power or current order according to the variation of system frequency, thus the power balance of the grid can be implemented. To verify the proposed control strategy, real-time digital simulator is adopted. Simulation results show that the proposed additional control strategy can evidently enhance the stability of power grid.

Key words [HVDC; islanded system; additional control; RTDS](#)

DOI:

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