

## 三峡—上海直流输电工程系统调试总结

杨万开, 印永华, 曾南超, 王明新

中国电力科学研究院, 北京市 海淀区 100085

收稿日期 修回日期 网络版发布日期 接受日期

### 摘要

总结了三峡—上海(三沪)直流输电工程系统调试全过程。介绍了系统调试情况, 在试验过程中, 一次和二次设备运行良好, 二次控制保护设备的功能得到了验证; 直流系统的起动/停运、常压运行、降压运行、额定负荷和过负荷运行试验中, 直流控制保护功能及冷却系统等设备的控制保护功能正常; 分析了系统调试过程中单项测试结果, 根据设计规范和相关标准给出了试验结论; 最后总结了系统调试过程中发现和解决的主要技术问题, 系统调试技术创新点以及系统调试经验。为以后直流输电工程的建设提供经验借鉴。

关键词 [三沪直流输电工程; 系统调试; 技术创新点; 调试经验; 电力系统](#)

分类号 [TM733](#)

## Summary of Commissioning Test for HVDC Power Transmission Project from Three Gorges Hydropower Plant to Shanghai

YANG Wan-kai, YIN Yong-hua, ZENG Nan-chao, WANG Ming-xin

China Electric Power Research Institute, Haidian District, Beijing 100085, China

### Abstract

The overall process of commissioning test for HVDC transmission project from Three Gorges Power Plant to Shanghai (abbr. 3GS) is summarized and the commissioning circumstances of the HVDC system are presented. During the commissioning test, the primary and secondary equipments operate well and the functions of control and protection devices are validated. During the start and stop of HVDC system, the operation under normal voltage and reduced voltage and the operation of 3GS HVDC project under rated load and overload, the functions of control and protection devices and that of cooling system are normal. The single item testing results during the system commissioning are analyzed, thus based on design specification and relevant standards the test conclusions are given. Finally, the principal technological problems that are found and solved in the commissioning of 3GS HVDC project, the innovation for system commissioning and the experiences from the commissioning test, which are available for reference to the commissioning of HVDC transmission projects in future, are summarized.

Key words [HVDC transmission project from Three Gorges to Shanghai; system commissioning test; technical innovations; test experiences; power system](#)

DOI:

### 通讯作者

作者个人主页 杨万开; 印永华; 曾南超; 王明新

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(183KB\)](#)
- ▶ [\[HTML全文\]\(OKB\)](#)
- ▶ [参考文献\[PDF\]](#)
- ▶ [参考文献](#)

#### 服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中 包含“三沪直流输电工程; 系统调试; 技术创新点; 调试经验; 电力系统”的 相关文章](#)
- ▶ 本文作者相关文章

- [杨万开](#)
- [印永华](#)
- [曾南超](#)
- [王明新](#)