

电力系统

配电网模式化故障处理方法研究

刘健<sup>1</sup>, 张志华<sup>2</sup>, 张小庆<sup>1</sup>, 赵树仁<sup>1</sup>, 宋晓林<sup>1</sup>

1. 陕西电力科学研究所, 陕西省 西安市 710054; 2. 西安科技大学 电气与控制工程学院, 陕西省 西安市 710054

摘要:

为充分发挥配电网模式化接线的优点并实现配电网故障处理与模式化接线的配合, 提出对配电网采用模式化的故障处理方法, 该方法利用变电站出线开关与分支线开关2级保护配合实现分支线或用户故障的就地切除。在此基础上通过对配电网各种典型接线模式特点的分析, 分别建议了各种典型接线配电网在主干线或者电源点发生故障后的模式化故障处理步骤, 包括: 辐射状网、手拉手环状网、多分段多联络网、多供一备网、互为备用网、4?6接线网、双射网、对射网、双环网。指出只有结合模式化故障处理才能充分发挥模式化接线网架结构的优势。结合一些实例对所建议的模式化故障处理过程进行了详细说明。

关键词: 配电网 故障处理 供电恢复 模式化接线

Modeled Fault Isolation and Restoration for Distribution Systems

LIU Jian<sup>1</sup>, ZHANG Zhihua<sup>2</sup>, ZHANG Xiaoqing<sup>1</sup>, ZHAO Shuren<sup>1</sup>, SONG Xiaolin<sup>1</sup>

1. Shaanxi Electric Power Research Institute, Xi'an 710054, Shaanxi Province, China; 2. School of Electrical and Control Engineering, Xi'an University of Sci. & Tech., Xi'an 710054, Shaanxi Province, China

Abstract:

To give full play to advantages of modeled connection for distribution network and implement the coordination of fault treatment of distribution network with modeled connection, it is proposed to adopt modeled fault treatment method in distribution networks for fault isolation and restoration, namely using the protection coordination of circuit breakers for out-going line of substations with the circuit breakers for branch feeders to implement the in-situ tripping out of faulty feeder. On this basis, through the analysis on features of typical connection modes for distribution networks, the modeled fault treatment steps for distribution networks with various typical connections, such as radial distribution networks, looped distribution networks, multi-sectioned and multi-linked distribution networks and so on, are recommended when fault occurs in main power supply line or in power source point. It is pointed out that unless the modeled fault treatment is combined with, it is impossible to give full play to advantages of network structure with modeled connection. Based on case studies, the proposed modeled fault treatment procedures are described in detail.

Keywords: distribution network fault isolation service restoration modeled connections

收稿日期 2011-01-06 修回日期 2011-04-25 网络版发布日期 2011-11-11

DOI:

基金项目:

国家电网公司重大科技项目(基于自愈控制配电网故障处理技术研究)。

通讯作者: 刘健

作者简介:

作者Email: edliu@bylink.com.cn

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