电力系统

基于广度优先搜索的配电网故障恢复算法

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摘要：

采用有功负荷作为制定初始恢复方案的依据，通过判断联络开关总备用容量与失电区总负荷的关系，确定是否需要提前转移二级支持馈线的负荷，以便扩大恢复供电的范围。采用广度优先搜索方法可使非故障失电区均匀恢复供电，且供电路径不会过长。引入了备用容量修正系数的概念，可根据电压(电流)过载情况，自动修正恢复方案。算例分析验证了该算法的可行性。

关键词：

A Breadth-First Search Based Service Restoration Algorithm for Distribution Network

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Abstract:

Taking active load as the fundamental to draw up initial service restoration scheme, by means of judging the relation between total reserve capacity of bus-tie circuit breakers and total load in power interruption region whether the load connected to the second supporting feeders should be shifted in advance is determined to enlarge the range of service restoration. Using breadth-first search algorithm that adopts the restoration of active load as the fundament for the design of initial restoration scheme, the power supply for the non-faulty interrupted region can be restored uniformly while the power supply path will not be too long. Leading in the concept of reserve capacity correction factor, the service restoration scheme can be automatically modified according to the overload condition of voltage or current. Analysis of case study verifies the feasibility of the proposed algorithm.

Keywords:

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