

## 电力系统

### 可靠性与经济性相协调的配电网规划方法

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#### 摘要:

将可靠性和经济性统一考虑并应用到城市配电网规划中, 提出了可靠性与经济性协调的配电网规划方法。首先建立年最小收入的数学模型对电网改造方案的可靠性和经济性进行计算, 确定年最小收入最低的方案为最佳的电网供电方案; 然后以某城市配电网为例计算各种接线模式的年最小收入和确保民生用电情况下的年最小收入, 对不同接线模式的年最小收入进行比较后提出符合该地区的最佳可靠性水平的供电方案。该方法为城市配电网规划提供了更宽阔的思路。

#### 关键词:

### A Method of Distribution Network Planning With Coordination of Reliability and Economics

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#### Abstract:

A method for distribution network planning is presented, with the reliability and economics considered in a unified view, which is applied to the urban distribution network planning. Firstly, the mathematical model of minimum annual income is established to calculate the reliability and economics of the transformation plan of network, and the ideal plane is determined by the lowest values of the minimum annual income. Then, taking the distribution network of a certain city as example, the minimum annual income under different circuit connection mode and that under the condition of guaranteed residential electricity consumption are calculated, and the power supply scheme with the reasonable reliability is obtained by comparion among different circuit connection modes. The method proposed in this paper can be treated as a referencing way for urban distribution network planning.

#### Keywords:

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