

A FUZZY BASED METHOD FOR RADIAL DISTRIBUTION SYSTEM PLANNING

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Abstract

A distribution system is one from which power is distributed to various users through transmission lines and feeders. Feeders are conductors of large current carrying capacity, carrying current in bulk to the feeding point. Proper location of the substation and selection of conductors for design and upgrade of distribution systems is an important part of planning process. The problem of distribution system planning consists of determining the optimum numbers and locations of the distribution substations and the optimum way of connecting the load nodes to these substations through the interconnection of feeders. Solving the exact problem by using classical optimization technique is not possible because of the combinatorial nature of the problem. This paper presents a new method for radial distribution system planning using fuzzy logic concept. A new solution method has been applied by dividing the problem into two stages, namely, substation optimization and feeder optimization.

Keywords: Fuzzy Logic, Optimization, Planning