Abstract

This paper presents an algorithm for unbalanced distribution network reconfiguration. In unbalanced distribution network, reconfiguration refers phase swapping at the feeder level. The main objective of reconfiguration is to balance the loads among the phases subject to constraints such as load flow equations, capacity and voltage constraints, while subject to a
radial network structure in which all loads must be energized. Therefore, the distribution system reconfiguration problem has been viewed as multi-objective problem. In this paper, the hybrid heuristic algorithm has been used for reconfiguration, which is the combination of fuzzy and greedy algorithms. The purpose of the introduction of greedy is to refrain the searching for the period of phase balancing. The incorporation of fuzzy helps to take up more objectives amid phase balancing in the searching. The effectiveness of the proposed method is demonstrated through modified IEEE 33 bus radial distribution system.

Reference


Index Terms

Computer Science
Power Systems
Key words

Power distribution network

Greedy

Fuzzy

Phase balancing