Abstract

This paper proposes a hybrid technology to solve the distribution system reconfiguration problem. The technology with the mixture of Plant Growth Simulation Algorithm (PGSA), Greedy and heuristic based fuzzy operation has been proposed. The optimization approach based on PGSA provides detailed description on switch states for calculation. The inclusion of Greedy with PGSA improves the efficiency of optimization by identifying the best loop sequence. Furthermore, the heuristic fuzzy has been introduced with PGSA and Greedy for handling constraints amid optimization. With the use of proposed algorithm, the system loss has been reduced convincingly without compromising the power flow constraints. The effectiveness of the proposed approach is demonstrated by employing the feeder switching operation scheme to IEEE 33 bus distribution system and 83 bus Distribution system of Taiwan Power Company.

References

- Baran ME and Wu FF, "Network reconfiguration in distribution systems for

**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Distribution Network  
Heuristic Fuzzy  
Greedy  
Pgsa  
Reconfiguration  
Restoration