

POWER FLOW ANALYSIS OF RADIAL DISTRIBUTION SYSTEMS

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Abstract

The operation and planning studies of a distribution system require a steady state condition of the system for various load demands. At the operating stage, the power flow is used to ensure that voltages and currents are within the predefined ranges for expected loads. This paper presents comparison of two methods for power flow solution of radial distribution system (RDS). Conventional Backward Forward Sweep method developed by Kersting is compared with the Newton based method. The algorithm procedures are introduced in detail. Both methods are implemented to 15 bus and 33 bus radial distribution systems.

Keywords: Radial distribution system, Power flow analysis, Backward Forward Sweep, Data structure