

Loss Allocation in Radial Distribution Networks for Loads of Composite Types

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Abstract : The paper presents allocation of active power losses and energy losses to consumers connected to radial distribution networks in a deregulated environment for loads of composite types. A detailed comparison among four algorithms, namely quadratic loss allocation, proportional loss allocation, pro rata loss allocation and exact loss allocation methods are presented. Quadratic and proportional loss allocations are based on identifying the active and reactive components of current in each branch and the losses are allocated to each consumer, pro rata loss allocation method is based on the load demand of each consumer and exact loss allocation method is based on the actual contribution of active power loss by each consumer. The effectiveness of the proposed comparison among four algorithms for composite load is demonstrated through an example.

Keywords : composite type, deregulation, loss allocation, radial distribution networks

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