

Reliability Performance of Low Voltage (LV) Network Configuration

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Abstract:

Networks are typically modelled in single phase diagram especially for medium voltage (MV) and high voltage (HV) networks. For low voltage (LV) networks, it is not suitable to model it in a single phase diagram. The reliability performance of LV network may be overestimated or underestimated if the network is modelled in a single phase diagram. Analytical technique is used to quantify the performance of LV network in single and three phase network diagrams. Three phase LV network diagram illustrates the true reliability performance compared to single phase LV network diagram in term of the best, median and worst location of customers. Accurate network configuration may benefit in minimizing energy core losses and reducing paying penalty to the customer by distribution network operators (DNOs).

Keywords : Reliability; Distribution Network; Single Phase Diagram; Three Phase Diagram

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