

On the placement of line arrester on underbuilt overhead distribution line

ABSTRACT

Lightning performance of distribution line is an important issue in the countries with high lightning density such as Malaysia. Many studies have been carried out to investigate the lightning performance and thus protect the overhead line from this overvoltage. This paper presents the line performance sensitivity studies of a special 33kV line underbuilt on transmission structure by mean of line arrester placement. The simulation is carried out using PSCAD/EMTDC software to determine the backflashover rate (BFR), based on the placement of line arrester. Results are then compared with the actual data provided by the TNB (Malaysian utility company) with some recommendations proposed for the improvement of the line.

Keyword: Backflashover rate; Distribution line; Lightning; Line arrester