

# **The Use Of EMTP For Analyzing A Cable Terminated Transformer Under a Lightning Surge**

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## **Summary**

Protection of transformers and other system equipment against transient overvoltages resulting from lightning or other causes is an important consideration in power system design. For insulation co-ordination in transmission lines and substation equipment, it is necessary to accurately predict the lightning surge overvoltages that occur in power systems. The magnitude and waveshape of this overvoltage arriving at the terminating transformer is greatly affected by the use of a length of a cable connecting the transmission line to the terminating transformer. This paper is investigating the effect of this length of cable under lightning surge as it reaches the step-down transformer. The computer simulation-through EMTP-of a 345 kV line is presented and the results are analyzed aiming to obtain the reduced overvoltage at the terminating equipment and to find the optimum length and size of the cable used as a terminator

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