

Title : Assessment of Lightning Protection Performance in Transmission System
Researcher : Assistant Professor Dr.Nattachote Rugthaicharoencheep
Department of Electrical Engineering, Faculty of Engineering, RMUTP
Mr.Surasit Prakobkit, Department of Electrical Engineering
Faculty of Engineering, RMUTP
Year : 2015

Abstract

This Research purposes assessment of lightning performance on transmission system 69 kV in Metropolitan Electricity Authority (MEA). The case studies illustrated the lightning strike to direct top pole in order to guideline considering the critical flashover voltage value of insulator is able to withstand it and improvement lightning protection in the future. This solution analyzes using the Alternative Transient Program-Electromagnetic Transient Program (ATP-EMTP). The result found that voltage across insulator before and after improvement lightning protection by external ground wire. Factor effect to voltage across the insulators is the tower footing resistance, wave of lightning current and interval between towers. It depends on relation with front time of wave.

The analysis economics is very important. This Research is studying interruption cost of outage since back flashover so analysis the break even point of the installation external ground. The result found upon improvement lightning protection by installed external ground. The pay back period of that is 9 years installed ago. This result can conclusion is external ground able reduction interruption costs of outage.