ABSTRACT

ANALYSIS COMPARATIVE SUBSTATION SHIELDING USING ELECTROGEOMETRIC MODEL

By

Rahmad Dwi Prima

Protection system substation from a lightning strike is very important for the electrical system, where substation there are electrical device which function to transform electricity high voltage by high voltage other. To keep the equipment in substation protected from damage cause by lightning strikes, then used the protection system. Protection system used is shielding mast and shielding wire / grounding of steel wire (GSW).

The minimum height values of mast and wire produced using the equation Young, Brown Whitehead - CIGREE, IEEE 1992 and IEEE 1995 model electrogeometric. On the model electrogeometric done variation of the height object protected to show the value of the minimum height required. So this research compare the minimum height the resulting between shielding mast and shielding wire / grounding of steel wire (GSW) based on a model electrogeometric of the object that can be protected.

From the results of analysis show that shielding wire / grounding of steel wire (GSW) is able to give better protection zone and larger with a minimum height obtained is lower. In addition, model electrogeometric with the equation Young in general able to protect all the equipment varied from 1 m to 13 m with a minimum height values obtained the lowest compared to other equations.

Keywords : Substation Shielding, Electrogeometric Model, Mast, Ground Steel Wire (GSW)