

Udomsak Malaiwong 2010: A Study of Equivalent Salt Deposit Density Causing Insulator Flashover in Distribution System of Bare Conductor Type. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Mr. Winai Plueksawan, Dr. Ing. 93 pages.

Nowadays, PEA is facing a problem in its distribution system located on the sea sides and industrial areas. The problem is flashover on the salt-deposited insulator surface. The contamination factors, for example, are salt, dust, ash or other things. These factors lead to the declination of insulation's property. In a dry condition, a contamination works normally as an insulator. Therefore, the flashover will not occur in this condition. However, in a wet condition, the combination of water and contaminator leads to flashover. This means that, at high salt-deposited area, flashover voltage of wet contaminated insulator decreases compared to that of a clean insulator. The experiment was divided into three sections. The results of the first. Found that units of insulator installation of lights will be more valuable fouling units of insulator installed without fire Greater than about 3 times in distribution system 22 kV (kV). The results of the second. When the water that is mixed with salt fouling and put in spray rails 4 cm wide and 84 cm length to measure the ESDD on the flash. The result showed that out is the average ESDD was 4.28 mg/cm^2 . It was found that the values that the flash is calculated from the graph. $y = 0.006x^{0.476}$ is. Maintenance should be within 36 months after installation units of insulator. Without maintenance, units of insulator to the flash. The results of the third. Found that the area affect the Flash. On trial in different size rails. Values that have come out differently. Comparison between the header area of secondary units of insulator in the area of the rail line at the end of the power. Found that the actual use is equal to 0.65 mg/cm^2 ESDD and maintenance should be within 12-18 months after installation.

Student's signature

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