

## INVESTIGATION CHANGES IN THE VALUES OF LEAKAGE CURRENTS OF PLATE INSULATORS FROM THE TIME OF APPLIED VOLTAGE

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The studies were performed on insulators of types PSD-70E and PS-120A. Insulator of type PSD-70E were artificially contaminated with a solution of kaolin and then allowed to dry for 24 hours. To conduct a comparative analysis of the nature of changes in leakage currents, the insulator type PS-120A was naturally contaminated, this insulator was removed from the existing power line. Prior to the experiments, the surfaces of the insulators were subjected to uniform wetting with a spray in the form of fine drops to simulate the fall of fog or dew. The time interval for recording leakage currents was 20 minutes, and five such experiments were performed for each insulator. Graphs of studies of changes in leakage current are shown in Figure 1 a, b.

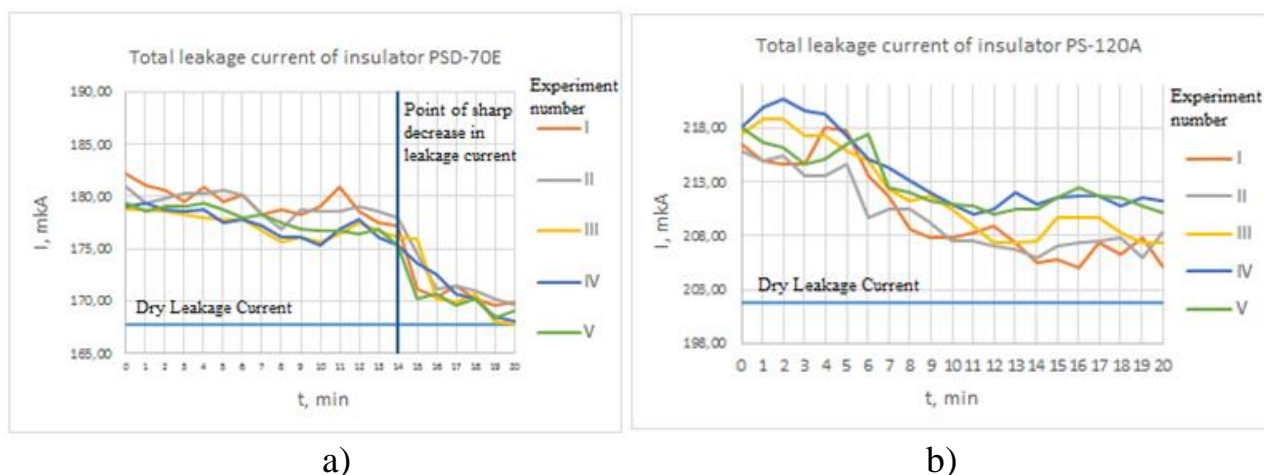


Figure 1 – Graphs of the dependence of the change in the leakage current along the contaminated and wetted surface on the time of the applied voltage:  
a) insulator PSD-70E, b) insulator PS-120A

The graphs show the characteristics of the change in the total leakage current. The leakage current along the artificially contaminated surface of the insulator, Figure 1 a, has a smaller scatter of characteristics than with natural pollution, Figure 1 b, this can be explained by the fact that the pollution has a different chemical composition and the physical processes that take place in the pollution layer are of a different nature than in the case of artificial pollution. From the graph in Figure 1a, you can see that there are points of a sharp decrease in the current and they appear in almost the same time interval. Investigation of contaminated insulators shows that they have different characteristics of the change in leakage currents. Depending on the type of insulator, the duration of the recovery of the leakage current to its leakage current in a dry state is different, it depends on the design of a particular insulator.