MINIATURIZATION OF MEDIUM VOLTAGE COMPACT SWITCHGEAR

ABSTRACT  The miniaturisation of compact switchgears leads to savings in materials and enables the appliances’ price to be reduced. It is beneficial for both manufacturers and customers. Nevertheless, the saving in the materials used should not impinge on the product’s quality. Some aspects of the miniaturization of 24 kV compact switchgear, produced by the Polish company ZPUE S.A., are presented in this paper. The R&D Department of the factory has proposed to remove some redundant elements and walls of the external switchgear casing. The possibility of a further reduction in the dimensions of this new switchgear casing is considered in the present paper. To this end the electric field distribution inside the switchgear is analysed. This analysis has been done with the Maxwell 3D (Ansys) software package, which employs the finite element method (FEM).

Keywords: compact switchgear, electric field, electric withstand, finite element method, miniaturization
DOI: 10.5604/01.3001.0010.0035