Title of Article: A probabilistic modeling of distribution equipment Deterioration; An application to transformer insulation

Author(s): COA. Awosope et al.


Abstract: In this paper, a probabilistic maintenance model relating probability of failure to maintenance activity had been developed for maintainable distribution components. This model incorporates various levels of insulation deterioration and minor maintenance state. It was applied to a distribution transformers ranging from 300 KVA to 15 MVA in Abule-Egba Business Unit network of Power Holding Company of Nigeria. The result obtained from the application study and model simulation verified the mathematical analysis of the developed model. Although this application illustrates the development of a probabilistic deterioration model for a distribution transformer, these models can be developed to predict the performance of other distribution components in the Electric power system network.