

Abstract :

In this paper, a simple reliability model of power transformers is developed with the help of field data that place in evidence, dominating failure modes and mechanisms. Field data failures distribution indicates a dominance of failure modes pertaining to winding insulation, tank oil, load tap changers (LTCs) and bushings. From a reliability point of view, the transformer system consists of four main parts such as winding inter-turn insulation, tank oil, LTCs and bushings. On this basis, a reliability block diagram of the transformer system is built from a series configuration comprising the above mentioned parts. The reliability functions developed for all parts will yield together to the transformer system reliability.