

An Investigation on Hot-Spot Temperature Calculation Methods of Power Transformers

Authors : Ahmet Y. Arabul, Ibrahim Senol, Fatma Keskin Arabul, Mustafa G. Aydeniz, Yasemin Oner, Gokhan Kalkan

Abstract : In the standards of IEC 60076-2 and IEC 60076-7, three different hot-spot temperature estimation methods are suggested. In this study, the algorithms which used in hot-spot temperature calculations are analyzed by comparing the algorithms with the results of an experimental set-up made by a Transformer Monitoring System (TMS) in use. In tested system, TMS uses only top oil temperature and load ratio for hot-spot temperature calculation. And also, it uses some constants from standards which are on agreed statements tables. During the tests, it came out that hot-spot temperature calculation method is just making a simple calculation and not uses significant all other variables that could affect the hot-spot temperature.

Keywords : Hot-spot temperature, monitoring system, power transformer, smart grid

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