

Measurement of the influence of low-frequency currents on three-phase power transformers

Power transformers in the energy transmission system are exposed to low-frequency currents (LFC), which can be caused by the use of power electronics or through external environmental influences like geomagnetically induced currents (GIC). This causes saturation effects in the transformer which lead to negative impacts, such as increased current and reactive power consumption.

In order to investigate the behaviour of transformers under DC and superimposed LFC, measurements are carried out on two distribution transformers in this work. The focus is on the asymmetrical distribution of the low-frequency currents in the transformer's phases.

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