Analisis Pengaruh Kenaikan Temperatur Terhadap Tegangan Tembus Dan Nilai Harapan Hidup Isolasi Padat Dan Cair Transformator = Analysis Of The Temperature Rise To Breakdown Voltage And Life Expectancy Of Solid And Liquid Insulation Of Transformer

Ahmad Yanuar Hidayat, author

Abstrak

Skripsi ini membahas tentang pengaruh suhu terhadap degradasi isolasi dan perkiraan nilai harapan hidupisolasi padat dan cair transformator. Hasil pengujian menunjukkan bahwa temperatur berbanding terbalik dengan tegangan tembus dan temperatur akan memperkecil nilai harapan hidup isolasi.Tegangan tembus isolasi paling rendah secara berurutan dari variasi jarak 0 cm hingga 1,5 cm terdapat pada temperatur 1400C yakni sebesar 13,87kV, 21,07kV, 32,52kV, dan 39,78kV. Sementara paling tinggi saat temperatur minyak 950C sebesar 15,47 kV, 23,38 kV, 35,42 kV, dan 41,12 kV. Nilai harapan hidup transformator pada suhu 950C, 1080C, 1230C, dan 1400C masing-masing adalah 99,9973%, 99,9892%, 99,9518%, dan 99,7707%.

.....

The following thesis is discussing the effect of temperature to insulation degradation and life expectancy of transformer’s liquid and solid insulation. The test result shows that the temperature will be inversely equivalent to breakdown voltage and will reduce the life expectancy of transformer’s insulation. The lowest breakdown voltage occurs at temperature of 1400C which values from 0 cm to 1,5 cm respectively are 13,87kV, 21,07kV, 32,52kV, dan 39,78kV. Whilethe highest occurs at 950C which values from 0 cm to 1,5 cm respectively are 15,47kV, 23,38kV, 35,42kV, and 41,12kV. Life expectancy values of transformer’s insulation at temperature of 950C, 1080C, 1230C, and 1400C respectively are99,9973%, 99,9892%, 99,9518%, dan 99,7707%.