

Abstrak

Umumnya transformator dibagi kedalam dua jenis yaitu transformator daya dan transformator distribusi, dalam penggunaannya biasanya efisiensi suatu transformator dipengaruhi oleh beberapa faktor seperti perbandingan kuat arus sekunder dan primer atau jumlah lilitan sekunder terhadap lilitan primer. Maka dari itu dalam Tugas Akhir ini dilakukan perbandingan efisiensi antara dua transformator tiga fase yang ada pada suatu gardu induk. Serta bagaimana pengaruh arus dan tegangan terhadap rugi-rugi pada transformator tiga fase. Dari hasil penelitian diperoleh nilai rata-rata efisiensi transformator 1 saat beban puncak siang 99,337 %, beban puncak malam 99,435 %, serta efisiensi rata-rata transformator 2 saat beban puncak siang 99,437 %, beban pucak malam 99,465 %. Perbedaan efisiensi ini dipengaruhi oleh perbedaan nilai arus dan tegangan serta rugi-rugi yang dihasilkan pada saat pembebanan.

Kata kunci : Transformator tiga fase, efisiensi, rugi-rugi.

Abstract

Generally, transformers are divided into two types, namely transformers and transformers power and distribution transformers, in their use usually the efficiency of a transformer is influenced by several factors such as the ratio of current strength secondary and primary or the number of turns secondary to the primary winding. So Therefore, in this final project, a comparison of the efficiency between the two three-phase transformer in a substation. And how the effect of current and voltage on losses in three-phase transformers. From the results of the study obtained the average value of the efficiency of the transformer 1 when the load day peak 99.337%, peak night load 99.435%, and average efficiency transformer 2 when the peak load during the day is 99.437%, the peak load at night is 99.465%. This difference in efficiency is influenced by differences in the value of current and voltage as well as losses generated at the time of loading.

Keywords: Three-phase transformer, efficiency, losses.