ABSTRAK

ANALISA EFISIENSI TRANSFORMATOR TIGA FASA DI NPK FUSION 2 PT.PUPUK SRIWIDJAJA PALEMBANG

(2026 : xiv + 53 halaman + Daftar Pustaka + Lampiran)

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Untuk mengetahui nilai daya semu, rugi-rugi dan efisiensi transformator di NPK Fusion 2 PT. Pupuk Sriwidjaja Palembang dilakukan perhitungan secara manual. Perhitungan secara manual dilakukan dengan mengumpulkan data-data berupa tegangan sekunder, arus beban dan daya output transformator. Berdasarkan hasil perhitungan diperoleh daya semu transformator pada beban puncak sebesar 463,56 kVA, pada beban rata-rata sebesar 428,34 kVA dan pada beban terendah sebesar 381,07 kVA. Besarnya rugi-rugi transformator berubah tergantung besarnya beban transformator dan diperoleh rugi total terbesar pada beban puncak sebesar 3,83 kW. Efisiensi transformator pada beban puncak sebesar 98,78%, efisiensi pada beban rata-rata sebesar 98,73% dan efisiensi pada beban terendah sebesar 98,59%. Berdasarkan hasil tersebut transformator masih bekerja dengan baik dan memiliki efisiensi yang tinggi.

Kata kunci : Daya Semu, Rugi-rugi, Efisiensi, Transformator

ABSTRACT

EFFICIENCY ANALYSIS OF THREE-PHASE TRANSFORMER AT NPK FUSION 2 PT. PUPUK SRIWIDJAJA PALEMBANG

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To determine the apparent power, losses, and efficiency of the transformer at NPK Fusion 2 PT. Pupuk Sriwidjaja Palembang, manual calculations were performed. The manual calculations were performed by collecting data in the form of secondary voltage, load current, and transformer output power. Based on the calculation results, the apparent power of the transformer at peak load was 463.56 kVA, at average load 428.34 kVA, and at the lowest load 381.07 kVA. The magnitude of transformer losses varied depending on the size of the transformer load, with the largest total loss at peak load of 3.83 kW. The transformer efficiency at peak load was 98.78%, efficiency at average load 98.73%, and efficiency at the lowest load 98.59%. Based on these results, the transformer is still performing well and has high efficiency.

Keywords: *Apparent Power, Losses, Efficiency, Transformer*