ABSTRAK

ANALISA PERHITUNGAN EFISIENSI TERHADAP PEMBEBANAN *AUXILIARY TRANSFORMATOR* DI STASIUN PUNTIKAYU *LIGHT RAIL TRANSIT* (LRT) SUMATERA SELATAN

(2025: xv + 50 Halaman + Gambar + Tabel + Lampiran)

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Berdasarkan hasil perhitungan mengenai rugi-rugi dan efisiensi *Auxiliary Transformator* 50 KVA di PT Kereta Api Indonesia (Persero) Stasiun Puntikayu *Light Rail Transit* (LRT) Sumatera Selatan. Untuk mengetahui mengenai daya output, rugi-rugi dan efisiensi *Auxiliary Transformator* 50 KVA di PT Kereta Api Indonesia (Persero) Stasiun Puntikayu *Light Rail Transit* (LRT) Sumatera Selatan dilakukan perhitungan secara manual dengan mengumpulkan data-data berupa tegangan line, arus line, daya, dan cos phi. Berdasarkan perhitungan manual, daya output berdasarkan beban puncak 42.171,434 W dan pada saat bawah beban puncak 37.689,463 W. Rugi-rugi total berdasarkan beban puncak 1682,66 W dan pada saat bawah beban puncak 1545,94 W. Sedangkan efisiensi *Auxiliary Transformator* 50 KVA tertinggi sebesar 96,011 % dan pada saat terendah sebesar 95,914 %. Perubahan efisiensi tergantung pada besarnya rugi-rugi yang dihasilkan. Semakin besar rugi-rugi, maka efisiensi yang dihasilkan semakin kecil.

Kata kunci: Rugi-Rugi, Efisiensi, *Auxiliary Transformator*

ABSTRACT

ANALYSIS OF EFFICIENCY CALCULATION OF AUXILIARY TRANSFORMATOR LOADING AT PUNTIKAYU LIGHT RAIL TRANSIT (LRT) STATION, SOUTH SUMATRA

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Based on the results of the calculations on losses and efficiency of the 50 KVA Auxiliary Transformer at PT Kereta Api Indonesia (Persero) Puntikayu Light Rail Transit (LRT) Station, South Sumatra. To find out about the output power, losses and efficiency of the 50 KVA auxiliary transformer at PT Kereta Api Indonesia (Persero) Puntikayu Light Rail Transit (LRT) Station, South Sumatra, manual calculations were carried out by collecting data in the form of line voltage, line current, power, and cos phi. Based on manual calculations, the output power based on peak load is 42,171.434 W and at the time of below peak load 37,689.463 W. Total losses based on peak load are 1682.66 W and at the time of below peak load 1545.94 W. While the highest efficiency of the 50 KVA Auxiliary Transformer is 96.011% and at the lowest it is 95.914%. Changes in efficiency depend on the amount of losses generated. The greater the losses, the smaller the resulting efficiency.

Keywords: Losses, Efficiency, Auxiliary Transformer