ABSTRAK

ANALISA PERGANTIAN TRANSFORMATOR DISTRIBUSI AKIBAT BEBAN LEBIH DI PT. PLN (PERSERO) ULP RIVAI

(xv + 54 Halaman + 11 Tabel + 23 Gambar + 10 Lampiran, Juni 2025)

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Energi listrik adalah kebutuhan utama dalam kehidupan modern yang sangat bergantung pada keandalan sistem distribusi, termasuk transformator distribusi. Beban lebih yang terjadi terus-menerus dapat mempercepat kerusakan transformator dan memperpendek usia pakainya. Penelitian ini bertujuan menganalisis pembebanan trafo pada Gardu PA.0628 di PT PLN (Persero) ULP Rivai sebelum dan sesudah pergantian,.Metode yang digunakan mencakup observasi lapangan, studi literatur, dan diskusi teknis. Data diambil dari hasil pengukuran arus dan tegangan saat trafo masih 100 kVA dan setelah diganti menjadi 160 kVA. Hasilnya menunjukkan bahwa sebelum pergantian, pembebanan melebihi kapasitas nominal yaitu sebesar 90,74%. Setelah penggantian, beban kembali dalam batas aman yaitu sebesar 57,98% .Hasil penelitian merekomendasikan strategi pengaturan beban dan perawatan preventif guna meningkatkan efisiensi dan memperpanjang usia pakai trafo.

Kata kunci : Transformator, Beban, Pergantian, Distribusi

ABSTRACT

ANALYSIS OF DISTRIBUTION TRANSFORMER REPLACEMENT DUE TO OVERLOAD AT PT. PLN (PERSERO) ULP RIVAI

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Electric energy is a primary necessity in modern life that heavily relies on the reliability of distribution systems, including distribution transformers. Continuous overload can accelerate transformer damage and shorten its lifespan. This research aims to analyze the loading of the transformer at Substation PA.0628 at PT PLN (Persero) ULP Rivai before and after replacement. The methods used include field observation, literature study, and technical discussion. Data was collected from measurements of current and voltage when the transformer was still 100 kVA and after it was replaced with 160 kVA. The results show that before the replacement, the loading exceeded the nominal capacity at 90.74%. After the replacement, the load returned to a safe limit of 57.98%. The results of the study recommend load management strategies and preventive maintenance to improve efficiency and extend the transformer's lifespan.

Keywords: ***transformer, load, replacement, distribution***