

ABSTRACT

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Title :ANALYSIS OF THE EFFECTS OF LOADING ON POWER
LOSSES OF 100 KVA DISTRIBUTION TRANSFORMERS AT PT.
PLN ULP KUNINGAN

This study discusses the impact of load unbalance on power losses in transformers. Load unbalance is a common condition that frequently occurs in electrical distribution systems and can affect the performance and efficiency of transformers. The objective of this research is to analyze the extent to which load unbalance influences power losses and its impact on transformer efficiency. By employing a quantitative approach and collecting load data from several distribution substations during daytime and nighttime, comparisons were made between balanced and unbalanced load conditions. The analysis results indicate that while load unbalance has a minor impact on increasing power losses, it can lead to a reduction in transformer efficiency. During the day, power losses increased by approximately 0.8% under unbalanced load conditions, while at night, the increase reached 1.5%. This suggests that when the load is unbalanced, especially at night, it causes a decrease in transformer efficiency and an increase in power losses. The findings of this study are expected to provide valuable information regarding power losses in transformers and distribution lines in the operational area of PT. PLN (Persero) ULP Kuningan.

Keywords: *Distribution Transformer, Losses, Transformer Loading.*