ABSTRACT

This final project focuses on efforts to reduce non-technical losses at PT PLN ULP Kencong through power flow analysis and the implementation of Automatic Meter Reading (AMR) devices for potential customers. The main objective of this project is to detect anomalies in energy measurement using customer kWh meters, calculate unrecorded energy, and determine the corresponding financial value of unbilled energy based on the anomaly analysis results. The purposes of this project include identifying the causes of measurement anomalies, calculating the amount of energy loss caused by these anomalies, and determining appropriate billing adjustments.

The results show that there was an unrecorded energy loss of 3,149 kWh during the period from December 2023 to March 2024, with an active power measurement deviation of –14.81%. This amount of energy loss corresponds to a potential financial loss of IDR 5,004,296. The anomaly was identified in the S phase, which caused discrepancies between the recorded and actual energy consumed by the customer.

These findings are expected to serve as a reference for PT PLN in improving the accuracy of energy measurement systems, strengthening monitoring of AMR-based customers, and supporting future efforts to reduce non-technical losses.

Keywords: *Non-Technical Losses, Automatic Meter Reading (AMR), Measurement Anomalies*