

# ***EVALUATION OF THE ELECTRICAL SYSTEM IN LOW VOLTAGE NETWORKS TO REMOVE POWER LOSS AND VOLTAGE FALL AT PT. PLN RAYON PERAWANG***

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## **ABSTRACT**

*The development of electricity has a big role in the community's economy. This study aims to carry out further evaluation in handling power losses and voltage drops in the supply scope of PT. PLN Persero Rayon Perawang located in the area of Jalan Kandis Perawang. In the Jalan Kandis area, the type of cross-section used is LVTC with a diameter of 4×35 mm with a cross-section length of 979 meters and SKUTR 950 ms. The size of the cross-section affects the resistance of the cross-section. In the Jalan Kandis area, the cross-sectional diameter is no longer compatible for use because the load is starting to become unstable, causing power losses with percentages exceeding the PLN standard. Therefore, to minimize the percentage of power losses in low voltage network lines in the Jalan Kandis area, cross-section uprating can be done. It is hoped that the appropriate alternative handling of the related problems can produce an efficient low-voltage network in the PLN Rayon Perawang area in order to optimize the electricity system in Indonesia. With the research method using manual calculations and the ETAP program to process the data that has been done. The results showed that the act of uprating the conductors in the work area of PLN Rayon Perawang could reduce cost losses of Rp. 5,803,398 for the Jalan Kandis area with a data collection period of 6 days.*

**Keywords:** *power losses, voltage drop, uprating, low voltage network, ETAP*