# ABSTRAK

## ANALISIS RUGI-RUGI DAYA PADA JARINGAN DISTRIBUSI GARDU PD0399 DI PT PLN ULP AMPERA

(2026: xv + 50 Halaman + Daftar Gambar + Daftar Tabel + Lampiran)

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Jaringan distribusi tenaga listrik berperan penting dalam menyalurkan energi listrik dari gardu distribusi menuju konsumen. Dalam proses penyalurannya dari sumber pembangkit hingga ke konsumen melalui jaringan distribusi, tidak seluruh daya yang dikirimkan dapat diterima oleh konsumen. Penelitian ini menganalisis besarnya rugi-rugi daya dan *drop* tegangan pada jaringan distribusi gardu PD0399 di PT PLN ULP Ampera. Metode penelitian dilakukan dengan menghitung parameter pembebanan pada pagi dan malam hari selama periode April 2026. Hasil penelitian menunjukkan bahwa pada pagi hari, ketika beban relatif rendah, persentase rugi-rugi daya sebesar 3,47% dan *drop* tegangan sebesar 3,45%, sehingga masih berada dalam batas standar yang ditetapkan. Namun, pada malam hari, peningkatan arus menyebabkan rugi-rugi daya meningkat hingga 10,96% dan *drop* tegangan mencapai 10,89%. Berdasarkan standar SPLN, batas maksimum rugi daya adalah 10% dan *drop* tegangan sebesar 5%. Hal ini menunjukkan bahwa kondisi pembebanan memiliki pengaruh langsung terhadap peningkatan rugi-rugi daya dan *drop* tegangan pada jaringan distribusi.

**Kata Kunci :** Rugi Daya, *Drop* tegangan, Beban, Jaringan Distribusi.

## *ABSTRACT*

## *ANALYSIS OF POWER LOSSES ON DISTRIBUTION NETWORK OF SUBSTATION PD0399 AT PT PLN ULP AMPERA*

(2026: xv + 50 *pages + list of pictures + list of tables + attachments*)



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*The electric power distribution network plays a crucial role in delivering electrical energy from distribution substations to consumers. In the distribution process from the generating source to consumers through the distribution network, not all of the transmitted power can be received by consumers. This study analyzes the magnitude of power losses and voltage drops in the PD0399 substation distribution network at PT PLN ULP Ampera. The research method was carried out by calculating the loading parameters in the morning and evening during the period of April 2026. The results showed that in the morning, when the load was relatively low, the percentage of power losses was 3.47% and the voltage drop was 3.45%, so it was still within the established standard limits. However, at night, the increase in current caused power losses to increase to 10.96% and the voltage drop to reach 10.89%. Based on the SPLN standard, the maximum limit for power losses is 10% and the voltage drop is 5%. This indicates that loading conditions have a direct influence on increasing power losses and voltage drops in the distribution network.*



***Keywords:*** *Losses, Drop Voltage, Load, Distribution Network.*