

ABSTRACT

COMPARATIVE ANALYSIS OF THE RELIABILITY OF BANDUNG AND SOLO FEEDER BASED ON DISTURBANCE DATA ON THE 20KV DISTRIBUTION NETWORK PT PLN (Persero) ULP BENGKALIS

Name : Ande Saputra
Student Identification Number : 3204221542
Supervisor : Ir. Zainal Abidin, S.T., M.T

The reliability of the electric power distribution system is the main indicator in ensuring the continuity of electricity services to customers. External interference, particularly wildlife activities such as monkeys, often triggers outages that impact system performance. This study aims to analyze and compare the reliability level of Bandung feeders and Solo feeders at PT PLN (Persero) ULP Bengkulu based on data on disturbances due to monkey activity in the January-June 2025 and January-June 2026 periods. The research method was carried out quantitatively comparatively by calculating the System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) based on IEEE Std 1366 guidelines, then comparing it with the SPLN 68-2:1986 standard. The results of the analysis show that Bandung feeders will experience an increase in reliability in 2026 with a decrease in SAIFI from 3.316 to 0.308 times/customer, and SAIDI from 0.337 to 0.060 hours/customer. On the other hand, Solo feeders experienced a worsening of the duration of blackouts (SAIDI) from 0.073 hours/customer in 2025 to 0.219 hours/customer in 2026 due to obstacles in tracing animal disturbances. The two feeders in general still meet the SPLN 68-2:1986 standard in the 2026 period. This study recommends technical interventions such as the installation of silicone rubber insulation covers, animal guards, and the formulation of Right of Way (ROW) vegetation to suppress animal disturbances.

Keywords: *reliability of distribution system, SAIDI, SAIFI, feeder, monkey disturbance.*