

ABSTRAK

FANDI BALSOMANG.

ANALISIS GANGGUAN SISTEM PROTEKSI DI RECLOSER BOKSA PT.
PLN (PERSERO) – UP3 KUPANG – UIW NTT

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Recloser merupakan salah satu peralatan penting dalam sistem distribusi tenaga listrik yang berfungsi sebagai pelindung jaringan dari gangguan. Pada Recloser Boks di wilayah kerja PT. PLN (Persero) UP3 Kupang – UIW NTT, ditemukan permasalahan gagal close saat proses penormalan setelah terjadi padam akibat kerja *Under Frequency Relay* (UFR) dari pembangkit. Kondisi tersebut disebabkan oleh sistem proteksi yang membaca arus gangguan palsu (*false fault current*) meskipun jaringan dalam keadaan normal. Penelitian ini bertujuan untuk menganalisis penyebab gangguan tersebut, mengidentifikasi pengawatan recloser, mengevaluasi setingan relay proteksi, serta memberikan rekomendasi teknis guna meningkatkan efektivitas dan keandalan sistem distribusi pada daerah dengan sistem pembangkit terpisah, berdasarkan data observasi lapangan dan log operasi recloser.

Kata Kunci : Recloser, Sistem Proteksi, *False Fault Current*, *Under Frequency Relay* (UFR), Keandalan Sistem Distribusi, Sistem Pengawatan.

ABSTRACT

FANDI BALSOMANG.

*Analysis of Protection System Disturbances at the Boksa Recloser of PT. PLN
(Persero) – UP3 Kupang – UIW NTT.*

Supervised by: Ir. Hendrianto Husada, M.T.

Recloser is an essential device in power distribution systems that functions to protect distribution networks from electrical faults. At Boksa Recloser within the operational area of PT. PLN (Persero) UP3 Kupang – UIW NTT, a failure to close was identified during the system restoration process following a power outage caused by the operation of the Under Frequency Relay (UFR) at the generating unit. This condition occurred due to the protection system detecting a false fault current even though the network was in normal condition. This study aims to analyze the causes of the disturbance, identify the wiring in the recloser system, evaluate relay protection settings, and provide technical recommendations to improve the effectiveness and reliability of the distribution system in isolated diesel-based power systems. The research is based on field observations and recloser operational log data.

Keywords: Recloser, Protection System, False Fault Current, Under Frequency Relay (UFR), Distribution System Reliability, Wiring System.