

ABSTRAK

Keandalan relai jarak (Distance Relay) sebagai pengaman utama bay penghantar 150 kV Jember dan Banyuwangi di gardu induk Genteng salah satunya bergantung pada input tegangan dari sisi sekunder trafo tegangan (Potential Transformer) bus bar. Pembagi tegangan otomatis (Automatic Potential Divider) merupakan bagian penting dalam membagi input tegangan antara sisi sekunder trafo tegangan bus bar A dan bus bar B menuju ke terminal input relai jarak sesuai dengan konfigurasi masing-masing bay penghantar. Paralelisasi sisi sekunder trafo tegangan saat pemadaman pemutus tenaga (PMT) bay kopel dalam proses manuver pemadaman salah satu bus bar menyebabkan hilangnya input tegangan untuk relai jarak bay Jember dan Banyuwangi. Hilangnya input tegangan terdeteksi sebagai gangguan oleh relai jarak yang kemudian memberikan perintah trip pada PMT 150 kV bay penghantar Jember dan Banyuwangi. Karya inovasi Sistem Interlock Automatic Potential Divider berbasis Programmable Logic Controller ini bekerja dengan memutus rangkaian kontrol fungsi Open PMT 150 kV bay kopel ketika terjadi paralelisasi sisi sekunder PT Bus. Dengan demikian tripnya MCB 110 V AC dari sisi sekunder PT Bus dapat dicegah sehingga relai jarak bay penghantar Jember dan Banyuwangi di GI Genteng tetap beroperasi normal dan andal.

Kata kunci : *Automatic Potential Divider, relai jarak, pemutus (PMT) bay kopel*

Abstract

Reliability relay distance (Distance Relay) as the main safety bays of 150 kV conductor Jember and Banyuwangi in substations Genteng one of which depend on the input voltage from the secondary side of the transformer voltage (Potential Transformer) bus bars. Automatic voltage divider (Automatic Potential Divider) is an important part in dividing the input voltage between the secondary side of the transformer voltage bus bar A and bar B bus heading to the input terminal distance relays according to the configuration of each bay conductor. Parallelization secondary side voltage transformer outage when the circuit breaker (PMT) coupling bay in the process of maneuvering outage one bus bar leads to loss of voltage input for distance relays bay Jember and Banyuwangi. Hilangnya detected as interference by distance relays which then gives a command trip to the PMT 150 kV Conductor bay Jember and Banyuwangi. Automatic Interlock System innovation works Potential Divider Programmable Logic Controller-based works by breaking the control circuit 150 kV PMT function bay Open coupling when the parallelization of the secondary side of the PT Bus. Thus tripnya MCB 110 V AC on the secondary side of the PT Bus can be prevented so that the distance relays bay conductor Jember and Banyuwangi in GI tiles continue to operate normally and reliably.

Keywords: *Automatic Potential Divider, distance relays, breakers (PMT) coupling bay*