ABSTRACT

Increases demand of electric power capacity at PT Pindo Deli so need the addition of electric power. The addition of these resources are interconnection between PT Pindo Deli and PT DSS, so the maximum short circuit current capacity of 3 phase that occurs in switchgear PT Pindo Deli also increased. When the switchgears are not able to withstand the maximum short circuit current of 3 phase, switchgear and the electrical system will be to burn. Protection of the maximum short circuit current then used Current Limiter (Is Limiter). The Is Limiter will be installed in the channel interconnections between PT Pindo Deli and PT DSS. The simulation result shows that only on Bus 1 where the capacity of the switchgear is not able to withstand the maximum short circuit current of 3 phase. Maximum value of switchgear is 43.88kA, but the maximum short circuit current on the incoming 3 phase switchgear is 50.492kA. Setting of Is Limiter to use graphical method from simulation results on Transient IEC 61363 ETAP 7, so the current can be set where a very large contribution. From the simulation results, Is Limiter can be setting on the rating 13kA peak where contribution from PT DSS. So the maximum current 3 phase will not happen on Bus 1 because the current from PT DSS is disconnected. After setting Is Limiter, so determining of the coordination protection after Is Limiter trip. Coordination of overcurrent relays is done on the line Bus 1 and Bus 3 at PT Pindo Deli used power plot software. The results of the power plot is typikal of the entire load on the PT Pindo Deli.

Keywords: Short Circuit Current, Current Limiter, Over Current Relay
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