PT. PERTAMINA (PERSERO) - Refinery Unit III Plaju is one of PT. PERTAMINA’s Refinery plant. PT. Pertamina RU III Plaju facing problem on the protection system. Miss coordination and sympathetic trip on plant Sungai Gerong due to fault on Plaju is one of problem in PT. Pertamina RU III Plaju. To maintain and improve the performance of the protection system, we need to perform a study on the existing protection relay coordination such as, overcurrent, ground fault and undervoltage relay. By analyzing protection curve and coordination of protection equipment along the feeder expected to prevent or limit the damage of network and the equipments. From the coordination typical that have been analyzed, there are some miss-coordination in the pick-up and time delay setting and also there are some malfunction relay. This final project give the recommended setting for the protection relay.

Keywords: coordination, protection relay, fault, sympathetic trip