

ABSTRACT

The electrical system is an important part of a company. Short circuit fault is the most common fault in the electrical system. The amount of fault current can cause a *trip* at a point area. PT. Semen Padang has experienced a *trip* because of a short circuit. The large short circuit current makes the PLN relay work first, because it is only an *inverse* relay only that works so if there is a large short circuit current the PLN relay will immediately trip first. One way to reduce large short circuit currents is by adding SFCL. The tarfo 7 bus has a large short circuit current rating, therefore the SFCL is installed parallel to the bus. The short circuit current on the bus transformer 7 before being given SFCL is 143,931 kA. This short circuit current makes the PLN relay work first. After the SFCL is installed, the symmetric short circuit current on the bus of transformer 7 is reduced to 21.071 kA. The addition of the impedance of 3,637.31 ohms can solve the problem that is at PT. Semen Padang and the result of the addition of SFCL also be done *setting* again to relay overcurrent. With the installation of *Hybrid* SFCL, it can reduce short circuit currents and still maintain the continuity of power supply at PT. Semen Padang .

Keywords : *Hybrid* SFCL, Protection Coordination, Overcurrent Relay.