

ABSTRACT

Transmission line must be protected in order to limit over current and short circuit, to protect it using over current relay. Over current relay have 2 elements, thermal and electromagnetic elements. If happen short circuit in this location so will make the most arcing then will cause burning at location of short circuit. Therefore short circuit must be stopped as fast as using over current relay that can work rapidly because of electromagnetic element. Beside of over current and short circuit phase to phase, dangerous also can happen is ground fault. To limit short circuit current of phase to ground is used resistance that related to neutral point of transformer to ground. If value of this resistance is too large so ground fault can make sympathetic trip. If that resistance can limit short circuit current which it over the nominal current of transformer of house station so value of current of phase to ground fault can't damage transformer of house station. So we just attention destructions which happen in location of fault. In this mini thesis, short circuit current of phase to ground is limited same with nominal current of transformer. Transformer that used in house station is 60 MVA. To remind that short circuit current of phase to ground is too large so need more steps to make phase to phase fault as small. In this SUTM system which is often happen fault, using recloser. Recloser should be active.

Keyword : Transmission line 20 kV, protection systems