

Abstract

In recent years the using of microprocessor and digital signal processing technology in the numerical distance relays expand the applications of the distance protection to protect the transmission lines.

A new high voltage transmission line (220KV) has recently been constructed to fed Elobied city with the electrical supply from Rabak city substation, where the numerical distance protection relay REL511*2.3 has been used to apply the distance protection to protect such line. Data was collected from the transmission line and fed to the relay and also the other relay settings which have been calculated were fed to the relay by using the computer application program CAP540.

Results of three phase fault in zone 1 were obtained and finally conclusion and recommendations were made.