APPLICATION OF BACKPROPAGATION NEURAL NETWORK FOR FAULT LOCATION IN TRANSMISSION LINE 150 kV

AZRIYENNI[1], M. W. MUSTAFA[2], D. Y. SUKMA[3] & M. E. DAME[4]

[1,2]Fakulti Kejuruteraan Elektrik, Universiti Teknologi Malaysia, Skudai, Johor, Malaysia

[1,3,4]Teknik Elektro, Fakultas Teknik, Universits Riau, Kampus Bina Widya, Pekanbaru, Indonesia

ABSTRACT

This paper discusses the implementation of backpropagation neural network to locate fault in transmission line 150 kV between substations to substation. Distance relay is one of the good protective and safety device that often used on transmission line 150 kV. Then backpropagation neural network is a computational model that uses the training process that can be used to solve the problem of work limitations of distance protection relays. The backpropagation neural network does not have limitations cause of the impedance range setting. If the output gives the wrong result, so the correct of the weights not only can be minimized and but also the response of error, the backpropagation neural network is expected to be closer to the correct value. In the end, backpropagation neural network modeling is expected to detect the fault location and identify operational output current circuit breaker while it was tripped.The performance tested by interconnected system 150 kV of Riau Region.

KEYWORDS: Backpropagation Neural Network, Distance Relay, Impedance, Transmission Line, Zone