

Expert system applied to the back-up protection of a transmission network

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Abstract— The paper will describe a new type of protection, designed to provide back-up protection for a region of a transmission network. The protection uses an expert system, based on the shell goldworks III. This determines the optimum response to the fault, based on the knowledge of the network configuration and the operating response of the main protection. The back-up protection clears the faults, if one of the main protection relays and its associated circuit breaker failed to operate. The paper will include results showing the response of the back-up protection when tested using a power system simulator.

Index Terms— Expert systems, back-up protection, transmission network

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