

عنوان مقاله:

SUPPORT FOR OPERATORS IN RESTORING BULK SYSTEMS

محل انتشار:

هفدهمین کنفرانس بین المللی برق (سال: 1381)

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خلاصه مقاله:

Increasing occurrence of major disturbances and blackouts makes restoration more and more a crucial topic. Thus, intelligent systems supporting the operators either on line in emergencies or during preventive restoration training are helpful tools to minimize restoration time and economic losses. With respect to the huge contents of logical decisions in finding the appropriate and highly situation dependent restoration proceeding, expert systems are well suited to provide meaningful and transparent guidance in supply recovery; slight overloads and voltage limit violations as well as economically nonoptimal statuses - which might be temporally admitted during restoration - can be removed by use of genetic algorithms which are not jeopardized to be captured in local optima. However, the resulting supporting system has to deal with the full operational detail of the particular power system; in consequence, it has to be smoothly fitted between the existing control environment of the SCADA system and the activity of the human operators. The comprehensive approach realized at the Gerhard Mercator University, coupled with an operator training simulator, is described and its practical application is pointed out based on several scenarios.

کلمات کلیدی:

Restoration, Expert System, Limit Violation, Genetic Algorithm, EMS Integration

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