Andranovich B., Kurilkin A. I., Sinianskii I. V., Sorokin E. V.

Methods of optimal emergency signals and commands acquisition and transmission system design.

Engineering practice in development of recommendations on the creation and reconstruction of automatic emergency control systems power systems shows that in most cases the main economic costs fall on the organization of the transmission of emergency signals and commands between the metering and executive devises of emergency control. At the same time nowadays the choice of route of emergency signals exchange between objects of electric power is carried out manually without the use of specialized optimization algorithms It causes either unjustified increase in the cost of project or overestimated timing of control actions and, as a consequence, an increase in their volume. This article describes the methods for optimal selection of system collecting and transmission of emergency signals and commands.

Key words: emergency control channel, acquisition and transmission of emergency signals and commands device, emergency control, graph theory, multi-criteria optimization.

Andranovich Bogdan, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.
E-mail: andranovich_b@ntcees.ru

Kurilkin Aleksey Igorevich, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.
E-mail: kurilkin@ntcees.ru

Sinyansky Ivan Vladimirovich, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.
E-mail: sinyanskiy_i@ntcees.ru

Sorokin Evgeniy Vladimirovich, PhD. tech., Docent, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.
E-mail: sorokin@ntcees.ru