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Algorithms development for HVDC back-to-back link control from centralized load frequency control system.

In order to optimize and improve an efficiency of load frequency control (LFC) in the Unified power system (UPS) of Russia the feasibility study for a possibility and necessity of HVDC back-to-back link use was carried out in 2012 in relation to the centralized LFC system of Interconnected power system (IPS) of East. In a framework of this study it was found that the use of HVDC back-to-back link as LFC system regulating object improves an efficiency of LFC due to the greater influence of a power change of the HVDC back-to-back link on power flows in a number of controlled transmission lines than a corresponding change in the active power of regulating hydroelectric stations is IPS of Siberia and IPS of East.

The purpose of developing the algorithms for HVDC back-to-back link control from centralized LFC system was to use the non-synchronous HVDC back-to-back link at 220 kV Mogocha substation as a control object for LFC in the IPS of East.

Key-words: HVDC back-to-back, load frequency control, automatic generation control.

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