

## **Integration of the stability margin monitoring system with technological instruments of the electricity and power market.**

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The relevance of introducing a system for monitoring stability reserves during planning in the IES of Siberia is due to the presence of significant restrictions on the throughput of the main backbone network of 500 kV and significant excess capacity of hydroelectric power plants located on the Yenisei and Angara rivers. The backlog of commissioning of energy-intensive production facilities of UC RUSAL with a total capacity of more than 2,650 MW in the context of the commissioning of the Boguchanskaya HPP with a capacity of 3,000 MW in the eastern part of the IES of Siberia has significantly changed the power balance. Taking into account the predicted network constraints, determined using the technology of the stability margin monitoring system, at the stage of short-term planning, makes it possible to more accurately take into account the predicted operating modes of the IES of Siberia when determining the operating mode of the generating equipment. The BARS-MAPF software complex developed by JSC «STC UPS», which uses the technologies of the stability margin monitoring system, makes it possible to determine the predicted values of the admissible active power flows, taking into account the predicted conditions for the functioning of power systems. The problem of the most complete use of the capacity of the electric network at the stage of short-term planning was solved using modern advances in information technology and the possibilities of using computational algorithms.

*Key words: planning of electric power modes, controlled cross-section, maximum admissible active power flows (hereinafter referred to as MAPF), stability margin monitoring system.*