



АКЦИОНЕРНОЕ ОБЩЕСТВО

«СИСТЕМНЫЙ ОПЕРАТОР
ЕДИНОЙ ЭНЕРГЕТИЧЕСКОЙ СИСТЕМЫ»

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Automatic Tertiary Frequency Control deployed in the Russian UPS for the first time

The isolated Kaliningrad power system has commissioned a domestically developed digital solution – the Centralized Active Power Reserve Management System (C-APRMS).

The system, developed by STC UPS¹ in partnership with SO UPS and deployed jointly with Inter RAO Power Generation, marks the first implementation of automatic tertiary frequency control in the Russian UPS.

This innovation represents a critical measure to enhance the reliability of the region's isolated power system following the Baltic states withdrawal from the BRELL synchronous zone (Belarus–Russia–Estonia–Latvia–Lithuania). The supervisory control unit installed at the Baltic Regional Dispatch Centre continuously analyses real-time operating parameters, calculates optimal corrective actions based on economic dispatch principles and unit-specific technical constraints, and automatically issues control commands to power plants.

During commissioning phase, 65 tests were performed, including 31 involving real-time control actions on generating units interfaced with C-APRMS. The technology ensures the automated regulation of tertiary reserves, thereby enhancing the stability and operational security of the Kaliningrad Power System in islanded mode.

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¹ JSC «STC UPS» is a multidisciplinary electric power research center, industry leading research organization in the field of development of backbone network of the Unified Energy System of Russia and interstate electric ties.