Calculation of limit operational performance of isolated electric power systems.

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The article discusses the features of calculations of steady-state and limit operational performance in isolated electric power systems (EES). A calculation method is described, which consists in adding an independent variable describing the frequency change to a system of nonlinear equations. The introduction of additional dependencies of changing of all parameters of the elements of the power system on frequency, such as generators, transformers and power transmission lines. As a result, the proposed approach was applied to the calculation of electricity supply and the total capacity of transmission lines.

Key words: isolated electric power system, frequency of alternating current change, limit modes.