

The influence of the ratio of the power of the transmitting and receiving parts of the power transmission on its transients.

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The article was written based on the materials of the master's thesis «Improving the hardware and software complex for testing and commissioning of automatic excitation regulators of powerful synchronous machines in autonomous power systems» [1], which took II place in the nomination «Electrical systems and networks» at the XV open competition of PJSC «TGC-1» for the best diploma project of students of higher educational institutions of the North-West Federal District. It shows that a two-machine scheme of an autonomous power system, starting from a certain value of the ratio of the power of the starting and receiving parts of the power transmission, can be considered as a power system of the «machine-line-bus of infinite power» type. This turned out to be important in the modernization of the complex developed and manufactured by «RPE “Ruselprom-Elektromash”» LLC for checking and adjusting the automatic excitation regulator of synchronous machines «DIANA-4» [2].

Keywords: autonomous electric power system, excitation system, two-machine power system.