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# DETERMINING THE RESERVE CAPACITY OF THERMAL AND HYDROELECTRIC POWER STATIONS FOR FREQUENCY AND POWER FLOWS REGULATION IN ISP OF UKRAINE


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**Abstract**

*The problem of proper quality of primary and secondary frequency and power flows regulation in IPS of Ukraine is considered in the context of an increase in the share of renewable energy sources in the energy balance of the IPS of Ukraine. An approach and criteria have been developed for determining the optimum value from the technological point of view and the allocation of power reserves in the Ukrainian Interconnected Energy System on reconstructed and non-reconstructed units/aggregates of thermal power plants and hydroelectric power stations. Based on the results of IPS regimes simulation modeling in cases of sudden, likely by criterion N-1, imbalances of active power, a list and the need to attract non-reconstructed units/aggregates of power plants to primary and secondary load-frequency regulation is determined.* References 10, table 1.

***Key words***: frequency regulation, active power reserves, primary and secondary frequency control, renewable energy sources, interconnected power system.

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