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COST-PERFORMANCE OF FREQUENCY MANAGEMENT CIRCULATION PUMP TPP

The system low-potential complex (LPK) to a considerable extent influences on technical and cost-performance of the work энергоблока TPP and APP. The Half to whole energy, produced caldron or reactor, gets lost in capacitor, which supports the necessary level of the vacuum on output from steam turbine. The main equipment LPK there is capacitor, circulation and condensate pumps and ejector. The most powerful of them is circulation pump. His power can form before 1% powers energyblock. Aside from direct losses of the energy in him accuracy of the regulation and maintenances cooling water also influences upon the general efficiency of the work energyblock.

This sets the problem increasing to efficiency of management circulation by pump for the reason improvements job data turbines, reductions of the losses to energy and reduction to prime cost of its production.

According to basic researches, the use the offered methodses will allow to get the significant economic effect. The purpose given studies is an experimental determination to efficiency of frequency management circulation pump, not only responsible and powerful unit LPK, but also more powerful consumer of the own needs energyblock.

The experimental studies were conducted on typical circulation pump by power 1700 kWt energyblock 300 MWt Zmievskey TPP.

On stations management circulation pump is produced on one frequency by change the local resistance bolt. Compare the loss under throttle and 3-h step-like frequency management (the indicator table. 1).

The table 1. Comparison to efficiency of the ways of management

	Consumption Q, м3/с				
	5,3	6,6	7,26	7,9	9,24
Losses under throttle, kWt	257,6	245	309	391	460
Losses under 3-h step-like frequency management, kWt	112,4	125	260	-	-
Difference of the losses , kWt	145,2	120	51	-	-
Annual economic effect, uah	784	648	207	-	-
	000	000	540		

Thereby, experimental studies have shown capacity to work an algorithm automated energysaved management supercharger and economic practicability of their use. The annual economic effect for one circulation pump by power 1700 kWt forms 200-700 th.uah./year depending on state of working energyblock.

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