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Accumulation energy-saving technology in heat supply system
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The thesis is devoted to the development of accumulation energy-saving technology in heat supply system for the purpose of resource- and energy-saving problem solving. Within the framework of problem formulation the mathematical and logical simulation of tank-accumulator is performed and the systems of dynamic equilibrium maintenance in accumulation process, change of mode operating conditions, time integrated estimation as well as the estimation in fixed time range of heat supply system functional efficiency are developed. Based on the recommended flowchart with the proposed structural-operation realization of the tank-accumulator the accumulation technology in the heat supply system is developed for heat production both by heliocollector and traditional energy source.

Due to the use of the water accumulation energy up to 85% the developed technology makes it possible to decrease the prime cost of heat production by the heliosystem to 35% and to reduce the pay-off period of heliosystem by 30%. This makes it possible to give preference to most advanced heliosystems at their maximum operation life. In using the heliosystem in summer time, the equivalent fuel economy reaches 20% from the total equivalent fuel economy.

The obtained results are of the incentive importance for traditional heat producers to use the heliosystems, due to which they can use the universal method of structural-operation realization of the tank-accumulator as a basis of the developed accumulation energy-saving technology in heat supply system.

Keywords: accumulation technology, heat supply system, energy saving, tank-accumulator, heliosystem.