

Vlaskov G.A., Sherbakov V.N. (Rostov-on-Don, Russia). A probabilistic approach to assessing the reliability of the boiler equipment of TPPs with low-inertia systems for monitoring the quality of the coolant.

In work [1], a new device for monitoring and regulating steam quality in evaporators is described, which increases the accuracy of measurements and reduces operating costs.

The basis of the reliability calculation method is the description of the functioning of power units by a Markov process with a discrete set of states. The method was used under the assumption of exponential laws for determining the time of work and recovery. Methodical approaches to the reliability assessment of the power unit with two states are considered: the operating one is 1, the purge is 2. The transition from state to state is carried out according to the principle of homogeneous Markov process. Kolmogorov equations of the form $\frac{dP_1(t)}{dt} = -\lambda P_1(t) + \mu P_2(t)$. On the basis of observations, the values of the parameters were chosen from the intervals $\lambda \in (10^{-4}, 10^{-3})$, $\mu \in (10^{-3}, 10^{-2})$. The dependencies of the transition probabilities P_1 и P_2 on these parameters and the values of the availability coefficients were calculated.

BIBLIOGRAPHY

1. *Sherbakov V.N.* Patent for utility model RU 168476 U1, MIIK G01N 27/02.- №2016144548. Device for monitoring and controlling the quality of steam in surface-type evaporators / declared 14.11.2016; published 06.02.2017 в Б.И.-2017.-№4.- 7 с.