

The modern concept of managing the power unit of TPPs and NPPs is based on centralized control and management from the central unit control panel (BCR). To present information, the information-computing system (ICS) is divided into subsystems, each of which serves the corresponding part of the power unit (steam generator, reactor, turbine, electric generator, etc.). This subsystem includes terminals for communication with an object (USO) and central nodes for collecting and processing information (computer systems (VKO)). When TSO is directly connected to the VKO, two levels of the information processing hierarchy are formed corresponding to the information-algorithmic structure of the APCS by the power unit.

INCREASING THE EFFICIENCY OF AUTOMATED CONTROL SYSTEMS OF A LOW-POTENTIAL COMPLEX OF POWER PLANTS

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Introduction. Most of the scientific research in the field of energy saving at thermal power plants and nuclear power plants is aimed at increasing the efficiency of the main energy equipment - nuclear reactors, steam generators, turbo-generator plants, etc. At the same time, there are significant reserves of energy saving in the equipment of the power units' own needs. One of the directions in terms of energy saving is the reduction of energy losses for the own needs of power plants.

To date, the reserves for increasing the efficiency of steam turbine power plants due to the increase of initial parameters, improvement of systems of regenerative heating of feed water and intermediate superheating of steam [1] have been practically exhausted. In this regard, in the energy sector, a lot of attention has been paid to low-potential complexes (NPK) of power plants as structural units of power units, which directly affect the economy of their operation due to the influence on the final parameters of steam and on the consumption of electricity for own needs. According to data from the Zaporizhzhya NPP, underproduction of electricity due to poor heat exchange conditions in condensers annually amounts to about 1.5 billion kWh [2].

Therefore, ensuring the optimal operating modes of NPC systems, reducing energy losses in them is an important and urgent scientific and technical task.

Reference

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