The use of artificial intelligence and Big data technology in the formation of a digital model of an industry supersystem for managing clusters of electric and heat power objects.

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The problems of using of artificial intelligence and Big data technology to optimize the chains of operational-communication technical and economic transactions in the framework of a super-electric and heat supply system as a quasi-integrated technological complex are analyzed. It is proposed to use digital "doubles" for the final output of electric and heat power facilities to a new control quality based on digital topology within the framework of a single digital model of a branch electric and heat power super system with the possibility of unlimited increase in the number of analyzed functional units and received data from smart sensors. Using digital topology allows for local interactions to search for and implement solutions to move towards a local resource and operational optimum to optimize operating and repair costs in the face of critical imbalances in tariff-price sources of financing costs for the operation and repair of equipment. The opportunity is created to analyze options for maintenance and overhaul in the framework of economic constraints (costs included in tariffs, depreciation, the need to reach planned profit targets), as well as to control and analyze the effectiveness of each ruble in the process chain during operation and repair. The result should be a reduction in the cost of the life cycle of the electric and heat power infrastructure in order to free up funds for modernization.

Keywords: artificial intelligence, information system, Big data, digital model, digital topology, electric power industry, heat power system.