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ENHANCING THE SAFETY OF ENERGY SYSTEMS FUNCTIONING AT THEIR DIGITALIZATION

The digitalization of energy can be named as a basic part of the «Digital Economy of the Russian Federation» program architecture, as reflected in the passport of the program «Digital Transformation of the Russian electric power industry» [1].

Currently, developing energy companies are forced to modernize their own IT infrastructures to ensure the processing of large amounts of data. [2, 3]. To achieve this it may be necessary to create data centers (DC) and select appropriate staff.

Energy system is a subject to increased vulnerability. Digital transformation leads to a decrease in the activity of personnel turning into a passive observer, which leads to a drop in its qualification. The implementation of digitalization in the electric power industry also entails negative aspects, such as the risk of technical malfunctions of an informational nature, including those related to the human factor. To reduce the negative impact of the human factor, it is necessary to apply a proactive approach, which consists in the selection of personnel in accordance with the profile of a reliable employee of the appropriate qualification.

Successful implementation of digital and technological transformation requires a common security structure, including the human factor. Expert assessments show that probabilistic safety assessments cannot be considered without an integrated assessment of human reliability [4]. Therefore, the consideration of the human factor in the digitalization of energy facilities, the management of which can be represented as human-machine systems, is one of the important problems.

The main factors determining the reliability of the human operator of the DCs that provides the functioning of intelligent energy systems are considered using an anthropocentric approach. A profile of a reliable employee has been developed, representing an empirically constructed set of qualitative characteristics typical for personnel involved in the digital transformation of the electric power industry at all its levels.

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