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TO THE DISCUSSION ABOUT THE NECESSITY OF STANDARDIZATION OF QUALITY INDICATORS OF POWER SUPPLY OF DOMESTIC MINING AND METALLURGICAL ENTERPRISES

In the present conditions, the need to solve the problem of improving the efficiency of power supply systems (PSS) of mining and metallurgical enterprises in general, and their technological components - mining, in particular, has become aggravated and reached the status of priority in the complex of measures to maintain the stability of their functioning levels. Moreover, to solve this problem, creativity is needed in obtaining positive decisions with minimal investment terms of their implementation in the practice of mining enterprises. For this statement, it is advisable to add that the key formats of decisions are no longer advisable to apply in fact their inefficiency in the modern sense of this concept.

To a certain extent, the search for solutions is possible in the field of controversial solutions.

However, in the specifics of achieving the final result, based on any search format, with a sufficient level of positive, it is necessary to determine the starting positions and benchmarks for the reach and evaluation of the results. That is, it is necessary to have requirements for PSS, which should be generalized and, most importantly, standardized and provide benchmarks for levels of reach [1].

In the present, the above-mentioned standards for assessing the quality of electricity do not exist. There is only a standard for electricity quality indicators (EQI) [2]. But the latter does not mean the replacement, or substitution of indicators of the quality of electricity supply. In turn, the existing diversity, on the one hand, is clichéd, and on the other - arbitrarily formed, and, approving the requirements for the quality of electricity supply, represents only generalized guidelines for the formation of indicators of the quality of electricity supply, which cannot claim a standardized format either in composition or in the absence of a single regulatory document.

To format the basic indicators of power supply quality, according to the authors, it is advisable to consider the options of components for the possibility of their inclusion in the above complex:

adequacy of design calculations of both components and the entire complex of power supply systems as a whole, the real operational current characteristics of their work;

uninterrupted power supply process;

reliability of power supply;

survivability of power supply systems;

energy resistance;

self-healing;

compliance of daily limits of centralized supply of electricity to the levels declared by the consumer a day in advance;

compliance of real EQI in elements of the power supply system;

optimal price for 1 kWh of consumed electricity.

The current standard DSTU EN 50160:2014 does not fully take into account the specifics of power consumption of mining and metallurgical enterprises. Such enterprises are characterized by increased voltage fluctuations, harmonic distortions and asymmetry, which requires clarification of standardized indicators of power supply quality. It is necessary to introduce industry standardization of electricity quality indicators, taking into account the technological features of production. Improvement of the regulatory framework will contribute to improving the reliability of electricity supply and energy efficiency of enterprises.

References

1. Electrical Installation Code (EIC). 5th ed., Revised and supplemented. Kyiv: Ministry of Energy and Coal Industry of Ukraine, 2017. 617 p.
2. DSTU EN 50160:2014. Characteristics of power supply voltage in general-purpose electrical networks. Kyiv: Ministry of Economic Development of Ukraine, 2014. 27 p.