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ANALYSIS OF INFORMATION CONDITIONS OF FUNCTIONING OF THE EMERGENCY MANAGEMENT MODEL IN DAMAGE OF POWER SUPPLY NETWORKS

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In the modern world of technological progress, where the number of emergencies of man-made nature is constantly growing, more and more attention is paid to control systems and emergency response systems. However, any emergency response systems are usually connected to and operated by the mains. The growing number of natural and man-made accidents leads to damage to power grids for a long time and spreads to large areas. In this case, large areas and facilities where emergency response systems operate at the expense of backup power supply are left without electricity supply. In this case, the uninterrupted operation of emergency response systems and the prevention of an emergency into an emergency situation depends on the time during which the backup power supply will be provided. Therefore, the analysis and research of modern provision of backup power supply of emergency response systems is relevant.

Emergency response systems include many different components, including cameras, sensors, SCADA systems, telemetry and remote terminal systems, burglar alarm systems and so on. These components require a constant power supply, which can be a problem in all conditions, but especially in cases where there is damage to the grid due to natural disasters. EU countries are exposed to numerous threats of natural disasters, such as earthquakes, floods, droughts, fires and extreme heat [1, 2]. All these threats have a negative impact on power lines. Hydrometeorological threats are dominant, among which storms (35%) and floods (31%) are the most frequent [3]. The list of these threats leads to the physical destruction of power lines, as well as reducing their capacity.

An analysis of the features of the emergency response systems used at facilities in conditions of damage to power lines. It is established that redundancy of power supply of such systems at the expense of rechargeable batteries allows to carry out their uninterrupted work no more than 24 hours.

References

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