Міністерство освіти і науки України





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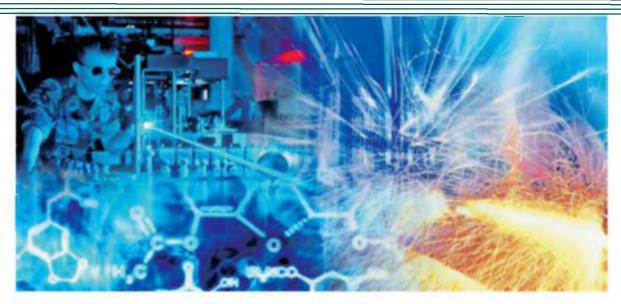




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## ROLE OF VISUAL INFORMATION IN THE EMPLOYEES AWARENESS OF PRINCIPLES OF MANAGEMENT OF PRODUCTION RISKS AT ENTERPRISE

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According to the current regulations on Occupational safety and Health, the employer must monitor and assess the technical condition of production equipment (machines, mechanisms, high-risk equipment), ensuring their safe operation. In particular, it is necessary to adhere to the assigned service life (resource) of machines (mechanisms) of increased danger, in case of which they are decommissioned, conduct an expert examination to decide on the establishment of a new service life with or without repair.

It is important not only to establish the degree of efficiency of the machine (mechanism), but also to determine the magnitude of the risk of its operation for the operator or other employees, which should not exceed an acceptable level. Currently, acceptable levels of risk are generally established for industries and subsectors of the economy on the basis of statistics on occupational injuries, as well as for large high-risk facilities for nuclear energy, chemical and metallurgical industries. For mobile agricultural machinery, the operation of which also belongs to high-hazard works, the concept of permissible (acceptable) risk is not applied, which does not allow to assess the danger of being on the fields, farms and roads of machinery without safety equipment, with exhaustion of the installed resource.

The purpose of researches is to justify the permissible risk of exploitation of mobile agricultural machinery, in array of details and elements of constructions which have accumulated defects (damage).

This paper analyzes the kinetics of accumulation of operational defects in the array of parts of individual components (systems) of tractors. MTZ-80 tractors (82) were chosen as the object of research, as one of the most common in Ukraine. To detect cracks, a developed eddy current flaw detector was used, the sensitivity of which allowed to find cracks several millimeters or larger in length without preparing the surface of the controlled parts.

It is shown that the kinetic dependences of the accumulation of operational defects in the parts of tractor units in the analyzed range of service life are monotonically increasing, which can be described by exponential functions with a sufficiently high reliability. It is noted that the obtained dependences are similar to the kinetic dependences of the accumulation of static and dynamic (fatigue) damage obtained as a result of laboratory tests of samples of construction materials, which allows to use approaches to the criteria of the limit state of laboratory samples due to the power load to establish the boundary life of mobile agricultural machinery.

The study of the principles of the system of assessment and management of industrial risks at the enterprise is aimed not only at acquainting employees with the practical aspects of risk-oriented approach, but also at mastering a high level of knowledge and skills in occupational safety. All employees of the enterprise must ensure compliance with occupational safety and health standards, guided by current regulations on Occupational safety and Health, being able to develop and implement them taking into account the existing hazards and residual risks in the workplace.

Block diagrams of basic procedures for assessing and managing production risks allow increase the level of perception by employees (students, listeners) of the principles of risk-oriented approach in Occupational safety and Health.