

Analysis of accidents causes at work in the State Fire Service occurring during rescue operations

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Summary

During rescue operations, firefighters are exposed to a number of additional risks, which could potentially lead to many accidents at work. Prevention of accidents is one of the main goals of prevention actions in the field of occupational health and safety. Gathering as much information about them as possible allows to correct planning of preventive actions. Registration, categorization of accidents at work, analysis of their causes and circumstances is a very important part of the work culture. In uniformed services, such as State Fire Service or Police, norms and law regulations concerning recording of accidents differ from universally accepted principles. Statistical card of accidents at work is not made, instead, a collective statement based on documentation of the accident is submitted to Prime Minister or the Minister responsible for internal affairs. Information about accidents occurring during rescue operations at the State Fire Service is stored in post-accident documentation and record of events. After each rescue operation commander prepares a report, which contains a number of information describing carried out activities. The range of the data is standardized and unified throughout the country. Information about the place of event, timing of carried out activities, equipment used, type of actions taken and number of people involved in the accident are introduced. Identification of factors occurring during rescue operations, affecting the number of accidents at work helped to identify areas of increased risk to which attention should be paid. Analysis of the data describing the situation in which accident has occurred, allows for the assessment of the state of security and identification of areas in need of improvement.

The main objective of the study was identification and hierarchization of factors affecting the number of accidents in rescue operations during fires and local threats.

Additional objective was diagnosis of threats awareness of work safety during rescue operations among firefighters of the State Fire Service, which was developed through the analysis of the data collected from the survey and its verification with the use of the statistical data of accidents.

The utility objective of the study was to determine the type of activities especially dangerous for rescuers involved in rescue operations. Additional utility objective was to propose modification of the system of the rescue operations records in terms of using it in analysis of accidents at work.

This thesis consists of a theoretical part, based on the literature of the subject and empirical records of events with post-accident documentation taken into account as well as surveys. In the research part tools of statistics analysis were used. Based on literature research and analysis of the course of rescue

operations, characteristic of rescue actions was developed. Analysis of historical events and literature of the subject allowed to describe aspects that may affect safety during rescue operations. Post-accident documentation from Occupational Health and Safety services provided information concerning the description of circumstances, causes and consequences of accidents. A survey conducted among firefighters of the State Fire Service allowed to determine the state of officers awareness in terms of accidents at work during rescue operations and what dangers are significant for firefighters. Analysis of this data allowed to verify the dangers perceived by firefighters and allowed for determination of the variables affecting the number of accidents. Due to the amount of data to be processed, the scope of the analysis of the records was limited in time to the years 1993 - 2010 and to the territory of Masovian province. Analyzed database has nearly 260 000 records.

The results of the research indicate three main, most important factors, to which attention should be paid during rescue operations, they are: **fire, stress, uneven, slippery passages, ground and spaces.**