



SYSTEM INTEGRATION SAFETY AND SECURITY REQUIREMENTS INTO MANAGEMENT SYSTEMS IN ORGANIZATION

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ABSTRACT

The paper is aimed to system integration safety and security requirements to management system and aim this integration is positive increasing efficiency security and safety processes but every processes in organization too. In paper is explained system approach to safety requirements from legislation and safety and security requirements from stakeholders and product requirement too. There is a division of the organizations into several types and there are characterized by own security and safety characteristics. This proposal could increase affectivity in organization and reduce crises situation too and thereby could be reduced the cost in organization.

Key words: security and safety requirements, analytical tool, soft targets, management

INTRODUCTION

For this paper is defined organization as subject which is characterized with specific processes which are happened in object. Processes are studied in other part of research, but in this article is presented integration more inputs and processes of organization too. Security and safety requirements are in every kind of management in organization. The first is integration law requirements, second are business processes and third are standard requirements too. At the end is proposed system integration to one security and safety tool which will be used in next part of research for creation software support. It is important input for soft targets research.

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1 SAFETY REQUIREMENTS IN CZECH REPUBLIC

This part of paper discuss about law requirements and the first are requirements from occupational health and safety system. These requirements specify competence requirements and obligations of the employer. The competence requirements define practical and theoretical requirements for professional qualified persons which could perform occupational health and safety system and fire protection too, but knowledge must be demonstrated by special exams, in every part of safety. For research are important information about personal protection equipment and processes which could help to achieve more efficient security and safety situation in object.

1.1 RISK ASSESMENT

In this paragraph are defined requirement to evaluation of risk. Risk assessment studies risks which could be identified in working processes. Risk assessment analyses relation between human factor and machine and equipment, or risks which results from working process. Every part of security and safety studying has different terminology for risk and threat and danger. It is reason why special characteristics are chosen. Risk express relation between probability that negative phenomena could stay and consequences which are threatened. The danger is a source of risk and risk is a measure of the threat. It is not possible talking about threat where don't exist danger. Risk couldn't be evaluated which express degree of threat when danger don't exist.

2 FIRE PROTECTION IN CZECH REPUBLIC

In Czech Republic fire protection is defined in two processes. The first is in documentation of building when authorized engineer in fire protection must defines Fire safety resolution. The second is definition measures for safety operation in building. This process is ensured by competent person.

2.1 FIRE SAFETY RESOLUTION OF BUILDING

The primary requirement for fire safety resolution of building is safe human, animal life and materials things. Building objects must fulfil next requirements:

- Prevent the occurrence of fire.
- Allowing safety evacuation people in object.
- Stop spreading of fire between fire compartment and other object.
- Ensure liquidation of fire.

It is primary documentation which could help qualified persons with definition safety requirements which are defined in operation. For territorial control are defined primary definition building solving, solving roads, assembly area, fire safety equipment and graphics marks for engineering sites. For building solving are defined

applicable standards, definition of fire risks, and division of building, separation distances and others. This solving contents documentation of drawing and marking exits ad exit roads.

Fire safety principles are applied for non-production buildings and for production building. The solving is other for this group. It is primary division. In Czech Republic are serious law documents and technical standards are commendatory. Exception is in case law document refers to technical standard. It means that standard is serious. [5]

Fire safety of building is achieved with suitable location building in documentation. New building must be proposed to localization which are not fire dangerous building, or this new building must not influence others object in spreading of fire. Disposition in object is dividing for fire departments. In this part are designed escape routes in object and amount and type of escape routes (protected, partially protected and unprotected escape routes). For un-production building are designed only protected and unprotected escape routes. Alternative routes are for example windows, fire ladders and others option for evacuation of persons. Construction must be designed with suitable materials. Emphasis is placed on the required fire resistance of materials. Fire safety equipment could be used for minimizing fire risk in object. In production buildings and object is presented in documentation economics risk. Economy risk is defined by index of probability and spread of fire spreading. [5]

In production buildings are defined next parameters of escape routes:

- Definition limit the number and lengths of escape routes.
- Definition widths escape routes.
- Method of evacuation.
- Time for evacuation.
- Time for filling with smoke of fire in fire departments.
- The doors on escape routes.
- The staircase on escape routes.
- The lighting on escape routes.
- Indication on escape routes.
- Equipment for domestic broadcast [6].

For our proposal are more important requirements which are defined for un-production buildings and object and reason is that soft targets, which proposal is defined, are un-production buildings. Definition of fire hazardous areas and separation distances could be for proposal primary characteristics which could have multi-purpose using. Fire hazardous area is area around object where is risk of fire spreading. Separation distance is distance between outside of assessment object and border of risk of fire spreading. Technical standards edit fire protection requirement for housing and accommodation (ČSN 73 0833), fire protection for crowded places (ČSN 73 083), fire safety for health centre and hospitals (ČSN 73 0835).

3 MANAGMENT SYSTEM IN SOFT TARGETS OBJECT

The aim of this paper is referring to solving situation in object which are called as soft targets. The proposal of security and safety solution is based on law requirements and standards which are serious in Czech Republic. The proposal should use definition and requirements, and built new adequate security and safety system solution.

Soft targets are specific object and in fire protection are defined by special technical standards. In this proposal are three special processes. The first is identified object and define object characteristics. Object characteristics could define similar group and similar features. These characteristics are defined after analysis internal and external processes. Processes are special kind of activities which must be understood. The second is definition of analytical methods and the type of analysis. The third is linking between object and analytical tool. In analytical tool are inputs as requirements, and requirements defined tackles from other stakeholders. [4]

In research is proposed integration of analytical tool by fuzzy logic. Fuzzy logic is special programing language which could work with more as two parameters. These language studies all range of value. Fuzzy logic enables using more experts and define special conditions which define analytical processes. [4]

CONCLUISON

These paper talking about primary using law requirements for achieving more efficient in safety and security situation in object as soft targets. In paper are identified some groups of requirements which we could use in the first part of analyses. This first part is process studding current state in object. Characterization and definition of differences are identified by special technical standards and we can used to for better and more efficient system.

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REFERENCES

- [1] BULLOCK, J. A, HADDOW, G. D., COPPOLA, D. P. Introduction to homeland security: principles of all-hazards risk management. 4th ed. Waltham, MA: Butterworth-Heinemann, c2013, xvii, 669 s. ISBN 978-0-12-415802-3.

- [2] PROCHÁZKOVÁ, L., HROMADA, M. Riadenie rizík v oblasti školských zariadení. ALARM magazin, Vyd. Bratislava: INFODOM, s.r.o., ročník XVII. č.:1/2015, 13-16s. ISSN 1335-504X.
- [3] ĎURICOVÁ, L., HROMADA, M., MRÁZEK, J. Zaistenie bezpečnosti objektov mäkkých cieľov so zameraním na obchodné centrá. ALARM magazin, Vyd. Bratislava: INFODOM, s.r.o., ročník XVIII. č.:1/2016, 38-40s. ISSN 1335-504X.
- [4] PROCHÁZKOVÁ, L., HROMADA, M., MRÁZEK, J. Návrh analytického nástroja pre hodnotenie mäkkých cieľov štátu. In Bezpečnostní technologie, systémy a management 2015, Sborník příspěvků 5. mezinárodní konference, 19. 11, 2015, Zlín, vyd.: 1., 2015 ISBN:978-80-7454-559-7.
- [5] Zákon č. 133/1985 Sb. o požiarnej ochrane, Česká republika.
- [6] Vyhláška č. 246/2001 Sb. o stanovení podmínek požiarnej prevencii, Česká republika.