

The assessment of occupational risks factors

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Abstract— This paper present the methodology for assessing the occupational risks factors at work place. The process consist on identification of the risk factors, assessing and prioritizing the specific professional risks in order to identify and establish measures meant to protect the health and ensure the safety of the workers. The case study refers to the assessment of occupational risks factors specific to the components of work place: production system, work task, work environment and operator. The results of the assessment indicate that 50% represents the occupational risk factors of the production system, 25% represents the occupational risk factors of the operator, 9.3% represents the factors related to the working environment and 15.6% represents the factors related to the work tasks.

Keywords— occupational risks, occupational risk assessment, prevention, work accidents.

I. INTRODUCTION

Occupational risk assessment process should be structured so that they can achieve [1], [2], [3], [4]:

- identifying existing hazards and assessing the risks associated with these hazards, in order to establish measures to protect the health and safety of workers, as required by legislation;
- assessing risks for the optimum selection of equipment, substances used, and the organization of the workplaces;
- verifying the appropriate implementation of the proposed measures;
- establishing both the priorities for action and the opportunity to take further action following the analysis of the conclusions of the occupational risk assessment.

Every worker must work in accordance with his / her training and instruction as well as instructions received from the employer so as not to expose himself / herself to the danger of injury or occupational illness both to his / her own person and other persons who may be affected by his actions or omissions during the work process. For this purpose, it has the following obligations [5], [6]:

- a) Proper use of machinery, equipment, tools, dangerous substances, transport equipment and other means of production;
- b) To use the personal protective equipment correctly and, after use, to return it or to place it in the place for storage;
- c) Not to disable, modify, change or arbitrarily remove its

own security devices.

Development and implementation of occupational health and safety management system in an organization is justified by the following considerations:

- A desire to create a unified framework for OH&S management activities;
- Implementing the principles and methods of improving the performance of OH&S;
- Protecting employees by reducing / eliminating the dangers of accidents and professional illness;
- Limiting the civil and criminal liability by satisfying the legal regulations on OH&S and other requirements applicable;
- Raising staff consciousness and responsibility towards the health and safety;
- Increase customer confidence;
- Improving management practices;
- Improving the image of the organization, by satisfying the requirements relating to OH&S.

II. ASSESSMENT OF RISK FACTORS

The components of the assessed work system are:

- Production system;
- Work task;
- Work environment;
- Operator.

The work task relates to achieve the technological operations based on job attributions and consists of:

- Visual inspection of the technical and functional state of the used equipment;
- Equipped with the protective equipment;
- Preparation of the components necessary for the production process;
- Material handling;
- Mounts and installs the gripping and checking devices;
- Feed the machine with industrial detergents and preservatives;
- Ensure the functioning and maintenance of the sanitary facilities;
- Keeps clean at work.

The level of risk obtained for the job analyzed is 3.2, which is in the high risk category for assessing occupational health and safety for the analyzed processing process (Figure 1).

In order to prioritize the risk factors characteristic of the analyzed workplace, the partial risk levels were determined for each category.

The percent of risk factors identified by the elements of the work system is graphically presented in Figure 7.

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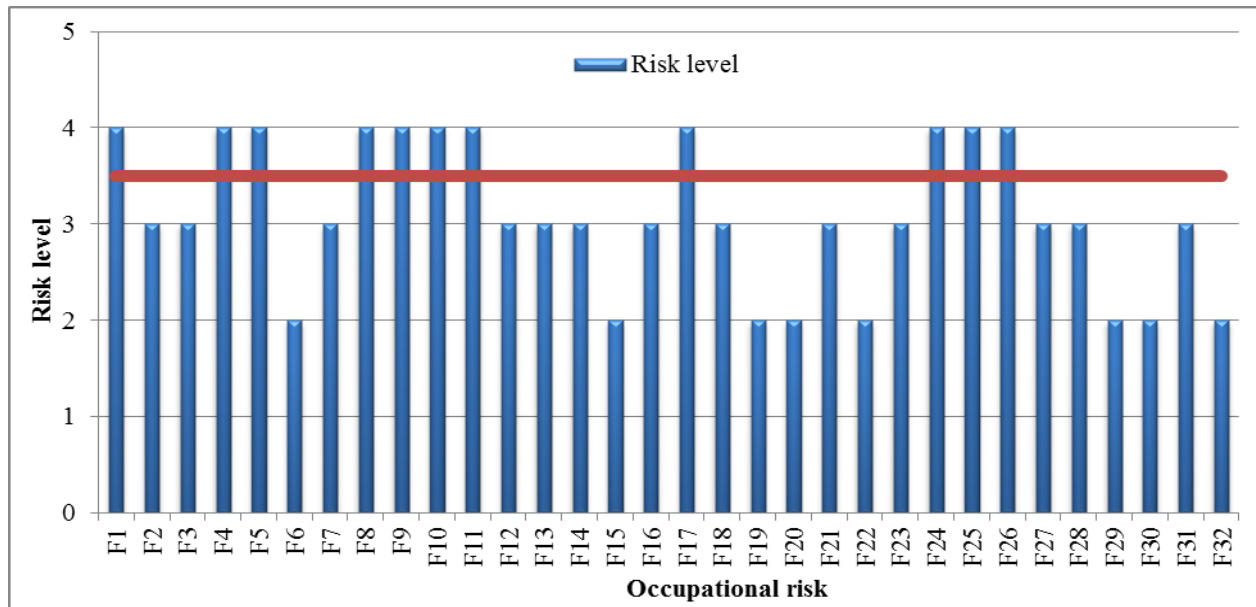


Fig. 1 The occupational risks distribution

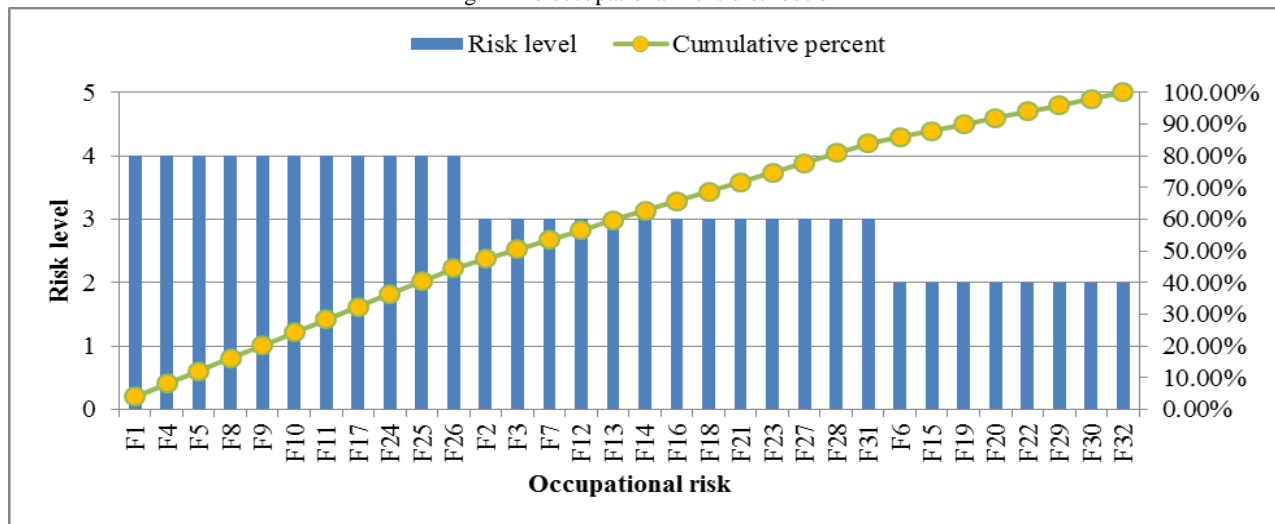


Fig. 2 The prioritization of risks factors

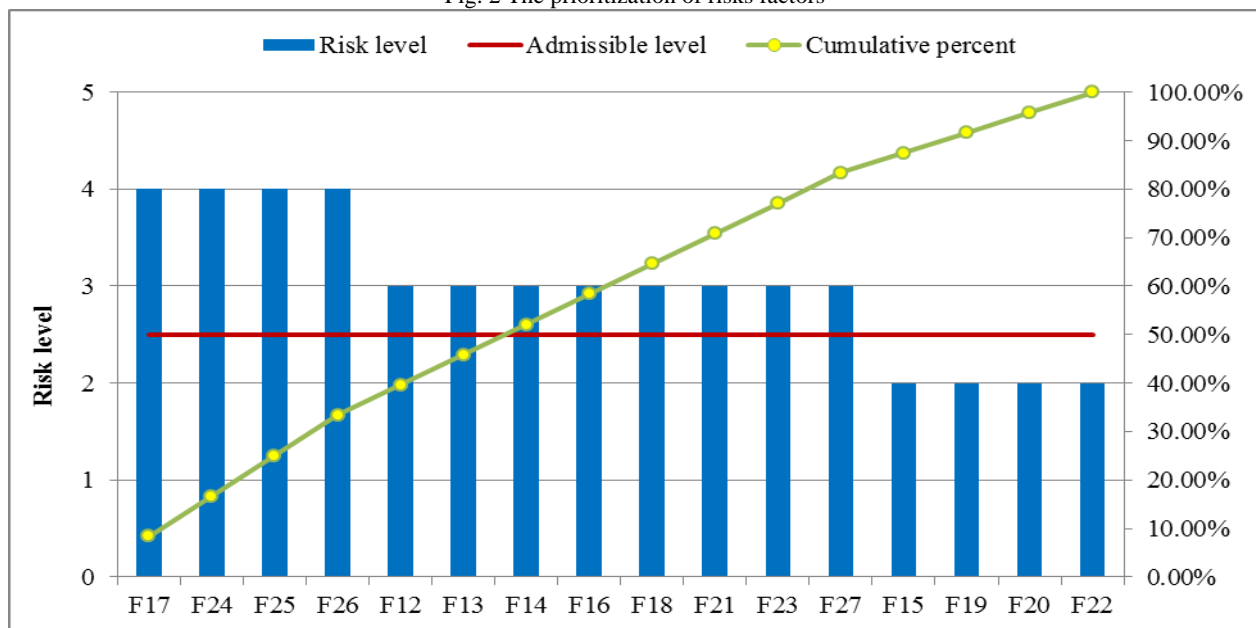


Fig. 3 The prioritization of risks factors for production system

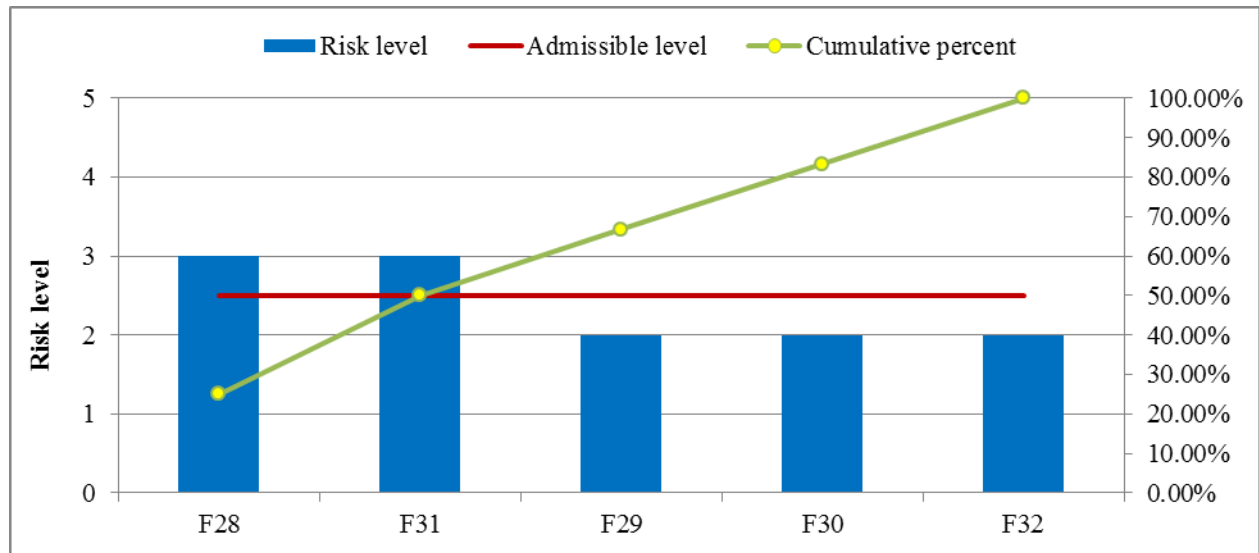


Fig. 4 The prioritization of risks factors for work environment

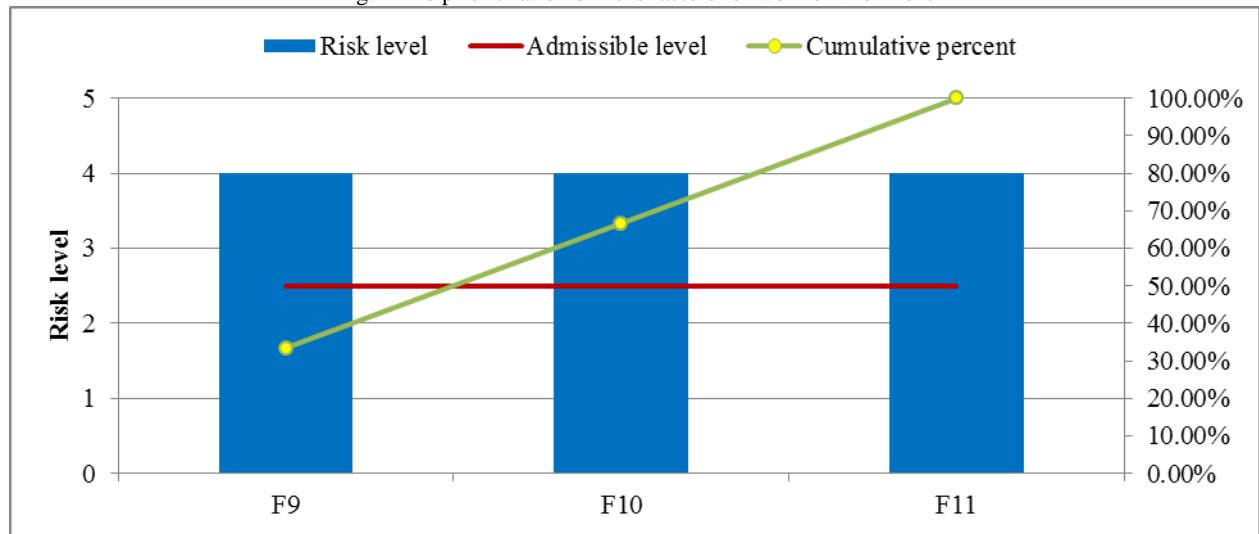


Fig. 5 The prioritization of risks factors for work task

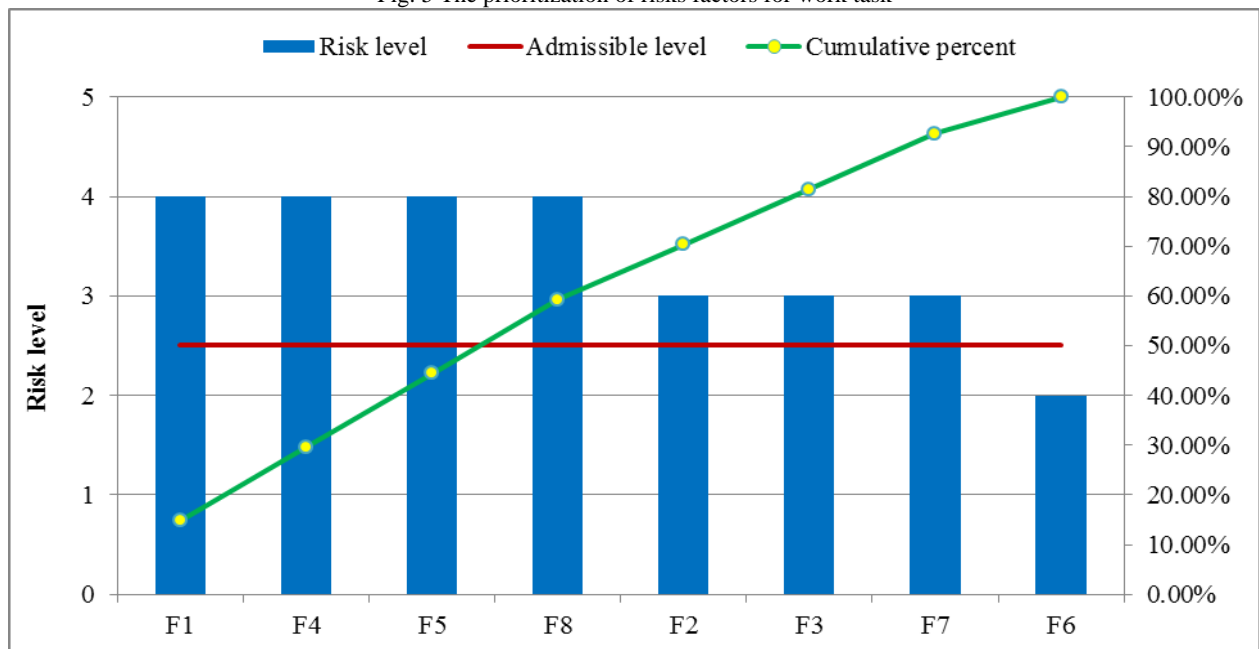


Fig. 6 The prioritization of risks factors for operator

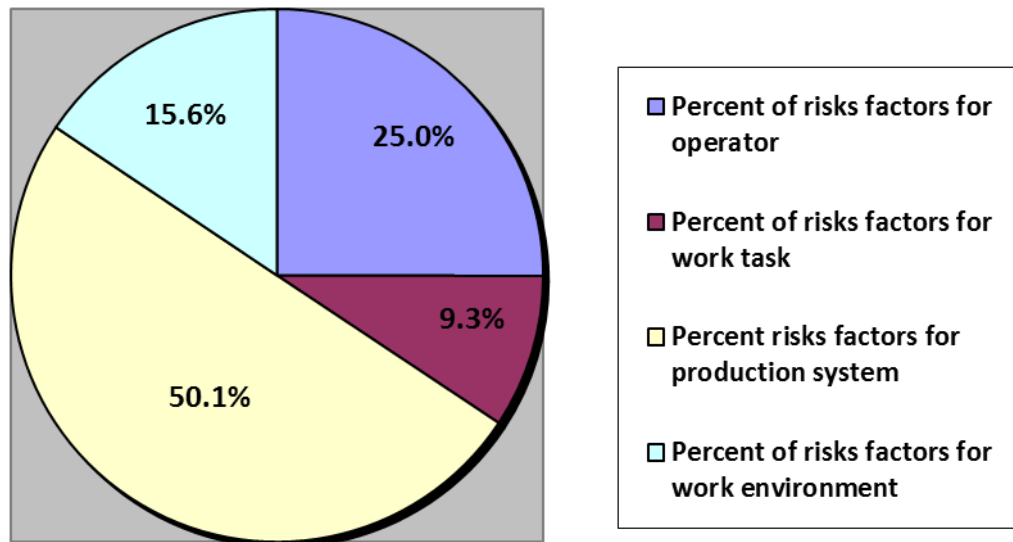


Fig. 7 The prioritization of risks factors for operator

III. CONCLUSIONS

Analyzing the occupational risk factors, the percent of assessed risk factors and according to the generating source within the analyzed work system, the situation is as follows:

- 50% - factors of the production system;
- 25% - factors of the operator;
- 9.3% - factors related to the working environment;
- 15.6% - factors related to the work tasks.

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