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OCCUPATIONAL SAFETY AND HEALTH – THE SYSTEM WITH A PROACTIVE STRUCTURE

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Abstract. *In the last two decades in the Serbian economic sphere, two commercial activities stand out. The first one refers to establishing the quality system based on the ISO 9000 standards, and the second one refers to developing and putting into practice the Occupational Safety and Health Law. In this paper the aim was to carry out, by means of an analytical approach, the process of scientific deduction on the basis of facts which provoke the interest of both the scientific and professional public in the sense of an integration of these two activities, which could later be developed into a joint program.*
The application of the aforementioned law with many modern elements in its contents is coupled with the procedural intentions regulated by the structure of the ISO 9000. Because of that, the author in his observations attempted to prove the connection among the problems that can be best solved if the policy of Occupational Safety and Health became a part of the policy of quality, and ultimately an essential factor of the business policy of every business system. Quality, and occupational safety as its constituent, should be regarded as a function of greater business success and profit-making.

Key words: *work safety, safety, risk management*

INTRODUCTION

In the last few years, there has been a constant development of the antagonism between the professionals and state institutions regarding the ***Occupational Safety and Health system*** and its terminological interpretation. The Yugoslavian practice characterized that system as 'occupational safety', which can conceptually be understood in two ways.

In that broader sense, the term 'occupational safety' implies the complete protection of the workers while doing their job. The scope of the term presented in this way consists of the goals that provide the improvement of working and living conditions. The measures that set up the legitimacy of the term defined in this way include: working hours, days off of work, one's salary, adequate working conditions, social and health insurance, protec-

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tion of the special categories of employees, payment in time of sickness, disability or unemployment.

After the Basic Occupational and Safety Law was passed in 1965, the term *occupational safety* was used to denote the activity which provides the physical and moral integrity as well as safety of the employees, by applying the comprehensive measures that most frequently imply the technical, organizational, social, medical, legal or some other aspect by which the fulfillment of the functional aim of the *occupational safety* system can be provided.

Arising from this notional approach, *occupational safety*, upgraded in the process of coordination with the international regulations, acquired the character of **a preventive activity** directed at creating safe working conditions by applying the latest technical, organizational, medical, social and other measures, aiming at eliminating the danger as the source of injuries and health damage, or minimizing the risk.

The development of social relations through the prism of the tendencies of *human rights protection* also influences the protection of employees' rights, especially their safety and health protection during work. In this way, occupational safety does not only have an economic, but also a social dimension.

That practically leads to the fact that *occupational safety* cannot be defined only as a collection of measures and means by which proper working conditions are provided without endangering the workers life and health, but also as a relationship that connects three-partied interests. Thus, by applying the mentioned (named) measures, the participants' physical and moral integrity is protected.

That is why the institution of *occupational safety*, with the constitutional foundation, consists of the tools with which one can fulfill the activity of organizing and putting into practice the procedures for removing or minimizing the dangers, thus minimizing risks.
In an institutional sense, occupational safety represents a system which:

1. applies the activities, measures and means in the processes of creating safe working conditions (by applying the latest technical, organizational, medical, social, regulatory, educational and other measures);
2. promotes the preventive character with the unique aim of removing dangers as the source of injuries and health damage;
3. develops the proactive structure, which in the defined time range controls the elements of the system and, if necessary, conducts corrective actions and/or the brushing up of certain elements of the system, and also develops new services to check:
   - Whether there is a possibility of safety and health being jeopardized?
   - Who or what can be jeopardized? and
   - What causes the danger?

   as well as the other activities for maintaining and improving the good practice of the system.

The aim of proactive support is also to remove the deficiencies on time, before they grow into a serious incident and jeopardize some sub-process, the whole process or the whole system. Realizing the proactive approach and the functional demands implies a developed and documented system.

2. CONTEMPORARY APPROACHES TO OCCUPATIONAL SAFETY

While studying occupational safety issues, one can encounter problems which lead to the conclusion that the essence of protection is *humanity*, and that motivated by this, the community cares for the well-being of employees. That is, of course, only a hypothetical standpoint that cannot be proven as absolutely dominant in any kind of social system, because, on the other hand, it can prove that occupational safety is a category that is of economic interest for the employer and the state, but primarily for the employee and his family. Loss of life or work-related illness creates great problems for **the employer**: (his contribution in making a profit, work organization, additional expenses, quality of the products, etc.); for the **state**: (filling social and pension funds, additional engagement of the health department and humanitarian organizations, expenses for additional infrastructure in achieving a higher level of overall development); for the **employee** and his family (a decrease in social and material safety, psychological stability and the overall well-being of both the individual and his family).

A positive experience is spreading worldwide due to market requirements for providing the required quality of products and services: QMS – Quality Management System, the ISO 9000:2000 series standards, and social demands for imposing laws and other regulations in the environmental protection EMS – Environment Management System, and the announcement from the headquarters of the ISO organization, that in the same way, *by applying the process model*, it is possible to control health and occupational safety.

In order not to remain at the general level, we will try to specify one field in the project of quality assurance, which is directly or indirectly connected to occupational safety. The first written document in the quality assurance of every company and institution is quality policy. That is a document that is made and authorized by the head of a company, i.e. the chairperson of the board of directors. In the quality policy, the following elements are explicitly stressed: what is the quality in the company, the dependence of a company's success and quality, what is the minimal quality level, where is quality created within the company's activities, who is responsible for the quality, what guarantees the quality, the importance of constant education and improvement of the management and employees, the attitude towards environmental protection and the obligations of carrying out the agreed quality policy as a part of business policy.

Such a precisely determined quality policy requires the instruments of observing the operation process. Every subjective quality evaluation would be very risky, which no manager wants. Apart from various possibilities of collecting concrete quality indicators, there is also the monitoring of the expenses that appear as a result of bad quality, monitoring customer satisfaction and monitoring the quality level of the competition.

It goes without saying that every manager today has a clear picture what business expenses depend on, as well as expenses that occur as a consequence of bad quality. Every employer will recognize the importance of a **healthy employee** and the extra expenses which evolve as a result of a discomfort or an accident at work, as well as how much occupational safety contributes to keeping these expenses at an acceptable level. In companies which do not have developed occupational safety, as one of the consequences, a significant level of absenteeism occurs, that is, the problem of competent replacements, which undoubtedly affects production at work and leads to difficulties in managing the arranged deadlines with the customer.

Aware of the fact that every deviation from the arranged elements creates customer dissatisfaction, and defining the quality policy, all the companies aim at maximal customer satisfaction in terms of product quality, services and certainly relations. It can easily be noticed that this short illustration leads to an assumption that occupational safety is an important element of quality, because the quality is, without doubt, created by healthy and competent people in their activities and processes. Having all that in mind, it would be no surprise if an *auditor*, when giving a certificate to a company or an institution, would point out the problems about the elements of occupational safety. That is not because of his bad intentions, but because of his global understanding of the quality conducting system.

Another illustration, which is influenced by the ISO 9000 standard, represents the meaning of motivation and awareness of the importance of quality for every employee. It is said that only capable, healthy, safe and satisfied employees can produce a product or a service of maximum quality, which implies minimal expenses due to bad quality. Let us imagine a situation in which we want a quality product, and the employee is absolutely unmotivated, insecure and disgruntled. There is no doubt whether under these conditions quality can be achieved. It is hardly ancient history for management theory itself, which claimed that the employer would achieve quality required on the market only if the employees are working in fear and under pressure from the supervisor.

Everything that is mentioned is a part of the quality policy and conducted process, with which you monitor the quality goals and the control of their realization.

The primary goal of providing a normal working system when unplanned situations (*interruption, slowing down or other anomalies at work*) happen is resolving incidents as quickly as possible and with minimal interference with business processes.

Resolving problems aims at removing the cause of the incident and making sure that the noticed incidents do not repeat in the future. After resolving problems, the process manager has a task to document the problem in the process of problem management and to find the solution to that problem, in order to turn it into a familiar problem that can be controlled by the actions of proactive support.

Proactive support is used in order to define in advance and control in a certain time frame all the elements of the system, and, if necessary, apply some corrective actions and/or slight adjustments of individual elements and parameters, so their performance can be improved.

The aim of the proactive support is the opportune spotting and fixing of the defects before they become a serious incident and jeopardize the performance of a segment or of the whole system.

3. BUSINESS PROCESSES AND RISK ESTIMATION

Risk refers to conditional events or the circumstances which are apparently out of the control of the project team and whose appearance would have a negative influence on the project. In other words, in contrast to the events which represent a current problem with which the project team is constantly dealing with, risk is a potential *future* problem which has surfaced yet. A passive project manager deals with the problem when the problem occurs. A proactive project manager searches for solutions to potential problems **before** they even show up. That is the competence and the skill of managing risk. You cannot

predict all the events, some do happen eventually, even if the changes (probabilities) of them happening are very small. Actually, most of the problems in project realization might be predicted and they can be dealt with by applying the process model of proactive risk management.

The issue of risk generation during the business process is shown in figure 1, related to risk estimation, so that all the elements of the process are secured as a function of: time, quantity, quality, financial support, organization, etc.

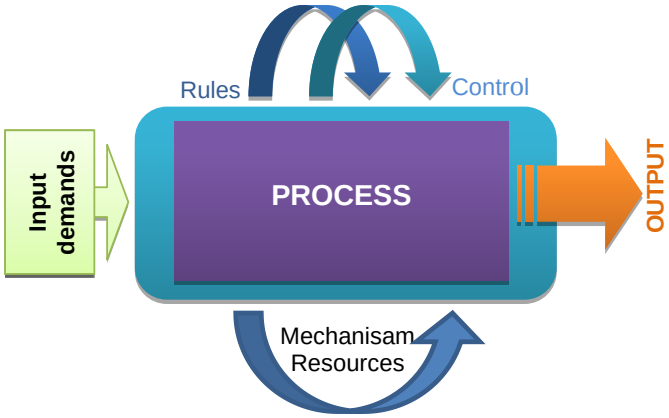

Fig. 1 Scheme of the business process based on the definition of ISO standard 9001:2000

The risk estimation regulations studied here are often used as a term in order to define the process of getting answers to whether risk develops according to the plan. Risk estimation is only a mathematical or semi-mathematical process – an algorithm used to calculate the amount of risk. For the management, the owner of the process, responsible for the course of the business process, the sole result of the estimation is not enough. Risk, projected within the frame of the business process, is a dynamic figure that changes from one moment to the other. Every time you mention some of the elements that affect the procedure of risk estimation, the amount of risk gets changed as well. Because of that, and according to the intentions of the ISO 9001:2000 standard, the process approach must be secured, which implies the creation of steps for risk management.

Business processes are unique to every organization and they are supposed to be composed in a special way because they represent a mirror image of all the specifics of the organization, in relation to other business subjects. In contrast to business, the process of risk management, as a general rule, has no reason to be specific for individual organizations, and to depend on the size, type or field.

By analyzing the example given in figure 2, which represents a complex "A0" process, every element (inputs, resources, mechanisms, transformations, output), reflects the essence of proactive risk management.

In accordance with the law, risk estimation should be performed in a way that every element of the process is estimated from the aspect of its risk. If we look at the bottom part of figure 2, which shows the decomposition of the process into three steps "A0.1", "A0.2", "A0.3", we can conclude that the total number of process elements did not change in respect to the outer world that surrounds the process, but new elements have

appeared for individual steps of the process. That can be explained by the occurrence of the inputs and outputs between steps "A0.1" and "A0.2", that is "A0.2" and "A0.3". These elements of the process are, however, important for the unique "A0" process, but they are not visible in the process (the top of Figure 02).

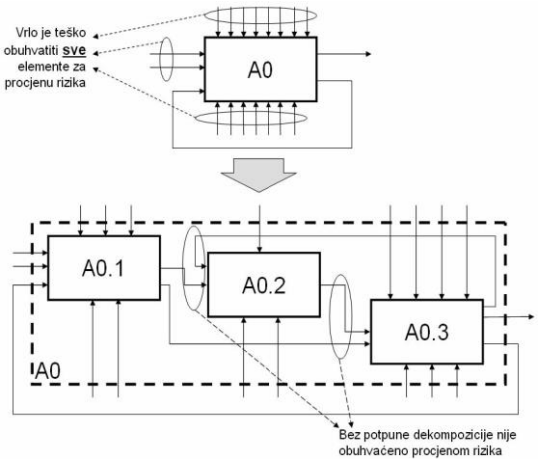

Fig. 2 Decomposition of the process and identification of the risk assessment elements

Because of that, and for the necessity of risk estimation, or because of better risk management of the processes, it is necessary to perform a complete decomposition, and only then, on such a decomposed process, perform risk estimation. With such a risk estimation, you can get the complete risk which defines the probability of the process to go as plans, as well as the information where the critical spots and the situations that can jeopardize the process are found. That is important so you can plan and put into practice the activities necessary for decreasing the risks and increasing the quality and stability of the working process. Because of the QMS aspect, the incompletion of at least one process step can jeopardize the whole process and it requires the application of preventive, that is corrective, measures.

4. CAN OHSAS BE USEFUL TO A COMPANY?

The business process and process approach are according to the ISO 9001:2000 standard, a necessity when introducing QMS into an organization. Once you identify the business processes in an organization, the next step is their notification or creation. By noting the process, decomposition to the lowest level is being performed, until there is no need to further decompose some process. For the necessities of certain levels of the organization's management, especially for occupational safety management, the chosen level of process decomposition can be used, but the owner of the process must have the possibility of supervising the processes to the final level of the process step. Direct executors that are a part of the process realization also need to have complete and detailed information about a part of the process (sub-process) they are in charge of. A nicely decomposed process gives not only a functional possibility of control and management,

or rule but also a real possibility of measuring the process at control spots, allowing requirement completion as well as constant advancement.

The contemporary level of opinion about QMS function for the organization's management is not enough. Namely, the business system management requires information about whether the process goes according to plan, that is, requires knowing when and in which instances the violation of continuity and integrity of the process can occur.

The answer to that question can be provided by the risk management process. With that individual process, you can secure a more confident flow of the process, according to the plan.

OHSAS was developed as a process model, with a systematic approach for identifying the dangers to the health and safety of the employees, risk estimation and its management, in order to contribute to:

1. securing a healthier and safer working environment;
2. avoiding accidents and health damage in large numbers, and
3. decreasing lost time due to ill and injured employees.

The occupational safety management system that aims at increasing process safety and the preservation of employees' health implies:

1. decreasing the risk of possible accidents;
2. increasing the moral of the employees;
3. decreasing the dissatisfaction and insurance premium;
4. increasing the company's credibility and reputation.

The OHSAS standard was developed to be compatible with standards for the management system ISO 9001:2000 from the QMS series as well as the ISO 14001:1996 from the EMS series, aiming at facilitating the quality management system, environmental protection system management, health management and occupational safety by organizations, if they want that.

Changes in the system occur as a result of problem solving or as a consequence of proactive search for business effect improvement or service improvement. Change management in such a heterogeneous system as an *occupational safety* system is necessary so the changes can be introduced with a minimal reflection in the disturbance of the business processes of economic systems.

5. INSTEAD OF A CONCLUSION

The process approach is one of the inevitable principles that have to be applied in QMS implementation. Risk management in business processes has a task to secure prevention of the critical events that can jeopardize the functioning of the process, but also in cases when, despite all the preventive measures, the consequences of the undesirable events occur, the planned activities for handling the incident situations or working under conditions of a disaster should be put into practice.

Some standards (ISO14001 – EQM, ISO17799 – ISMS, ISO18001 OHSAS, ISO22000 – HACCP, etc.) in setup have risk estimation as a base for complete implementation. For ISO 9001 – QMS, in the current revision, that is not explicitly required. However, because of the increase in the seriousness of the whole QMS, risk estimation in business processes is becoming more and more significant in analyzing and maintaining desirable quality levels.

Occupational safety, which in its essence implies safety and health at work, is because of risk estimation, a *subject* that is widely discussed by the competent public of the Serbian administrative environment. The lack of professional effort for the advancement of the system, made the *pseudo-experience* of the state administration to be used instead of the values created the academic institutions of the scientific and competent potential.

That is why it is so difficult today to put into practice an analytical research process and find reasons and arguments that inspired the state administration to *improve* the occupational safety system which, in spite of the marks of the political system, has a developing function (education to the highest academic degree), infrastructure (from an individual level to the agencies and sectors) and control function (supervising agencies).

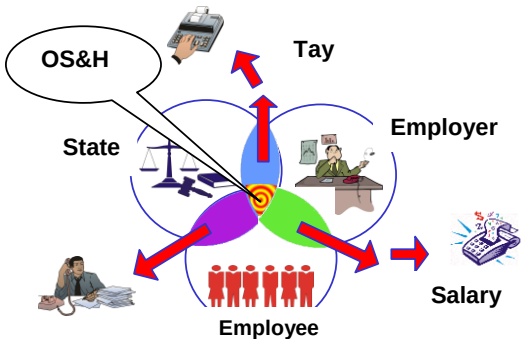

Fig. 3 Interest groups in occupational safety and the health system

Very often today, in conditions of a degraded economic ambient, a pragmatic question is asked: what are the domains in which occupational safety – *safety and health at work*, finds its real professional sense?

The answer can be presented as a synthesis of the analytical point of view, which, as a result divides the two mutually connected areas that mutually correspond by making a full contribution of the function of occupational safety in the market-economic environment.

Firstly, occupational safety – *safety and health at work*, is a platform on which the interests and responsibilities of the employer, the employees and the state are conjoined in making an ambient in which the risks will be maintained at an acceptable **level**. The acceptable level needs to be coordinated and constantly improved in the framework that is being framed by the tripartite interests of the economic ambient.

Secondly, the control function which is a part of the insurance system needs to be fulfilled, and for which the tripartite partners are equally interested – employers, unions and the state, which implies the systemic approach, on which the quality tools are based. The risk concept based on the principles of quality management, that OHSAS BSI 18001 is methodically in accordance with the structure of the standards of ISO 9001 and ISO 14001, implies that the certainty for success is concentrated on an integrated management system.

The comparative advantage which belongs to the field of occupational safety, on the grounds of the systemic arrangement on the principles of the international standard, has not been fulfilled at all. Hope remains that the legitimacy of knowledge will overpower the interests of the association of hobbies and lobbies.

This attitude is, of course, a hypothetical one and for now there is no dialogue between the professionals and the state, which has the responsibility to arrange the system and to improve it.

If the business system longs to subject its interior organization to customer satisfaction, in order to provide a place on the market, *because the company's survival is not obligatory*, and the observation of the law cannot be questioned, then the choice of the future business system is simple.

Realistically, the expectations that the risk estimation as a law-obliged procedure will by itself initiate managing mechanisms will remain unnoticed. The created chance can be turned into a positive result with a coordinated campaign, and with more stimulating conditions for the employers.

Proactive support implies the processes of proactive system maintenance including all the processes necessary for securing the optimal system performances and allowing work. Proactive support also includes the management system upgrade with all the necessary tools, which enables the resolution of all familiar problems.

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ZAŠTITA NA RADU I ZDRAVLJE – SISTEM SA PROAKTIVNOM STRUKTUROM

Tokom proteklih 20 godina u ekonomskom prostoru Srbije postoje dve komercijalne aktivnosti koje se u sadašnje vreme ističu. Prva se tiče uspostavljanja sistema kvaliteta zasnovanog na ISO 9000 standardima, druga se tiče razvoja i primene zakona o zaštiti na radu i zdravstvene zaštite. U ovom radu autor je imao nameru da sprovede, na osnovu analitičkog pristupa, process naučne dedukcije na osnovu podataka koji su zaiteresovali i naučnu u profesionalnu zajednicu u pogledu integracije ovih aktivnosti koja bi se kasnije mogla razviti u jedinstveni program.

Primena zakona sa mnogim savremenim elementima po sadržini se spaja sa proceduralnim namerama koje su regulisane strukturama ISO 9000. Iz tog razloga, autor u svojim profesionalnim i naučnim zaključcima još uvek pokušava da potvrdi da postoji veza između problema koji se najbolje mogu rešiti primenom politike zaštite na radu koja bi vremenom postala ključni factor poslovne politike svake firme. Kvalitet zaštite na radu bi trebalo smatrati funkcijom opšteg uspeha u poslovanju i generisanju profita.

Ključne reči: *zaštita na radu, bezbednost, upravljanje rizicima*