Safety management system of subcontractors' works in foundry companies

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Abstract

Most companies use the services of subcontractors, either in their core business, or to support the work – e.g. maintenance. This poses the need for effective and systematic monitoring of the work of subcontractors, especially if they perform it on the premises of an enterprise. In some industries such as construction, energy, petrochemicals, metallurgy and foundry additional system requirements appear, particularly with regard to safety and the environment, a compliance with which is necessary to obtain an order. Often, conformity with these requirements must be confirmed with a certificate. The article presents examples of standardised special requirements, such as SCC / VCA, SCT / VCU, SQAS used for sub-contractors of construction work, maintenance, scaffolding etc. in the European Union member states.

Keywords: safe work in foundry, quality management, environmental protection, subcontracting, SCC

1. Introduction

In all member states of the European Union, numerous important improvements have been introduced to the system of occupational safety and health protection, but the pace at which they have been and are introduced differs from country to country.

Since the moment when in 1987 the Single European Act came in force, the speed of introducing these changes has increased quite considerably. The measures undertaken mainly aim at influencing the social dimension of Internal Market, obtained through reduction of high social and economic costs resulting from the negligence in observance of the workers' safety and health rules.

To harmonise changes going on all the time, the EU member states have decided to implement a framework directive (89/391/EEC) „on the introduction of measures to encourage improvements in the safety and health of workers at work", which defines common rules for the introduction of measures that should improve the safety and health of workers performing their duties at work.[1]

Among many other things, the framework directive also compels employers to take the following actions:

- assume the responsibility for the safety and health of the workers,
- assume a proactive attitude, which means forecasting the circumstances preceding an accident,
- make risk evaluation,
- organise training and get workers engaged in this training,
- provide authorities and means enabling compliance with these and other requirements [2,3].

The guidelines comprised in this Directive are binding for all workers supervised by an employer, including also workers employed on the basis other than the full-time job. Nowadays, more and more often, numerous enterprises use in practice the principle of outsourcing. Enterprises employ subcontractors to make various repair, modernisation or investment works. Building companies employ workers through temporary work agencies or place orders directly with subcontractors. Quite often, these are the works included in the group of dangerous jobs, e,.g. work at high altitude, work in tanks, or in the environment of explosive atmosphere. Even the most common type of work carried out by workers from different companies can be the source of numerous problems regarding the safety of work conditions, and as such will require the establishment of consistent rules and efficient coordination. Very helpful in this respect are highly specialised, occupational safety-oriented, management systems [2,3].

2. Subcontractors in management systems

The rules for selection and supervising of subcontractors can be found in all commonly available management systems, to mention only quality management according to ISO 9001, environmental management according to ISO 14001,

occupational safety and health management according to PN-N 18001 or OHSAS 18001.

Each of the above mentioned standard systems requires the determination of procedures by which the subcontractors can be supervised. Such procedures usually include:

- establishing criteria for the selection of subcontractors,
- establishing criteria for the periodical assessment of subcontractors,
- recording the results of assessment and all actions resulting from this assessment.

In practice, the relevant criteria for selection and assessment valid in each system are usually related with the scope of problems touched by this system. In a quality management system, these will be e.g. issues such as punctuality, quality of workmanship, price. [2]

In the system of environmental management and safety and health at work, other specific, often common to both issues, requirements will appear, e.g. readiness and prompt response to emergency situations, monitoring, and operational control. ISO 14001 and OHSAS 18001 Standards have identical structure and many requirements in common,. Polish National Standard PN-N 18001 differs from OHSAS 18001 mainly in the structure of requirements, based on the guidelines of the International Labour Organisation ILO [3]. The requirements regarding subcontractors are discussed under one common article entitled „Operational control" (OHSAS), while in Polish standard they form a separate item [4,5,6].

According to the requirements of PN-N 18001, the solutions of an organisational character regarding subcontractors working on the premises of a company should:

a) allow for the occupational safety and health criteria during the selection and assessment of subcontractors;

b) establish, before the start of work, efficient methods of permanent communication and cooperation between the relevant units in contractor's and subcontractor's organisations, including information on hazards and related means to prevent these hazards and protect the workers;

c) ensure recording of accidents during work, occupational diseases and accident-generating events that happen to the subcontractor workers during their work for the contractor's company;

d) if necessary, raise workers' awareness of various hazards at work stands and provide training in all issues related with the occupational safety and health, addressed to subcontractors and their staff before and during the work;

e) ensure periodical monitoring of subcontractor's actions regarding his observance of the occupational safety and health requirements;

f) make subcontractor observe all company's procedures and organisation-related arrangements regarding the occupational safety and health.

In the majority of cases, the aforementioned requirements allow sufficient control of the subcontractor's actions. However, in high risk-burdened sectors, the expectations will be greater, and therefore described by separate systems specifying hazards typical of a given sector.

Further part of this article discusses a system that has been developed to serve the needs of repair and construction works carried out at large enterprises under the conditions of high risk threatening both people and environment. This is the SCC/VCA system.

3. The SCC/VCA system

The system of safety and environmental management in subcontracting work, called in short SCC /VCA, is of a Dutch origin. Developed in 1995 by the Foundation for Safety, and revised in 1997 by the Central Committee of Experts, the document was entitled „General Procedure for the Certification of Contractor Safety Management System with the Safety Checklist Contractors" and discussed the problems of safety, health and environmental management. In 2004, a SCC/VCA - Safety, Health and Environmental (SHE) Contractors Checklist publication was issued to form a basis for the assessment and certification. A revised version was published in 2008 (SCC 2008/05) and in 2010 was updated in accordance with the requirements of ISO 17021 (SCC 2008/5.1).

The SCC system covers the following fields of activity [7]:

— building,
— construction,
— mechanics,
— electrotechnics,
— industrial cleaning,
— maintenance,
— vertical transport,
— fire protection, etc.

It does <u>not</u> refer to the following areas:

— engineering agencies and consulting companies not dealing with the problems of constructions,
— building companies with the activity profile restricted to office buildings,
— horizontal (road) transport,
— road marking,
— various services, e.g. house cleaning.

The structure of SCC requirements is divided into 12 chapters:

1. Safety, health and environmental protection (SHE) – policy and organisation, engagement of the management
2. SHE risk analyses / plan of action
3. Training, information and instructions
4. Safety, health and environmental communications and consultations
5. SHE project plan
6. Environmental protection
7. Preparation for emergency situations
8. Safety, health and environmental inspections
9. Occupational healthcare
10. Purchase and inspection of materials, equipments and tools

11. Procurement of services
12. Notification, registration and investigation of incidents

The requirements comprised in individual chapters have been prepared in the form of 47 test questions, determining minimum requirements and compulsory records. The number of questions covering the requirements that should be satisfied differs and depends on the type of option. Besides compulsory requirements, the conformity with at least some of the supplementary requirements has to be proved, following the key given below:

SCC* - 24 compulsory questions, no supplementary questions
SCC** - 33 compulsory questions and 14 supplementary questions (minimum 6 must be satisfied)
SCC^{petro} - 43 compulsory questions and 4 supplementary questions (minimum 2 must be satisfied)

4. Implementation and certification

The certification under SCC is carried out in two areas: certification of personnel and certification of enterprise. Workers should complete special training and pass an examination conducted by organisations with the authorisation of an accreditation body [8].

Examinations are carried out at two levels: basic level (Basic Elements of Safety SCC (BES)) – for operators, and advanced level (Safety for Operational Supervisors SCC (SOS)) – for the supervising staff.

Personnel certificates are valid for the period of 10 years. All certificates are registered in databases of the supervising organisations in individual countries. Lists of the certified persons are available on website. For example, the certificates with Dutch accreditation RvA can be found on www.vca.nl.

The condition for an enterprise to apply for enterprise certification is the previously completed personnel certification. The scope of certification may cover a part of the enterprise only, viz. this part that performs the work covered by SCC requirements. The management of the organisation must take the decision which certification level their company should have, taking also into account the customers' requirements.

The enterprise preparing itself for certification must submit a statistical report specifying accidents that have taken place in the period of the last five years. The report is prepared in the form of a table comprising the following data:

- number of workers (including temporary workers),
- number of work hours,
- accidents with absence longer than 1 day but shorter than 15 days,
- accidents with absence longer than 15 days,
- mortal accidents,
- number of absence days on account of accidents,
- number of accidents at work,
- incident frequency rate (IF).

Fig. 1. Personal certification card – basic level

The incident frequency rate in the past 3 years (IF) is calculated from the following formula:

IF (Frequency) = total number of incidents involving absence x 1 000 000 / number of work hours.

In previous version of the SCC 2004, the value of 40 was adopted as a critical level of the IF index, which meant that the certificate could be granted only when the IF index was less than 40. In the revised version of SCC 2008, no critical value of IF was stated. This value is evaluated during successive audits and should reveal an improvement.

It is the main contractor's obligation to ensure that the subcontractors whom he employs comply with the SCC requirements. There are three possibilities to ensure such compliance [8]:

1. The main contractor includes subcontractors in his management system to comply with the SCC requirements at work place.

2. The subcontractor has his own system and can confirm that the SCC requirements are complied with at work place.

3. The subcontractor has a VCA certificate. *

If the contractor with a SCC certificate employs workers through agencies of temporary work, he may use only these agencies that have a SCT/VCU certificate in the field of activities corresponding to the contractor's activity profile.

The certification of an enterprise is carried out at three levels, i.e. SCC*, SCC**, SCC^{petro}:

SCC* - option for small companies who are not general contractors,

SCC ** - option for large companies who are general contractors,

SCC^{petro} – option for companies carrying out hazardous work for petrochemical industry.

The certificate is valid for the period of 3 years.

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Fig. 2. The certificate of SCC** system

5. Supervising and audits

Audits are carried out by high-qualified auditors from the certifying bodies having accreditation in the scope of SCC. The rules of auditing are based on ISO 19011, similar as in the case of other management systems.

The task of an auditor is to make a conformity assessment of all the requirements covered by a SCC specification. Some of the SCC requirements are written in italics, which means that the auditor is required to explain and justify his decisions. In the case of the remaining requirements the auditor is only requested to affirm the compliance or its lack.

The justification of the assessment should be done in the following way (three steps):

I – the auditor starts with confirmation of compliance with the minimum requirements comprised in each of the posed questions;

II – as a next step, the auditor explains and justifies his decisions regarding all the minimum requirements written in italics;

III – further, the auditor states if the goals set in each of the questions written in italics have been achieved, explaining and justifying each time his decision.

The audit procedure also requires visiting the place where the work is going on, e.g. the building site, the site of the repair, etc. The number of the visited places depends on the number of the carried out works.

In the case of the observed inconsistencies, the adopted procedure is identical as in other systems [8].

6. Summary

Organisations that cannot prove compliance with the safety and health standards adopted generally in the world should expect serious problems in business carried out on the international markets or in cooperation with transnational corporations. Foundry companies employing subcontractors will more and more often require proving through certification of meeting the safety and environmental requirements.

This is mainly due to the fact that large organisations do not want to expose themselves, their enterprises and employees to the risk of failures in contract execution, highly probable to occur if they consent to have a company with low level of the safety and health standards operating in their territory.

At present, requirements of this type are obligatory for contractors only in some member states of the European Union, but it should be expected that in the nearest future also in Poland large companies subcontracting their services will demand from a supplier or subcontractor proving his compliance with the requirements of safe work and protection of environment before starting any form of cooperation.

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