

An Overview Of Risk Management For Occupational Health And Safety

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Abstract:

The objective of this study is to analyze the consequence of risk management for occupational health and safety in small and medium size enterprises (SMEs). There are many processes and tools used in safety management. Most of the processes used to manage safety aim to eliminate or control costs and the exposure of people to harm. The control of risks will enable an organization to operate efficiently and safely. It is suggested that management should identify and control the risks before loss occurs.

Keywords: Occupational health, Occupational safety, Risk management, Risk control.

1. Introduction

The common forms of safety management include risk management and loss control. Risk management involves the identification, assessment and control of all areas of risk in an organization and aims to minimize loss or wastage of business assets. When managing safety, remember the Pareto 80/20 rule which states that 80% of accidents are the result of 20% of activities. Targeting the most dangerous 20% of activities and preventing these accidents makes the most effective use of time [1, 3]. The control of risks will enable an organization to operate efficiently and safely. On this understanding, risks can be managed through five basic principles:

1. Risk evaluation: Once a list of risks within an association has been compiled, the impact of every risk on the group, high and mighty no control action has been taken, requires evaluation. And the risks may be place in classify of right of way to decide when control action is required.
2. Risk avoidance: In this stage, risks are eliminated. An example of this is a manual handling hazard in which lifting heavy boxes may result in back strain [2, 5]. The risk may be avoided through the use of a mechanical aid (fork-lift truck), therefore eliminating the risk of back injury with the task. Another example is where a fire hazard exists in a particular area of a plant. Switching to non-combustible materials can eliminate this hazard, and so prevent it being realized.
3. Risk reduction: One method of reducing a risk is through engineering. For example, a conveyor belt nip point may present a hazard of trapping hands or fingers at that point. Engineering controls, in which guarding prevents contact with the moving parts in equipment, will control the hazard – for example, the use of electrical motors instead of shafts and belts in powering machinery [4, 6].

4. Risk retention: In cases where risk cannot be avoided, or reduced, risk may be retained and the cost absorbed by the organization, taking an insurer's point of view of risk retention. From an OHS practitioner's viewpoint, insurance such as workers' compensation or fire can be taken out for some retained risk.

5. Risk transfer: Risk transfer involves shifting the point of risk to other parties who are better equipped to control the risk. This might be done because of inadequate equipment, experience or skill with a particular task. In an organization an example of this is the use of emergency management teams which are trained to combat disasters. Insurers tend to use the term 'risk transfer' to mean that the cost of the retained risk has been transferred to the insurer.

2. Techniques used in risk management

Management should engage identifying and controlling risks before loss occurs. A workplace or organization may be looked at through a systems approach when considering risk management. A systems approach looks closely at areas within the workplace through the following steps.

Step one: One of the first practical steps that you can take with risk management is to consider the work systems within an organization and then at each department level. Work systems include all the components required to perform a particular function.

Step two: Risks may be identified through employee identification of them, safety inspections, analysis or accident statistics, and near miss incident audits, checklists and reports. This is not an exhaustive list, however. Once risks are identified, review the process involved from Step 1, within the selected department, then evaluates and applies risk control principles in consultation with the department supervisor, employees and health and safety representatives (where they exist). Other methods of risk identification include the use of structured programmes such as: fault tree analysis, and hazard and operability study.

2.1 Main areas of risk

Classification of areas as under:

- Employee and management
- Equipment, machinery and plant
- Materials used
- The environment
- Work practices

2.1.1 Employees and management: Management failure in the work system can take various forms. Therefore, deliberation may be agreed in the training and execution of such a system like: formalized procedures and correct use of PPE, enforcement of the health and safety policy and rules, regular reviews of all written systems of work, establishment of health and safety committees and election, where law provides, of health and safety representatives, industrial relations, proper training and coaching, secure plant and

equipment, clear and effective communication pathways, checks that procedures are followed and review of these on a regular basis, ongoing education and training and competent supervision [7].

2.1.2 Equipment, machinery and plant

As employees are often in direct or indirect contact with items of equipment, machinery or plant, questions that need to be asked are:

- Is there sufficient guarding of plant and other equipment?
- Is equipment used as per proper designed purpose?
- Is equipment frequently checked and maintained?
- Is there a safe working procedure documented and practised with plant, machinery and equipment?

2.1.3 Materials

Material handling and processing may involve risks such as manual handling, thermal conditions and dust exposure. In consideration of this, risks may be associated with the:

- Poor selection of materials
- Work practices unsuited to the materials
- Poor housekeeping
- Poor cleaning, handling and disposal of waste.

2.1.4 Work practices

Work practices are the way in which tasks or procedures are carried out. It is not only the physical aspects of work practices which may present a risk but also the layout of the work areas [8]. Work practice problems include: bad timing with process, safe work procedures may not be adhered to or developed, work schedules may result in employees rushing, poor ergonomic design of work stations.

2.1.5. Risk control

In order for risk control to be successful in the workplace, we must manage the risk associated with the underlying hazards. This should be done on a priority basis; in other words, priority should be given to the hazards or activities which have the potential for greatest adverse effects (put 80% of the effort into this 20% of hazards). An appropriate response to a hazard should consist of selecting the highest measure of control possible. Figure 1 outlines how hazard control measures from high to low order will assist in eliminating or reducing risk within the organization.

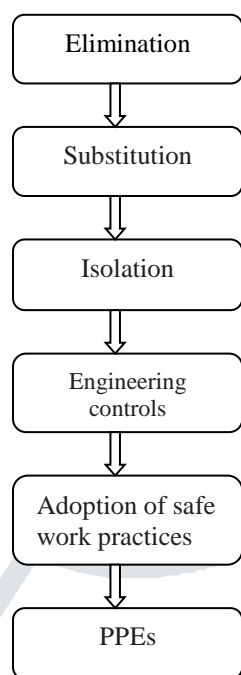


Figure 1 Hazard control hierarchy

3. Function of a loss control programme

Loss control involves identifying and controlling weakness in a workplace system where there is potential for loss to affect people, plant and equipment. In practice, when an accident occurs, or accident potential exists, the principles of controlling loss are shown in Figure 2. If we look at general components within a workplace, weakness may exist at many points in procedures and practices. For example, if a procedure for purchasing chemicals does not take into account safety requirements or its toxicity, an accident or loss may result [9]. Many chemicals can be substituted by less toxic ones and personal protective equipment may need to be ordered along with the chemicals. Other safety considerations which should be included when purchasing chemicals are: the need to obtain and make available a material safety data sheet, the maintenance of records for quantity and type of chemicals used, a chemical register detailing chemical identification, quantity and location on site, placards to alert the public of hazardous material and to assist emergency teams, control strategies to prevent adverse effects of the chemical on health, prosperity or life, health surveillance, emergency procedures for the particular chemical, educating and training of personnel in correct use and application of a chemical, correct labeling of containers.

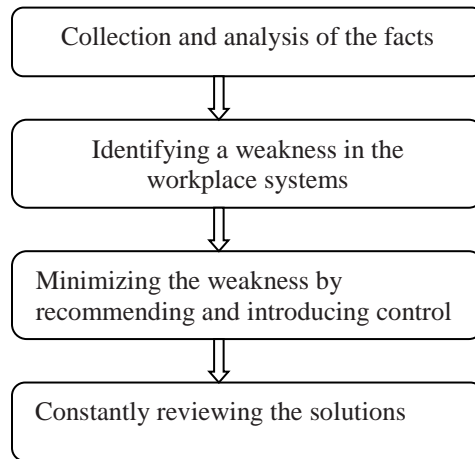


Figure 2 Principles of controlling loss

3.1 Controlling areas of loss

Loss control is mainly directed at areas such as personnel safety, property conservation, environmental protection, security and product safety. To control loss at any level of the workplace, procedures which integrate safety into each function need to be developed, practiced and reviewed on an ongoing and regular basis. Efficient procedures are, however, only one part of loss control. When we talk about loss control, some important points must be considered like unsafe act, unsafe condition.

These conditions can be recognized and prohibited through consultation mechanisms, regular inspections and accident or incident investigations.

3.2 Barriers to effective risk communication

Risk communication is an important aspect of the OHS programme in any organization, and in fact is also important in the public arena generally, because many people in the workforce will be influenced by risk communication taking place in the wider community. But there are barriers to risk communication [10]. These include cultural barriers; the cultural effect can come from, for example, ethnic or religious sources. Another possibility is that the culture may relate more to the social group a worker belongs to; for instance, those where drug taking or other substance abuse is common place.

4. Conclusion

Risk management plays a vital role for occupational health and safety in SMEs. Management failure in the work system can take various forms. Therefore, it is suggested that deliberation for the employee may be agreed in the training and execution of such a system like: formalized procedures and correct use of PPE, enforcement of the health and safety policy and rules etc. As employee are often in direct or indirect contact with equipments, machinery and plant. In this study loss control also analyzed which helps to identifying and controlling weakness in a workplace system where there is potential for loss to affect employee, plant and equipment.

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