

STUDY OF BEHAVIOUR BASED SAFETY IN INDUSTRIES

N.PraveenKumar^{#1}, M.Vinoth^{#2}, S.Kamalakaran^{#3},

#1 PG Scholar, Department of Mechanical Engineering, Knowledge Institute of Technology, Tamilnadu, India. Email:nagarajanpraveenkumar@gmail.com

#2,3 Assistant professor, Department of Mechanical Engineering, Knowledge Institute of Technology, Tamilnadu, India.

ABSTRACT: A safety management system is meant to identify hazards, to control risks and to measure effectiveness of mitigating actions. The behavior based safety is a positive and physiological approach for accident prevention method. It is a successful manner in safety development which proven in American and European countries (1980). Behaviour is one of the key factor for unsafe act and condition by improving the safety in behavior based approach would control the safety culture. Lack of comfort, fit ,fogging, storage and scratching of the eyewear were suggested as the most important barriers for usage of PPE. Finally the consequences were cleared by conveying the behavior of the employee to be changed. Hence it is included that the BBS implementation will give the fruitfull of success in the upcoming phase. This project work increases the overall safety effectiveness of the plant with help of behavior based safety.

KEYWORDS: Safety, health Behavior, ,etc..

LITERATURE REVIEW:

1.MalgorzataJasiulewicz-Kaczmarek, said that .Behavior-based safety emerged from several well documented and used fields of study outside of safety, and the approach to building safety culture enhanced with BBS is not an entirely new solution. It originates in works of H.W. Heinrich published in 30s and 40s of the XXth century, proving that only 10% of accidents and

occupational diseases were caused with inappropriate working conditions, while 88% of them were a consequence of dangerous behavior of employees.

2.LIU Jianhua, said that, Behaviour Based Safety (BBS) is a security management based on the theory of the analysis of behaviour, studying stimulation and reaction, reaction conditions and the generate of reaction in the process of cognition

and motivation, is a kind of management method fused by psychology, behaviour science, safety management science and so on, it can correct unsafe behaviour of people, develop safety habits and safety consciousness, promote the formation of safety climate, so as to improve the safety level of the organization.

3. Natalie C. Skeepers, said that „According to Reason, management commitment to safety is recognised as a fundamental component of an organisation's safety culture. Several studies have asserted that employee perception of management commitment correlates strongly with safety performance Zohar, Barling, Parker.

4. Qihu Qian, said that, Individual and departmental interests. The individual and departmental parts mainly refer to some important figures in related units. A few important persons only consider their own achievement and interests, and various important factors are neglected, such as the project scale, construction period and cost of scientific research. The construction process and detailed bidding are frequently and randomly interfered due to their “power” on project management.

5. Sulastre Mat Zinet al., said that „An attempt was carried out by conducting preliminary pilot study

using five Likert scales of interview questionnaires survey consisting of ten grade seven contractors listed under the Construction Industry Development Board (CIDB) directory, who undertake Building Works within the Klan Valley area. The aim of this survey is to determine employers' perceived on the factors of behavioural safety compliance identified to be fully reinforced towards achievement of organisation's goals.

PROBLEM IDENTIFICATION:

Unsafe Behaviour in the industry

The following are the unsafe behaviors defined by the industry while the employee working.

Adjusting or cleaning, loading and unloading while machine is in running condition.

1. Two hand control operated by two persons.
2. Operators working in welding, gas cutting, air cleaning without personnel protective equipment.
3. Loading, unloading of sharp equipment without fore arm sleeve.
4. Handling chemicals without PPE.

5. Operating a material handling equipment without authorization.
6. Operating electrical equipment without authorization.
7. Pneumatic tools like doors, guns, lines wrong handling.
8. Pulling the trolley during material movement affects the spine.
9. Working at height without full body harness.
10. The employee experience and aged people are not aware of the safety practices.
11. From the above stated problem the five problems related with no adherence the personnel protective equipment.

Hence the above problems are compressed to following.

1. Non adherence of PPE.
2. Adjusting and cleaning the machine in running condition.
3. By passing the existing safety mechanisms.
4. Pulling the trolleys.
5. Improper usage of PPE.

Main objective of the project is

- To develop injury free culture in organization
- To develop the culture of BBS to the employees.

METHODOLOGY:

HAZARD IDENTIFICATION AND RISK ASSESSMENT

Purpose

To ensure that there is a formal process for hazard identification, risk assessment and control to effectively manage workplace and safety hazards..

Key Definitions

Hazard

Anything (e.g. condition, situation, practice, behaviour) that has the potential to cause harm, including injury, disease, death, environmental, property and equipment damage. A hazard can be a thing or a situation.

Hazard Identification

This is the process of examining each work area and work task for the purpose of identifying all the hazards

which are “inherent in the job”. Work areas include but are not limited to machine workshops, laboratories, office areas, agricultural and horticultural environments, stores and transport, maintenance and grounds, reprographics, and lecture theatres and teaching spaces.

Risk

The likelihood, or possibility, that harm (injury, illness, death, damage etc) may occur from exposure to a hazard.

Risk Assessment

Is defined as the process of assessing the risks associated with each of the hazards identified so the nature of the risk can be understood. This includes the nature of the harm that may result from the hazard, the severity of that harm and the likelihood of this occurring.

Risk control

Taking actions to eliminate health and safety risks so far as is reasonably practicable. Where risks cannot be

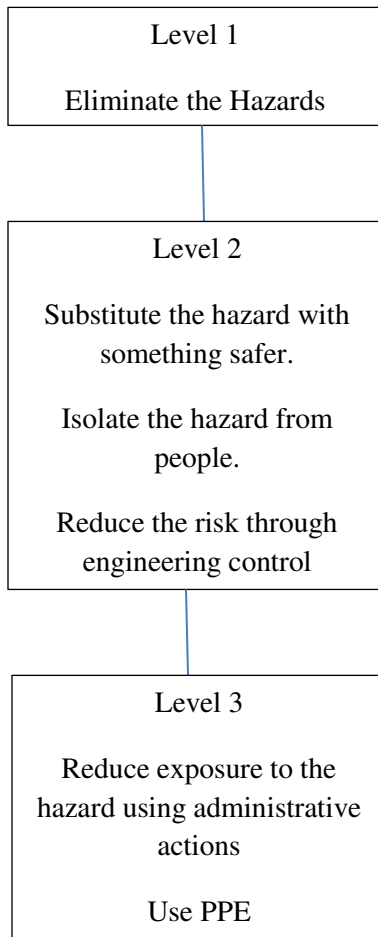
eliminated, then implementation of control measures is required, to minimize risks so far as is reasonably practicable. A hierarchy of controls has been developed and is described below to assist in selection of the most appropriate risk control measure/s.

Monitoring and reviewing

This involves ongoing monitoring of the hazards identified, risks assessed and risk control processes and reviewing them to make sure they are working effectively.

Well Designed Control		Effectively Implemented	
3	Needs improvement	3	Deficient
2	Adequate	2	Marginal
1	Strong	1	Effective

Hierarchy of Controls



CONCLUSION:

By involving the concept of BBS and behavior modification techniques such as intervention, the accident will be reduced and also diminish the incident rate gradually. The PPE consumption form the store will be increased, due to continuous monitoring by team leaders the PPE adherence will increase, especially with the contract employees. By passing the safety mechanisms will come down due to intervention with plant maintenance supervisors. The findings of this study suggest are as follows.

1. Proper procedures, sop must be recommended and to be followed.
2. Employees interactions towards BBS must be evolved.
3. The management support to be evolved.
4. PPE must be used and the importance of PPE must be known.
5. Proper training must be initialized.