

Onsite Revive of Emergency Plan for Hazard Management

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Abstract— This paper is mainly, focused and they were evaluated all levels of Hazard Management in Sugar industry. It is a fundamental factor to all manufacturing industries and it is very great element for Safety Management. Any industry, it is very essential for identifying the Hazards to measure the associated risks and to take away the risk at endurable level. It is unrecognized hazards is present they, are the most out of control risks. Hazard identification and risk Assessment (HIRA) should be estimated once in while at regular intervals is they based on the Management Of Changes (MOC) like Process modification, Equipment changes, Raw material changes, Operational changes, Maintenance procedure & Shutdown/Start-up changes, Routine and Non-routine activities, changes, etc. Timely evaluation of Hazard Management would maintenance to the organization of reducing the risk level and they ensure the safe work environment to all participants. The current Production Process, Management of Changes, Incident Investigation Recommendations and other related problems have been upgraded in Hazard Management System & Revive On-site Emergency Plan.

Key words: Safety, Risk, HIRA

I. INTRODUCTION

In India, there are several statues make it mandatory for factory management for hazard management. They prepare for onsite emergency plan. Particular statues likes,

- The factory act (1948)
- The Control of Industrial Major Hazard (CIMAH) Rules (1990).
- The Chemical Accidents Rules (1996)

They are the primary assurance of all industries. After the Bhopal gas strategy in 1983, Chernobyl nuclear disaster in 1986 etc. The Indian government has made a great modification in safety rules and regulations for hazard management. There is a great awareness in the public regarding the threat to the people and environment due to the industrial activities. The industries are started realizing the fact that hide cost of an accident will be much more than that of the visible cost. Moreover the rules and regulations are becoming so strict that an accident can even threaten the very existence, public and the industries. Work related injury, and loss of life is also occurring in every workplace. These injuries are regularly occurred in industries because employees are not well-trained in the suitable job procedure. There is another way to prevent the workplace disease in the order to set up the suitable work procedure for all trained employees in safer and more efficient work methods. The industries should follow the proper risk assessment technique. The Hazard Identification and risk assessment part is based on sugar factory. The whole production unit is divided into different division and subdivision for the intolerance of risk assessment. Different division involves

the process like crushing, filtration, sulphitation evaporator, centrifugal, dryer, storage and packing and dispatch area. ⁽⁷⁾

A. Need for Risk Assessment

It will help to highlight the hazard, and they provide the data information on the probability of causing to harm arising as well as the problem of harm by aware the hazard. They are combining the appraisal of probability, and severity to produce an assessment of risk is used in a support to the decision making. ^(1,7)

A Hazard Identification and Risk Assessment (HIRA) stay an effective way to identify and look at the hazards to regulate their scope, effect and the vulnerability of the built environment to such hazards and its drive is to confirm the formal activity of hazard identification, risk assessment and they are control in effectively handling the hazards that may occur to the workplaces. It has a lot of subjective analysis input and should not be considered an end of itself. The main purpose of risk assessment are to minimize the risk level in the workplace with control measures and ensure safely the work environment. ^{1,7}

B. Objective

The overall objectives of the emergency plan will be:

- To control the emergency related problem and, eliminate it;
- To protect the people and property at the time of any hazard.
- To carry out the risk and analysis of risk.
- To identify any predictable deviation (undesirable event)

II. STEPS OF RISK ASSESSMENT

Risk assessment is the endless process. They are following some steps to assess the process is given below.

A. Step 1: Hazard Identification

It is used to recognize and get better the list of hazards for each and every job in the industry. The hazard may be cause by natural disaster or man-made mistake. They are reasonably likely to expose people to injury, illness if not effectively controlled. Workers can be too informed of these hazards and controls put in place to protect workers earlier to them being exposed to the real hazard. ⁷ They are possible hazard onsite location Boiler Area, Turbine room for Explosion, Electrical rooms Fire, Transformer area Fire and Cable tunnel for Fire and electrocution etc., There are certain methods to identify the hazard identification.

- "What if"
- Checklists and worksheet
- HAZOP (Hazard and operability study)
- Task analysis and index analysis
- Failure Mode and Effects Analysis (FMEA)

B. Step 2: Risk Assessment

Risk assessment is the process to control the possibility to that the people are bare to the injury to the workplace arising from any circumstance is identified with the hazard identification method is very important for consideration of control measures.⁷

Population and physical structure is the element of rik.They are three level to identify the risk management by high range (7-9), medium range (4-5) Low range (1-3). It occurs when a person is exposed to a hazard. The like-hood is, depends on the risk assessment, is unlikely probable, possible if it is exposure to a hazard it will lead to health and safety issues are measure the potential difficulty of harm. ^{1, 3}

C. Step 3: Risk Control

It is the process to develop, implement and frequently review all measures for decreasing the likelihood of an injury, diseases in the workplace.

There are four strategies to control the risk in hazard management are

- Risk avoidance
- Risk retention
- Risk transfers
- Risk reduction.

D. Step 4: Implementation of risk controls

Risk control of all hazards that has measured it should be given out in the order of priority is over one or more of the following order of controls

The most effective methods of control are:

- 1) Eradicate the hazards.
- 2) Substitute something safer.
- 3) They use the engineering tools to design controls
- 4) Use managerial controls such as safe work procedures to protect the workers from personal equipment.

E. Step 5: Evaluate and Review the process

It is on-going process they are regularly go through the effectiveness of your hazard assessment and their control measures. Make sure that you take on a hazard and risk assessment when there is change in their workplace including the work systems, tools, and equipment changes. They are ranked the hazard to lower priority to higher priority. They provide the additional guidance of the new employees it reduced the skill levels is introduced to the workplace.

III. ON-SITE EMERGENCY PLAN

It is a logical procedure which is designed to control emergency situations so as to provide safety and security to the participants until the normal business plan resumes.

It consists of two sections:

- Emergency plans and procedure
- Emergency control room

A. On-site Emergency Plan should contain.

- 1) Site planning and topographical plan.
- 2) Leadership, administration and communication
- 3) Facilitate internal and external communication.
- 4) Facilitate walky-talky for information sharing.

- 5) The plan showing the firefight facilities.
- 6) Plan showing hazardous material and storage area.
- 7) Material safety and data sheets (MSDS) for hazardous chemicals.
- 8) Facilities available in main control center.
- 9) List of storage hazard material record.
- 10) List of Safety Equipment.
- 11) List of the medical officer available in onsite
- 12) List of important key personnel numbers and addresses of.
List of the nearest hospitals and ambulance services center.
 - Nearest fire stations.
 - Government Officials.
 - Transport provider.

IV. CONCLUSION

The main purpose of Hazard Management and risk assessment are to characterize the hazard at place of work environment and evaluate the risk level from high to low endurable level with proposed control measure for an each activity is carried out in workplace. Use the risk analysis for reducing the risk assessment.

- 1) Fault tree analysis : It is used for work out the probability of top most event occurrence of the tree analysis they were evaluating the design to modifications and find the areas required more consideration are complying with qualitative and quantitative safety measures.
- 2) Event tree analysis: It is graphical method to represent the analysis. It is used measures the possible outcomes of an initiating event. They make available an inductive method to consistency assessment as they are put up for using the forward logic.
- 3) Bowties tree analysis: It is highly effective for an initial process of Hazard Analysis. It make sure the documentation of high probability-high consequence events are joint in the application of a high-level of the causes of a hazardous situation event and the measures in place to prevent the control hazards

The Hazard identification and risk assessment techniques, sugar production process, Management of Changes, and present HIRA register have been studied and processed. And Hazard Management System and On-site Emergency Plan have been revived.

REFERENCES

- [1] http://ethesis.nitrkl.ac.in/2445/1/Amol_thesis_final.Pdf
- [2] https://en.wikipedia.org/wiki/Sugar_cane_mill.
- [3] Health & Safety Management for Quarries by Health and Safety Executive.
- [4] Hazard Identification and Risk Analysis in Mining Industry by National institute of technology, Rourkela
- [5] <http://ijsetr.com/uploads/41625IJSETR11>
- [6] <http://environmentclearance.nic.in/writereaddata/online/RiskAssessment/22022015S6XVS1TLAnnexureRA&E MP.pdf>
- [7] www.internationaljournalsrsg.org