

MCN401
INDUSTRIAL SAFETY ENGINEERING
MODULE-1



TEXTBOOKS

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2. Paul S V (2000), Safety management System and Documentation training Programme handbook, CBS Publication.
3. Krishnan, N.V. (1997). Safety management in Industry. Jaico Publishing House, New Delhi.
4. John V. Grimaldi and Rollin H.Simonds. (1989) Safety management. All India Traveller Book Seller, Delhi.
5. Ronald P. Blake. (1973). Industrial safety. Prentice Hall, New Delhi.
6. Alan Waring. (1996). Safety management system. Chapman & Hall, England.
7. Vaid, K.N., (1988). Construction safety management. National Institute of Construction Management and Research, Mumbai.
8. 8. AIChE/CCPS. (1992). Guidelines for Hazard Evaluation Procedures. (second edition). Centre for Chemical Process Safety, American Institute of Chemical Engineers, New York.



MODULE-1 SYLLABUS

- **Module I (safety introduction):**
- Need for safety. Safety and productivity. Definitions: Accident, Injury, Unsafe act, Unsafe Condition, Dangerous Occurrence, Reportable accidents. Theories of accident causation. Safety organization- objectives, types, functions, Role of management, supervisors, workmen, unions, government and voluntary agencies in safety. Safety policy. Safety Officer-responsibilities, authority. Safety committee-need, types, advantages.



SAFETY OFFICER/PROFESSIONAL

SAFETY PROFESSIONAL/OFFICER

The role of the safety officer is in most respects advisory. It is essential however, for the safety officer to be influential and to have technical competence and experience to be accepted by line management. The later for their part are not likely persistently to disregard the advice of the safety officer if he possesses these qualifications and is seen to be supported by senior management.

The situation of the safety officer is one where there is a potential conflict between function and status. He may have to give unpopular advice to managers more senior than himself. It is a well understood principle of safety organization, however, that on certain matters function carries with it authority.

The safety officer should have direct access to a senior manager, eg. Works manager, should take advantage of this by regular meetings and should be seen to do so. This greatly strengthens the authority of safety officer.



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Although the safety officer's duties are mainly advisory, he may have certain line management functions such as responsibility for the fire fighting and security systems, and his assistants often have responsibilities in respect of the permit- to-work system.

Qualifications of the safety professional

1. He should possess a recognized degree in any branch of engineering or technology or physics or chemistry and have sufficient practical experience of working
2. Possess a degree or diploma in industrial safety recognized by the Central Government.
3. Has adequate knowledge of the language spoken by majority of the workers in the industry which he has appointed.



SAFETY OFFICER/PROFESSIONAL

Duties of safety officer

- i. To advice the concerned departments in planning and organizing measures necessary for the effective control of personal injuries
- ii. To advice on safety aspects on all departmental work, and to carry out detailed job safety studies of selected work.
- iii. To check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries
- iv. To advice purchasing and stores departments in ensuring high quality and availability of personal protective equipment
- v. To carry out safety inspections of industry, in order to observe the physical conditions of work and the work practices and procedures followed by workers and to render advice on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers.
- vi. To investigate the cases of occupational diseases contracted and reportable dangerous occurrences



SAFETY OFFICER/PROFESSIONAL

- viii. To investigate fatal and other selected accidents
- ix. To promote setting up of safety committees and act as advisor and catalyst of such committees
- x. To organise in association with the concerned departments, campaigns, competitions, contests and other activities which will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedures
- xi. To design and conduct either independently or in collaboration with the training department, suitable training and educational programmes for the prevention of accidents to industrial workers.
- xii. Frame departmental safety rules and are working practices in consultation with the various departments or authorities
- xiii. Supervise and guide in respect of safety precautions to be taken while handling dangerous operations



SAFETY COMMITTEE

SAFETY COMMITTEE

The primary purpose of the Safety Committee is to promote safety awareness and reduce the potential for injury/loss throughout a Manufacturing Company.

The Safety Committee is to be chaired by the Safety Director and include representatives from each department (total number of committee members not to exceed five individuals). Members can be volunteers or appointed. Membership is limited to two terms (1 year each) during any four year period.

Meetings are to be scheduled, when possible, for the same day each month. All meetings are to take place in the conference room. Each meeting should have a set agenda and minutes of each meeting recorded. A copy of the minutes shall be forwarded to the Executive Vice-President within 48 hours of meeting.



SAFETY COMMITTEE

Each Safety Committee Meeting shall include a review of the prior month's minutes as well as a review of the prior month's injury/illness log and investigations of losses/claims. Past injuries/claims/losses need to be reviewed for any patterns or trends.

General functions of the Safety Committee can include:

- (1) Identifying workplace hazards
 - (2) Enforcement of Safety Rules
 - (3) Measuring safety performance
 - (4) Reducing frequency/severity of injuries
 - (5) Creating safety policies
 - (6) Developing and monitoring safety programs
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SAFETY COMMITTEE

Specific tasks of the Safety Committee can include:

- (1) Conducting self-inspections of the workplace
- (2) Review employee reports of hazards
- (3) Assist in safety training
- (4) Creating safety incentive programs
- (5) Publish/distribute safety newsletter
- (6) Inspect **PPE** (Personal Protective Equipment)
- (7) Post safety posters/slogans on bulletin board
- (8) Identify Light Duty Jobs



SAFETY COMMITTEE

Safety Functions with Objectives and Duties

1. Management Commitment to Workplace Safety and Health

- Establish procedures for review and management's response to minutes.
- Submit written recommendations for safety/health improvement/changes and response.
- Evaluate employer's safety/health policies and procedures.
- Respond in writing to safety committee recommendations.
- Review corrective action taken by management.



SAFETY COMMITTEE

2. Committee Meetings and Employee Involvement

- Establish procedures for employee input, i.e. to receive suggestions, report hazards, and other pertinent safety and health information.
- Include employee input on agenda for safety committee meetings.
- Hold monthly meetings.
- Keep meeting minutes.
- Develop and make available a written agenda for each meeting.
- Take meeting minutes and distribute to management and the safety committee members.
- Include in the meeting minutes all recommendations.



SAFETY COMMITTEE

3. Hazard Assessment and Control

- Establish procedures for workplace inspections to identify safety and health hazards.
- Assist the employer in evaluating the accident and illness prevention program.
- Appoint an inspection team of at least one employee representative and one employer representative.
- Conduct workplace inspections at least quarterly.
- Make a written report of hazards discovered during inspections.
- Review corrective measures. Make written recommendation to correct the hazard, and submit it to management for timely response.
- Identify high risk job tasks and develop written safe operating conditions.



SAFETY COMMITTEE

4. Safety/Health Planning

- Establish procedures to review inspection reports and make appropriate implementation of new safety/health rules and work practices.
- Develop/establish procedures for an annual review of the company safety and health program.

5. Accountability

- Evaluate the company safety and health accountability program.
- Make recommendations to implement supervisor and employee accountability for safety and health.



SAFETY COMMITTEE

6. Accident/Incident Investigations

- Establish procedures for reviewing reports completed for all safety incidents, including injury accidents, illnesses and deaths.
- Review these reports so that recommendations can be made for appropriate corrective action to prevent recurrence.

7. Safety/Health Training for Committee-Members

- Identify and make accessible applicable OSHA standards and other codes that apply to your particular industry.
- Provide specific training on your type of business activity. Include at a minimum, hazard identification of the workplace and how to perform effective accident incident investigation.
- Identify the location of safety procedures provided with appropriate equipment and inform employees of their location.
- Recommend training for new employees and refresher training on company, department and work location safety practices, procedures and emergency response.
- Management should maintain (and make available to the safety committee) records on employee safety training.



SAFETY COMMITTEE

Workplace safety committee member duties

Chair person

- Prepare agenda for next meeting
- Arrange for meeting place
- Notify members of meeting
- Arrange program
- Set time schedule for meeting
- Arrange all seating for members
- Review previous minutes and material for meeting
- Conduct meeting



SAFETY COMMITTEE

Secretary

- Record minutes of meeting
- Distribute minutes to committee members
- Post minutes for other employees
- Report status of recommendations
- Assume chairperson's duties, if required

Members

- Report unsafe conditions and practices
- Attend all safety meetings
- Report all accidents or near misses
- Review injury accidents, illnesses and death investigations
- Contribute ideas and suggestions for improvement of safety
- Work safely
- Influence others to work safely

