

Safety and Health Organisation

An organisation consists of two or more people working together co-operatively within identifiable boundaries to accomplish a common goal or objective.

Safety Organisation

Safety organisation constitutes a vehicle - of systematic procedures by means of which interest is created and maintained and all safety activities are correlated and directed. The safety organisation is a "clearing house" of information on safety matters. The expression has a broader significance than merely the inclusion of safety committees, safety inspectors, safety meetings, and other similar details. It includes the interest, support, direction, and participation of the higher executives. As such, its nature and scope are governed by the principles of accident prevention.

Safety has been described as everyone's responsibility. As a generalisation this is true. Most functions in modern society are fulfilled through an organisational hierarchy. Many industrial companies today state that their first three concerns are safety, quality, and production, respectively.

Causative fact-finding investigations often occupy a number of key personnel for several days when serious events occur. Also, the injured person is lost to the workforce for a period of time. In some industries, traditionally the entire crew may quit for the day when a fatality occurs. Obviously, the organisation's mission cannot be accomplished when such unwanted events occur. Profit, production, and other considerations are negatively affected. An organisation should be aware that injuries are expensive. Not only do the injuries incur medical costs and indemnities, but valuable time is lost from productive work, and often property damage is incurred.

Conventional Safety Programming

There are four basic steps in conventional safety programming:

1. Case analyses by categorising injurious events, identifying their causes, determining trends, and performing related evaluations of the events.
2. Communication of the knowledge derived from the case analyses by codifying the acquired information into standards and making the knowledge available in instructional formats such as training programmes, posters, visual reminders, films, and so on.
3. Inspections with a dual purpose of appraising the level of compliance as well as to detect unsafe conditions and practices before they produce injurious events.
4. A fourth step may be added to the industrial safety programme. Supervisor safety training is intended to orient the supervisor to safety achievement and responsibilities.

In the past fifty years, industrial technology has developed more new equipment and processes than were developed in the preceding 1,000 years. Technology has created expanded requirements and need for accident prevention at the workplace. Many tasks have become increasingly complex and demanding, and their potential for serious injury has increased substantially. As a result, management has broadened its functions to include the application of safety programme management in its organisational systems. It further means that safety programming has become a function of the managerial class, right from the line supervisor upto the chief executive officer of the organisation.

Safety programme management is the control of the working environment, the equipment and processes, and the workers for the purpose of reducing accident injury and losses in the workplace.

Box 4.1 Elements of Safety Organisation

- Safety policy
- Safe work policies
- Safety training
- Safety meeting
- Safety investigation and analysis
- Safety rules and regulations
- Safety promotion
- Safety inspection
- Safety records
- Emergency preparedness

Safety Planning

Good planning is as essential in safety as it is in production. If a new factory is to be built, or an existing factory reconstructed, there are many things affecting both production and safety that should be taken into account in the planning stage, such as the site, facilities for handling and storing materials and equipment, floors, lighting, heating, ventilation, lifts, pressure vessels, boilers, electrical installations, facilities for machinery maintenance and repair, and fire protection. It is essential that safety considerations be borne in mind at the time of the actual planning of the building of the factory. Once a factory is in operation, planning is still essential in a number of fields to ensure the highest possible standards of safety as well as efficiency.

The manager of a factory can generally follow a number of principles in planning for safe and efficient production. Here are some examples:

1. Keep the handling of materials and articles to the minimum.
2. Provide adequate space for machinery and equipment.
3. Provide safe working surfaces on floors, stairs, platforms, gangways, and so on.
4. Provide for safe access to every place to which workers have to go.
5. Provide for the safety of maintenance and repair personnel, such as window-cleaners and of men working on overhead equipment.
6. Provide safe transport facilities.
7. Provide adequate means of escape in case of fire.
8. Isolate dangerous processes, such as spray-painting and processes with high-fire or explosion risks.
9. If possible, only buy machines with built-in safety devices.

There are a number of safety measures which are related to good order and good housekeeping all over the plant. If there is a place for everything, and if everything is in its place, a considerable number of accidents are unlikely to occur. Good odour and good housekeeping not only reduce accident risks by eliminating physical risks but also contribute to safety by their psychological effect. It is obvious that good housekeeping and good odour can be achieved more easily if workers support the idea and obey all instructions designed to promote it. Good housekeeping not only helps to prevent accidents but also makes work easier.

Safety Policies

Policies are those principles and rules of action which guide an organisation to achieve its objectives with due regard for its business ideals. When accident prevention is the objective, the setting down of the guiding principles and rules will provide a foundation upon which the safety organisation will be created.

Policies should not be confused with procedures. Policies are designed to guide us in what to do; procedures inform us how to do it. Policies are therefore guides to action in decision making; procedures or routines to follow which will enable achievement of the objectives.

Sound policies are necessary to:

- Promote intelligent co-operation at all levels.
- Prevent deviation from accepted courses of action.
- Provide a network for the intelligent exercise of initiative.
- Produce a foundation for co-ordination at various levels.
- Present a clear expression of management's objectives and intentions.

As a minimum, the following areas ought to be touched on in a safety policy:

1. Management's intent – what does management want?
2. The scope of activities covered – does the policy pertain only to on-the-job safety? Does it cover off-the-job safety also?
3. Responsibilities – who is responsible for what?
4. Accountability – where and how is it fixed?
5. Safety committees – will there be committees? What will they do? Why do they exist?
6. Authority – Who has it, and how much?
7. Standards – what rules will the company abide by?

The safety policy statement is the foundation of the safety programme. The safety policy statement can be a driving force or a destructive force for the entire safety programme. The safety policy statement must be perceived as company policy, not the safety person's policy, not the human relation's department policy, nor any individual's policy.

The philosophy and objectives behind safety commitment are:

- The safety and health of all employees is our first priority.
- The only acceptable level of safety and health performance is one that prevents injury and accidents.

- Safety and health are integral part of production and all other business functions that cannot be separated or by-passed.
- Safety and health are a responsibility that must be shared equally and without exception by everyone within the organisation.
- Supervisors and management will be held accountable for the safety and health of the personnel for whom they are responsible.

To be effective, safety policies should be stable, flexible, compatible, sincere, realistic, understandable and written. Organisational safety policies are institutional guidelines on all matters concerning safety administration. Policies specify the corporate aims and designate the responsibilities and authority for their achievement.

Developing a safety policy will include the following steps:

1. Write and announce the policy regarding the control of hazards for which the organisation has a responsibility. Designate accountability and delegate authority for implementing the policy.
2. Appoint a safety director.
3. Analyse the operational record of injuries, property damage, and work illnesses.
4. Appraise the scope and seriousness of operational hazards.
5. Select, organise, and schedule communication methods for employee safety training, safety maintenance, and informing organisation's safety progress and needs.
6. Establish a periodic review scheduled for auditing the programme and facilities.
7. Determine long-range objectives and short-term goals for the programme.

Management's acceptance of its responsibilities for safety can best be expressed by setting a policy to provide a safe and helpful workplace for its employees. This is a commitment, and hence it should be designed to lay down step by step company's plan for evolving a safe workplace. A total safety programme must always start at the top management level. Each management level must reflect considerable interest in the company's safety objectives and set good examples of compliance with safety rules.

Today safety professionals realise that safety is a state of mind and what is really needed is "built-in safety" and "integrated safety" as a part of company's policy. Such a safety policy aims to build safety into various procedures, and continuously audit the procedures to ensure that the controls are adequate.

Box 4.2 Safety Policy of Tata Steel

Tata Steel believes that a healthy worker is the surest basis for its continued success.

Tata Steel, therefore, is committed to the task of ensuring the safety and safeguarding the health of all its employees.

Importance will be given to continuous training for promoting safety consciousness among all employees.

Joint committees of executive and employees' representatives will supervise the company's safety measures.

Within his area of responsibility, everyone will be accountable for:

- Establishing a safe and healthy work environment.
- Ensuring compliance with mandatory safety and health requirements.
- Proper maintenance and orderly housekeeping, to control the risk of damage to plant and equipment.
- Insisting on safe work procedures being followed by employees, contractors and visitors.

Box 4.3 Safety Policy of Rashtriya Chemicals and Fertilizers (RCF)

RCF firmly believes that all accidents are preventable, and the safety of the employees, industrial operation, products and customers, and the neighbouring communities are of paramount importance. To achieve this the company will effectively take the following steps:

- Every attempt will be made to reduce the possibility of accident occurrence and to improve and maintain the environment safe.
- Work environment will be monitored and safe and healthy working conditions will be maintained.
- Operating practice that will safeguard all employees and result in safe working conditions and efficient operation will be observed.
- Safety is an operating function and all levels of line management will have a primary responsibility for implementation of safety programmes.
- No jobs will be considered rightly done unless the employee follows the safety precautions and rules to protect himself and his fellow employees.

Safety Culture and Climate

The concept of safety culture and climate is central to contemporary thinking on health and safety management. Accidents such as that at Chernobyl (1986) have been attributed in part, to the safety culture of the organisation. The terms safety culture and safety climate have become almost interchangeable in the literature. Much of the research into the assessment and quantification of culture and climate for safety has centred on the use of attitude surveys. Employee attitudes are one of the most important indices of safety culture and climate. Also attitude towards safety are one of the basic components of a safety culture and climate.

The creation of a safety system requires that all employees must have a commitment to safety and ownership of the safety system that supports a safe place of work. This commitment requires a cultural change of all employees and this change can be initiated and developed through employee involvement in "work teams".

Every company has a "culture", simply described as "the way we do things round here." As a part of the company culture, safety should start "at the top" from the senior management and pervade the whole organisation. Safety is unfortunately, usually seen as a cost item and a necessary evil demanded by law. But as a part of the company culture, it can actually contribute to profit, just like quality. An unsafe plant or an inferior product, though seemingly cheap, can prove far too expensive in the long run for everyone. Safety manuals are no substitute for a safety culture or a safety-minded workforce. It is people who cause accidents and it is only people who can prevent them. In the absence of a "safety culture," no amount of sophisticated gadgetry, fool proof safety devices and alarms will ensure a safe plant operation.

Safety Control

Safety control could be synthesized in three phases or stages:

- (a) the post control;
- (b) the control of the events; and
- (c) the pre control.

The post control stage includes all the safety performances and the activities that occur as a result of an accident or injury. Some of these performances are: (a) first aid and medical care that were needed, or that were required, on the part of the injured victim; (b) control of the damages resulting from the accident or injury; (c) emergencies or reactions in the face of a certain situation; and (d) programmes of rehabilitation offered to the accident/injury victim.

The second stage of safety control makes a reference to the control of the events. In this phase, the visible side of safety is observed and all the measures that should be taken are taken so that in the event of the accident, the damages and the occupational injuries are diminished.

Safety Promotion

Although safety can to some extent be engineered into equipment and processes, it is still necessary to motivate employees to perform their work safely. Safety promotion is persuasion through motivation. An effective safety programme must be persuasive; it must provide a stimulus to which employees will respond positively. The goal of any such programme is active participation by employees.

Direct safety promotion approach involves intervention into the system, such as:

- Modification of safety training programmes, including retraining.
- Providing short safety talks either at the start of each shift, following lunch, or during coffee breaks.
- Holding safety meetings led by the line manager or the top executive officer in the facility explaining management's concerns over declining safety performance.
- Development of a safety information programme.
- Evaluating safety performance on a regular basis.

Making employees interested in their own safety and well-being is the responsibility of the safety professional who plans the programme and the supervisors who carry it out. The safety professional must realise that a safety promotion programme can succeed only through the combined efforts of management and employees, and must therefore use every available means to maintain their enthusiasm. Interest in safety programme can be created in various ways. In many companies, safety contests have been very effective; usually such contests are held for the purpose of reducing the frequency of accidents. Any good idea about safety promotion can be used as the basis for competition.

Safety Committee

A safety committee is most useful mechanism for facilitating the necessary co-operative effort that is essential for success in accident prevention.

It should consist of representatives from top management, supervisors and from the workers. It should act as an advisory body and meet regularly.

Safety Committees should draw up terms of reference and a list of agreed objectives, one of which should be the promotion of cooperation between employees and employer in instigating, developing and carrying out measures to ensure the health and safety of all employees. The functions of a safety committee will normally include the following:

1. To consider safety performance.
2. To monitor the effectiveness of the organisation's health and safety policy.
3. To study disease and accident statistics to:
 - (a) look for trends,
 - (b) highlight unsafe and unhealthy conditions and practices, and
 - (c) recommend corrective action.
4. To consider safety inspection and audit reports and recommend action for improvements.
5. To undertake safety audits.
6. To consider reports of factual information provided by enforcing authority inspectors.
7. To consider proposals for future developments put forward by management.
8. To assist in the development of written safe systems of work and work safety rules.
9. To consider revisions of the organisation's health and safety policy.
10. To keep a watch on the effectiveness of the safety training programmes.
11. To monitor the adequacy of health and safety communication and publicity in the workplace.

The model rules framed under the Factories (Amendment) Act, 1987 suggest the following functions of the safety committee:

- * Assisting and co-operating with the management in achieving the aims and objectives outlined in the "Health and Safety Policy" of the occupier.
- * Dealing with all matters concerning health, safety and environment and to arrive at practicable solutions to problems encountered.
- * Creating safety awareness amongst all workers.
- * Undertaking educational programmes, training, and promotional activities.

- * Discussing reports on safety, environmental and occupational health surveys, audits, risk assessment, emergency and disaster management plans and implementation of the recommendations made in the reports.
- * Carrying out health and safety surveys and identifying causes of accidents.
- * Looking into any complaint made on the likelihood of an imminent danger to the safety and health of the workers and suggesting corrective measures.
- * Reviewing the implementation of the recommendations made by it.

Besides the above functions, few more areas can be considered by the safety committees:

- Assisting in enforcement of safety norms by safety department.
- Notification of any exposure that are potentially dangerous.
- Reducing the number of safety related plans without infringing on workers' rights.
- Arrangements for celebrations of safety day in the organisation.
- Need for introducing of various types of respiratory and non-respiratory personal protective equipments.
- Modifications and changes to personal protective equipments for elimination of hazards caused by the introduction of new technological process.
- Administration and handling of suggestions and recommendations obtained through the safety suggestions scheme.
- Publicising safety within the organisation members.
- Documentation of health and safety records.
- Establishment of communication channel for improvement of safety and health within the organisation.

It must be remembered that safety committees can only make recommendations on the matters discussed in committee; it is the management's responsibility to take decisions on the implementation of any of the recommendations made. All members of the safety committee should receive training in health and safety and made fully aware of their role.

There are a number of specialised safety functionaries known by different designations such as safety officers, safety engineers, safety advisers, safety directors, who are mainly appointed to administer the organisation's safety policies and programmes. Their role and functions are given below:

Safety Officer

The Maharashtra Safety Officers (Duties, Qualifications and conditions of service) Rules, 1982 laid down the duties of a safety officer, which are as follows.

- (i) The duties of a safety officer shall be to advise and assist the factory management in the fulfilment of its obligations, statutory or otherwise, concerning prevention of personal injuries and maintaining a safe working environment. These duties shall include the following namely:
1. To advise the concerned departments in planning and organising measures necessary for effective control of the personal injuries.
 2. To advise on safety aspects in all job studies and to carry out detailed job safety studies of selected jobs.
 3. To check and evaluate the effectiveness of action taken or proposed to be taken to prevent personal injuries.
 4. To advise the purchasing and stores departments in ensuring high quality and availability of personal protective equipments.
 5. To advise on matters related to carrying out plant safety inspections.
 6. To carry out plant safety inspections 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.
 7. To render advice on matters related to reporting and investigation of industrial accidents and diseases.
 8. To investigate selected accidents.
 9. To investigate the dangerous occurrences reportable under rule 115 of the Maharashtra Factories Rules, 1963 and the cases of industrial diseases contracted by any of the workers employed in the factory reportable under rule 116 of the said rules.
 10. To advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and industrial diseases.
 11. To promote setting up of safety committees and act as adviser to such committees.
 12. To organise in association with the concerned departments, campaigns, competitions, contests and other activities, which will develop and maintain the interest of the employees in establishing and maintaining safe conditions of work and procedures.

13. To design and conduct either independently or in collaboration with the training department, suitable training and educational programmes for the prevention of personal injuries.
- (ii) No safety officer shall be required or permitted to do any work which is inconsistent with or detrimental to the performance of duties mentioned in Sub-rule (1).

In fulfilling his role the safety officer at all times work in close harmony and collaboration with line management executives and with employees and their representatives, with the object of ensuring a safe and healthy workplace in tune with the organisation's health and safety policy.

Safety Director

The director of safety performs a number of significant tasks. They include the following:

1. The formulation and administration of the safety programme.
2. The acquisition of the latest and best hazard control information.
3. The representation of management to the public, employees, insurance companies, and governmental agencies as the company's safety resource.
4. The communication on safety-related issues to managers at all levels.
5. The collection and recording of pertinent data on safety-related operational matters, including work injury causes and statistics.
6. The reporting to top management periodically, on a regular basis on the safety of the organisation's safety effort.
7. The coordination with the organisation's medical department on the safe placement of new or convalescing employees.
8. The inspection of the facilities for compliance with central, state, and local regulations.

Safety Adviser

The functions of the safety advisor is advisory, leaving executive decisions for line managers. The role and function of the safety adviser will normally include:

1. Monitoring the implementation of the organisation's health and safety policy.
2. Advising line management to assist them in meeting some of their health and safety responsibilities.
3. Assisting in the formulation and implementation of safe systems of work.
4. Recommending suitable protective equipment.

5. Checking compliance with all statutory requirements affecting health and safety.
6. Monitoring the necessary safety registers, records and accident books.
7. Promoting health and safety education programmes to develop safety awareness at all levels.
8. Disseminating information on accident prevention techniques.
9. Investigating, reporting and recording injury and damage accidents to:
(a) establish the causes, (b) recommend remedial action to prevent a recurrence, (c) monitor performance, and (d) examine trends.
10. Providing meaningful information on accident statistics.
11. Liaising with outside bodies.
12. Keeping abreast of modern techniques and developments in health and safety.

Safety Department

For effective safety and health management, a well organised safety department is very essential. The safety department has to be assigned with the following tasks:

1. To establish the norms and guidelines for the provision of safety of sites, employees, materials, equipment and structures.
2. To prepare checklists, manuals, and other documents for use by the line management in carrying out their functions.
3. To supervise safety at site and within the organisation.
4. To give advice on all safety matters in accordance with the safety policy.
5. To maintain all safety records, prepare reports and monitor the same to all concerned.
6. To conduct safety training in the organisation.
7. To carry out safety audit periodically.
8. To discharge all statutory obligations of the organisation regarding safety, and maintain liaison with the government safety machinery and other industry associations.
9. To organise competitions, posters, melas and such other activities that promote safety consciousness amongst employees.
10. To carry out plant safety inspections for removing the unsafe physical conditions and preventing unsafe actions by employees.

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Safety Supervision

Supervision of safety performance throughout the organisational hierarchy is a paramount requirement. The immediate supervisors of the workers, more than any others, are the key persons in implementing safety. Just as production and quality rely on supervisor's competent scheduling, training, and leadership;

so does safety depend on the supervisor's ability. An indifferent supervisor is soon surrounded by indifferent workers. Unsafe work practices are used, guards are removed from hazardous points of operation, and the whole work area become an unsafe place. It is necessary, therefore, that supervisor diligently set an example for safety and insist upon full compliance with the operating rules. The role of a supervisor is vital in all accident prevention programmes. The best supervisor will always look into his men, machines, and materials for having qualitative safe production. Supervisors and not the safety engineer are in a better position to do something about accidents. Because of their close association and frequent contacts with the people in their workgroups, first line supervisors have an indispensable part in the plant safety programmes.

Enforcement of safety measures depends to a great extent on the supervisor, for the workers are in his charge and their behaviour will be powerfully influenced by his behaviour. If the supervisor devotes all his time to production and avoids developing safety measures or feels that he has more important things to do than promote safety, then his department or work area, will have a bad accident record. The supervisor should always be alert for any unsafe conditions of tools, equipment, machinery, materials, structures, or other elements of the working environment that may cause or contribute to accidents. Safety, as well as production and quality control, ultimately are the responsibility of first-line supervisor. It is of utmost importance that supervisory personnel must possess proper training to handle their multifarious responsibilities.

It is felt by many that simpler the approach to safety, the better the safety performance. Nevertheless, the responsibility and accountability of a first-line supervisor must be defined fully.

One of the most difficult activities for the supervisor is to develop and maintain good safety attitude in the minds of all employees. When a good safety attitude is maintained, employees will perform their work safely without close supervision.

It is very important that first-line supervisors be responsible for investigating accidents that occur under their supervision. They are the most qualified to investigate accidents because of their constant contact with jobs, working conditions, and workers. They know most of the details of the jobs, procedures, hazards, environmental conditions, and any unusual circumstances. They should also know their employees' job experience and personal characteristics. They are responsible for training new people, checking for unsafe practices, and looking for unsafe conditions. They must remind men about hazards and act

to prevent accidents. By investigating accidents, they will become more proficient in accident investigation.

It is more desirable to train supervisors in safety, so that they may completely discharge their safety responsibility. The following are some areas that should be covered in special supervisory safety training courses.

1. Accident causes
2. How to train employees to work safely
3. Accident investigation
4. Job safety analysis
5. How to conduct a safety meeting
6. Facility inspections

All supervisors face the task of having to train employees to work safely. To a few supervisors it is very easy, to most it is very difficult. Some companies go to specialised trainers for all the training regardless of the type. However, it is felt by many experts in the field that a competent supervisor can train his own employees much better than an outside trainer. However, on some specialised safety programmes on equipment it may be desirable to bring in an expert in that field to do the training.

A job of preventing accidents falls on a supervisor not because it has been arbitrarily assigned to him, but because accident prevention depends upon the normal work, which a supervisor does as matter of course. The supervisor has the following principle responsibilities.

- (a) Establishing work methods for orderly as well as safe production.
- (b) Giving job instructions.
- (c) Assigning jobs to people.
- (d) Supervising people at work.
- (e) Maintaining equipment and the workplace.

These principle jobs of the supervisor are the very activities through which the work of preventing accidents can also be carried out. These will also help to eliminate accidents caused by 'unsafe methods or procedures'. Making sure that safe procedures are established, is a supervisory responsibility.

Giving job instruction, with the proper accent on safety, will help to eliminate one of the most frequent causes of accidents, viz. 'lack of knowledge or skill'. Supervisors should show their subordinates how to do the work safely and ensure that they have the knowledge and skills to do it exactly in that manner, as required.

When a supervisor assigns persons to various jobs, safety as well as good job performance require, that he be sure, the selected person is qualified, and experienced to do the job and thoroughly understands the work method. Even experienced workers may require the direction and guidance. If workers are left on their own, most of the safety rules and procedures are observed more than in breach than in compliance. It is a good practice to correct the fault of workers as soon as those are observed.

Maintaining the equipment and the workplace in safe condition is not different from maintaining them in efficient condition. Accidents very often result from tools and equipment in poor condition, from a disorderly workplace, from make shift arrangements, and so on. Good house keeping is the foundation of safety.

Safety Responsibility

Having laid down adequate safety as one of the requirements, the responsibility for achieving it rests with the organisation's chief executive.

It should be understood that in the designing of processes, machines, jigs, and fixtures, none should be considered complete and ready for use until it is clear that the operation will be safe to the worker directly involved and will not constitute a hazard to other employees. Workplaces and processes must first be engineered for safety. Wherever possible, machines and processes should be so planned, arranged, or guarded as to preclude the possibility of injury. Even so there still will be plenty of need for everything that can be done to motivate, teach, and control employees so that there will not be any unsafe acts. Even if there are no unsafe conditions, there can be enough unsafe acts on the part of employees to cause serious injuries. The point of emphasis here is the need for providing safe work conditions. Even when hazardous conditions have not been causing injuries, they often are slowing down production.

The work of the maintenance department is extremely important in the prevention of injuries. There are two stages or degrees of safety in which a maintenance department may operate. One is of compliance, in which maintenance employees give full cooperation to the company safety department, readily complying with safety requests. The second, and better, is that of active safety-mindedness. In this stage, the maintenance workers have a considerable amount of safety training and are constantly on the lookout for possible hazardous conditions. Another aspect of maintenance concerns mechanical equipment. Proper lubrication, alignment, and adjustment leads not only to a longer life of the machinery and less downtime but also to the reduction of injuries.

General plant housekeeping is an immediate clue as to the safety rating of a concern. Clean floors, aisles clear of debris, fire-fighting equipment, and all other tools and supplies in their designated places are hallmarks of a safe operation.

Safety responsibilities also include product and process research, accounting department, purchasing and personnel/industrial relations department. Usually the safety specialist is located in the personnel department. It should be noted, that the personnel department has responsibility for minimising the prospect of unsafe acts by employees through its attention to employee selection, placement, training, counselling, and so on.

Each worker has a safety responsibility. Ofcourse it is the workers and their families who suffer most directly from work injuries. It must be made clear to all employees by the personnel department, supervisors, top management, and the union that all safety regulations and instructions are expected to be followed just as seriously as any other company directives. In other words, the employees must regard safety measures as part of the requirements of their jobs, not simply as suggestions.

Mention has been made that the union should back up management in the enforcement of safety regulations. Management is generally anxious to promote safety, but it is also seriously concerned with the cost side of the picture. This sometimes leads unions to complain that management is not taking adequate steps to cut down injuries.

A safe place to work and safe work procedures are management's responsibility and cannot be shifted. Nevertheless, any union interested in its members' welfare must be concerned with working safely. Responsible union officials are showing more and more awareness of their responsibility for cooperating to aid management in safety work and responsibilities.

The first-line supervisor is the key person in maintaining day-to-day safety requirements in every organisation, particularly with regard to stemming unsafe acts. A safety-minded supervisor can make a pretty good safety record even if there are other constraints. Supervisors must accept responsibility for all safety failures occurring under their jurisdiction.

The supervisor is the one who directs the workers, says who shall do what, when, where, and how, and therefore cannot evade responsibility for the results, whether in terms of output, spoilage, or injuries. This does not mean that the supervisor is to blame for every injury. In fact, the proper approach to safety is not primarily one of fixing blame but rather of diagnosing hazardous conditions or conduct and taking steps to correct them so that no injurious events will occur.

Safety Inspection

Workplace inspections are undertaken with the aim of identifying hazards and promoting remedial action. Many different individuals and groups within an organisation are normally involved in a workplace inspection. The safety inspection should check maintenance standards, employee involvement, working practices, fire precautions, use of guards and adherence to safe working procedures. The elements of a safety inspection procedure are:

1. Identification of possible hazards.
2. Assessment of potential losses from these hazards.
3. Selection of control measures designed to eliminate or reduce the hazards.
4. Implementation of the control measures within the organisation.
5. Monitoring the effectiveness of the newly introduced control measures.
6. Reviewing at frequent intervals to ensure overall compliance with required standards.

Plant safety inspection can bring to light very useful information regarding safety and health status which will include not only unsafe conditions and methods of work but also direct and indirect causes leading to them. This is a very useful tool in the hands of the manager and helps him to take corrective action before harm is done. .

It also helps the safety management programme in many other ways.

- Regular inspections at the shop floor level cannot escape the notice of the employees. This in effect, is an indirect way of demonstrating the management's interest in the safety and welfare of employees and thus contributes to better shop floor relations.
- Safety inspection brings to light the areas where waste can be decreased, processes can be improved and productivity increased. This results in better management of resources.
- Safety inspections result in contacts with employees which usually result in better understanding and mutual help which leads to all round success of the safety programme.

Safety inspections should be objective, regular, systematic and backed with sincerity of purpose. Effective procedures, lack of objectivity, lack of regularity, neglect and half-heartedness on the part of the inspection team will make a mockery of the safety management programme in the plant and can even negate achievement by other means.

Plant Inspection List

R.P. Blake recommends the use of checklists of items while carrying out a plant inspection.

1. Housekeeping
2. Material handling methods
3. Adequacy of aisle space and working space
4. Guarding of transmission machinery
5. Point-of-operation guards
6. Maintenance
7. Handtools
8. Ladders, portable steps, horses, etc.
9. Hand trucks, power trucks, wheelbarrows, buggies, etc.
10. Floors, platforms, stairs, railings
11. Cranes, hoists, derricks, plant railways
12. Lighting
13. Electrical equipment, particularly extension cords
14. Elevators
15. Eye protection
16. Other personal protective equipment
17. Dusts, fumes, gases, vapours
18. Pressure vessels
19. Any other explosion hazards
20. Other dangerous substances
21. Oiling methods
22. Inspection of chains, cables, slings and other lifting tackle
23. Access to overhead equipment
24. Exits 25. Yards, roofs, and roadways 26. Any other conditions suggested by the accident records.

Source: Blake, R.P., Industrial Safety, P. 77

Not all sound is noise—noise is sound that people do not like. Noise can be annoying and it can interfere with one's ability to work by causing stress and disturbing concentration. Noise can cause accidents by interfering with

communication and warning signals. Noise can cause chronic health problems including loss of hearing, temporary or permanent.

Safety Rules

Safety rules are codes of conduct designed for the purpose of avoiding injury and property damage. They should be prepared in realistic and easily understood language. Employees cannot be expected to respect and follow illogical, unfair, or unrealistic safety rules. Whenever safety rules are ignored, other plant rules are usually ignored, too.

The following guidelines are to be observed while preparing safety rules

1. Safety rules must be clear and easily understood.
2. Keep the number of general safety rules to a minimum.
3. Formulate only those rules that are currently required.
4. Stipulate only those rules that can be strictly enforced.

Safety rules should have the following common characteristics;

1. *Purpose* - A clearly defined purpose for the rule establishes credibility for its issuance and can be an important promotional tool for obtaining employee acceptance and voluntary compliance.
2. *Scope* - Who is covered by the rule? What area(s) of the facility will be covered when the rule is in effect?
3. *Requirement(s)* - Each requirement of the rule must be written clearly, and using words and terms that are easily understood. Arbitrary, ambiguous, and confusing words must be avoided.
4. *Date(s)* - The date the rule was issued and the dates of subsequent revisions are important to ensure that the rule is current.
5. *Signature* - The signature of the person authorising the rule adds credibility and strength to the rule for enforcement.

Safety rules must be accessible to all employees, must be kept up-to-date, and must be reviewed periodically to assure that they are accurate and meet current standards and needs. Once the safety rules are developed, they can be organised into the safety and health manual.

Many establishments have developed safety rule books containing rules of general applicability. It is quite common practice to issue a copy to each employee. This course is of little practical value unless the rules and the

justification for each rule are really understood by the employee. Necessary efforts are to be made in this direction.

Safety Education and Training

Safety education for all levels of management and for employees is a vital ingredient for any successful safety programme. Education in this context refers to the development of proper perspective and attitudes toward safety. Training, on the other hand, is more concerned with immediate job knowledge, skills, and work methods. Safety training of employees, as it is often conducted, has apparently been more effective in arousing safety "consciousness" than in teaching safe job skills.

Top and middle management require education in the fundamentals of safety and the need for an effective accident prevention programme. The supervisors must understand their key role in the safety effort, namely, that they are primarily responsible for preventing accidents. They must conduct safety training programmes for their employees who are directly under their supervision. Formal safety training includes training - both theoretical and practical that is undertaken in the classroom, workshop or training centre, which follows a definite written syllabus. General safety training should be provided for all employees on an ongoing basis and should include:

Induction courses for new starters, ongoing employee safety training undertaken at regular intervals, safety representative training, supervisory training, senior/middle management training.

Specific safety training needs can include those relating to safe systems of work for particular operations, first aid training, specific items of plant or equipment, the use of protective equipment, fire precautions, and safety inspections.

Employee safety training should begin on the first day at the workplace and should continue periodically for the length of the worker's affiliation with the company. Training is one of the best methods that can be used to influence human behaviour for the purpose of developing sound and safe work habits. A safety training programme is needed for:

- (i) newly recruited employees;
- (ii) for employees reassigned to other jobs;
- (iii) for employees returning to work after long medical leave;
- (iv) when new equipment and processes are introduced or installed in the workplace; and
- (v) whenever need arises to improve and update safe work practices and procedures.

Safety training is not difficult if it is handled as a part of ordinary production training. Safety training of new employees, reassigned employees, supervisors and managers, skilled and unskilled workers, and even executives can and should be an important element of the total accident prevention or total loss-control programme.

The training should always be carefully planned and organised, irrespective of whether the supervisor does the training or someone else. Throughout the training session and thereafter the supervisor and the trainer must always set a good safety example.

The following subjects are normally included in a safety course for supervisors and managers:

1. Introduction to accident prevention.
2. Nature, causes, and results of accidents.
3. Accident prevention—principles and procedures.
4. Job safety analysis.
5. Job safety observation.
6. Planned safety inspection.
7. Investigation of accidents.
8. Motivating employees to work safely.
9. Handling of safety problems of employees.
10. Environmental hazards and their control.

In safety training the following key points have to be covered:

- Safety is equally as important as production.
- Accidents are caused and can be prevented.
- Each worker shares responsibility for his own safety and that of his fellow employees.
- Safety rules or regulations will be enforced, and violators of safety rules may be subject to some form of discipline.
- Supervisors are to be consulted if there is any question in the new employees' minds about any part of their jobs.
- Where required, personal protective equipment must be used as a condition of employment.
- In event of injury, the workers are to report for first-aid or medical treatment and immediately notify their supervisors.

After completion of the safety training programme it has to be evaluated in order to ascertain its results.

Safety Communication

Safety communication includes stickers and posters, film shows, talks, competitions with rewards, safety weeks, and so on. As the attitude that accidents must be prevented before they occur has gained ground, people have come to realise that education and training are vital in the promotion of safety. Normally, propaganda seeks to persuade, education seeks to provide information, and training seeks to provide skills.

The following advertising media are commonly used:

Posters: There are all sorts of safety posters and each may help to promote safety in a different way. Safety posters should be displayed in places where workers usually spend some of their time when they are not working, such as the factory entrance and locker rooms. Bulletin boards for posters should be agreeable to the eye and properly maintained. Safety posters can only be an accessory to improving safety; they cannot replace good housekeeping, correct planning, good working habits and suitable guards, but they should help to create a greater awareness of safety among workers.

Posters must keep up with the times, and their messages must be in accord with current conditions, current events, and trends of thought. They must draw the attention of those at whom their messages are directed.

Large Plant Bulletin Boards: To furnish a continuing picture of the accident record and to stimulate a healthy rivalry between different plants or departments, many plants set up large boards at the plant gate or other favourable location.

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Plant Newspapers: These are a well-established and valuable media for building up safety morale provided they are interesting, and suitably written. It is essential that the safety messages be timely, pertinent to plant conditions, practical, and carefully written.

Messages in Pay Envelopes: Information on off-the-job and home safety can well be given in this way. Also announcement of special bonuses, awards or prizes, plant outings, and so on, are often made in this manner.

Display of Interesting Objects: Great interest can often be aroused by displaying something that has been a contributing factor in causing or preventing an accident. For instance, a tool with a mushroomed head, broken goggles, a battered safety shoe can make excellent displays.

Signs and Slogans: Properly used, these have considerable value both in giving safety information and in promoting safety interest. All safety signs should be carefully located to be visible to any person approaching the position of hazard.

Slogans can be very valuable, but they must express a worthwhile purpose or goal, and they must be timely. Furthermore, the management must itself, show by its actions that it believes in them and is earnestly trying to live up to them. An outstanding example is the much used, often abused, and much discussed "Safety First".

Films and Slides: A poster gives just one impression of a hazard. A film can tell a whole story of an accident, showing the environment, how the dangerous situation arose, how the accident happened, what the consequences were, and how it could have been prevented. Films made specifically for instruction are more valuable than those made for general propaganda; they are particularly useful for explaining new safety devices or new working methods.

It constitutes a set of queries and checklists relevant to a particular activity which are to be filled in and verified by the site engineer and/or engineer in-charge. Based on this the safety department evaluates the performance of the site or factory in terms of its safety standards. This is an effective administrative tool in the hands of safety department for the effective site safety management.