

Industrial Safety Engineering(MCN401)

MODULE 1

Industrial Safety

Industrial safety is primarily a management activity which is concerned with

- Reducing
- Controlling
- Eliminating hazards from the industries or industrial units by making arrangements to shield the hazardous place by guards, enclosures or similar arrangements.

Need for Safety

- The importance of industrial safety was realized because of the fact that every year millions occupational/ industrial accidents occur which result in loss of production time equivalent to millions of man hours, machine hours etc.
- One-fifth production time is lost by those actually injured due to temporary and permanent disablement and the remaining production time is lost by fellow operators/ people in helping the injured, in taking care of the damage caused by accident etc.
- Loss to the industrial unit would appear much more alarming when death cases due to accidents are considered.

Steps to eliminate unsafe working environment

1. Elimination if possible of the causes of accidents.
2. If it is not possible to eliminate the cause of accidents, make arrangements to shield the hazardous place by guards, enclosures or similar arrangements.

Need for Safety

Social Need

- The accident causes social loss in great magnitude in form of suffering, loss of earning capacity and cost due to disturbance to economic efficiency.
- The economic costs are more tangible.

Management Need

- Management bear huge loss due to accident.
- Cost of accident is of two Types- Direct & Indirect cost.
- Indirect cost is several times more than Direct Cost.

Need for Safety

Legal Need

- As per different Acts and rules the general duty of the employer is to ensure Health & Safety of his employee and protect the Environment.

Humanitarian Need

- The Humanitarian reason for prevention of accidents is based on notion that it is duty of every person to ensure safety of his fellow men

Need for Safety

- Benefits to the organization
 - There is substantial savings in costs
 - This can reduce best wastages to the minimum
 - Safety also ensures optimum utilization of resources
 - All the above reasons contribute improvement in productivity
 - Financial losses that accompany accidents can be avoided
 - The employees are less worried about their safety which can improve their efficiency
 - The penalty for non compliance of safety measures can be avoided

Need for Safety

- Benefits to the employee
 - Increase earnings of a company improve the earnings of a worker
 - This can boost up the morale of the employees
 - The workers are less worried about the safety
 - They are motivated to work better
 - This again improve their efficiency
 - Employees in a safe plant can devote more time for improving the quality and quantity of their output
 - They can spend less time in worrying about their well being and safety

Safety and Productivity

- The safety of people, machines, and processes is a key element of any sustainable business or organization.
- In the world of manufacturing and construction, safety, quality and productivity are inseparably linked.
- It is impossible to sacrifice one without sacrificing the others.
- Businesses will see safety, quality, and productivity as interfering with each other, while they actually operate in concert.
- Organizations must not think of safety as a nuisance, but rather as an incredibly important component to business success.

Safety and Productivity

- Safety improves quality and productivity.
- When operations are unsafe, they aren't well-managed.
- Employees will not be motivated nor mindful, and employee churn will be far greater.
- Quality and productivity both suffer when employees are under stress, unsatisfied, or unable to complete their mission.
- But when businesses are safe, it frees up employees to focus on their quality and their productivity.
- The safer the organization is, the less frequently the organization will experience large scale disruption.

Safety and Productivity

- Quality improves safety and productivity.
- Safety is a measure of conscientiousness and proactiveness.
- High quality work means better results and better products.
- The higher quality the work, the fewer reworks are needed, and the greater overall productivity is.
- When quality is high for a business, it can be assumed that standards for the business are high, including safety equipment, safety software, and safety processes.

Safety and Productivity

- Productivity improves safety and quality.
- Carelessness is often what causes safety issues.
- With the appropriate (and productive) safety processes, safety can be improved, and quality can be improved as well.
- The more productive employees are, the less likely they are to cut corners on things like safety processes.
- The more productive they are, the more likely they are to put extra attention into the quality of their work.

Safety and Productivity

- Safe environments minimize lost working hours
 - Reducing downtime is the key to maintaining productivity.
- Safety culture at work makes for engaged employees
 - Study by Lockheed Martin at Paducah Plant found that by developing a safety culture, they were able to increase employee productivity by 24% and reduce factory costs by 20%.

Accident

- An unexpected and undesirable event which causes or likely to cause damage or harm or injury.
- An accident (industrial) is a sudden and unexpected occurrence in the industry which interrupts the orderly progress of the work.

Accident

- According to the Factories Act, 1948: “It is an occurrence in an industrial establishment causing bodily injury to a person who makes him unfit to resume his duties in the next 48 hours”.
- An industrial injury is defined as “a personal injury to an employee which has been caused by an accident or an occupational disease and which arises out of or in the course of employment and which could entitle such employee to compensation under Workers’ Compensation Act, 1923”.

Causes of Accidents in Industries

1. Accidents due to dangerous machines
2. Unsafe physical condition
3. Moving objects
4. Personal Factors
5. Unsafe Acts
6. Electrical causes
7. Exposure to harmful substances

Types of Industrial Accidents

1. Machinery Accidents
 - Due to inadequate safeguards of machines
2. Non Machinery Accidents
 - Due to personal reasons or plant conditions

Factors Responsible for Accidents in Industries

1. Age
2. Experience
3. Physical Condition
4. Fatigue
5. Rate of Production
6. Atmospheric Conditions
7. Illumination

Accident

- Major Consequences
 - Loss of life / injuries
 - Impact on livestock
 - Damage to Flora/fauna
 - Environmental Impact (air, soil, water)
 - Financial losses to industry

Accident-Direct Cost

- Compensation
- Medical Expenses
- Equipment damage

Accident-Indirect Cost

- Cost of Lost time
- Production loss
- Over head & administrative expenses etc.
- Cost of time spent on –
 - Investigations
 - Supervisors assisting victim
 - Workers stopping to discuss the incident
 - Preparation of reports
 - Attendance on court proceedings
 - Hospital visits & dealing with relatives

Injury

- An injury or illness is an abnormal condition or disorder.
- Injuries include cases such as, but not limited to, a cut, fracture, sprain, or amputation.
- Illnesses include both acute and chronic illnesses, such as, but not limited to, a skin disease, respiratory disorder, or poisoning.

Injury

- An injury is damage to your body.
- It is a general term that refers to harm caused by accidents, falls, hits, weapons, and more.
- An injury is any physiological damage to the human body caused by immediate physical stress.
- An injury can occur intentionally or unintentionally and may be caused by blunt trauma, penetrating trauma, burning, toxic exposure, overexertion etc

Unsafe Act

- Committing mistake by person or any act that may lead to accident is known as unsafe act.
- The unsafe act is a violation of an accepted safe procedure which could permit the occurrence of an accident
- People make the violation of the standard rules & met with an accident.
- 80% of all injuries on duty are the result of Unsafe Acts by people.
- More difficult to reduce

Examples of Unsafe Act

- Speed
- Working without authority
- Adjusting moving machinery
- PPE not worn
- Worker standing on ladder in swimming pool
- Failure to warn
- Failure to secure a load or improper loading
- Making safety devices inoperable or removing safety devices
- Using defective equipment or equipment improperly

Unsafe Condition

- Any sources or situation or condition that have potential to create accident is known as unsafe condition.
- A hazardous physical condition or circumstance which could directly permit the occurrence of an accident
- Working conditions/environment which are prone to have an accident.
- A study attributes 20% of all injuries on duty to unsafe working conditions.
- They all relate to physical or mechanical defects, which can be corrected relatively cheaply and permanently.
- It is always the first area to be tackled when working on an accident/incident reduction programme

Examples of Unsafe Condition

- Poor guarding – inadequate or inefficient
- Defective Conditions – hand tools, equipment, substances
- Poor Layout – work flow, overcrowding and congestion
- Substandard housekeeping-untidiness, disorder, poor storage of materials and stock
- Loud noise – can't hear instructions
- Inadequate illumination or ventilation
- Inadequate or improper protective equipment

Dangerous occurrence

- Dangerous occurrences are certain unintended, specified events, which may not result in a reportable injury, but which do have the potential to cause significant harm.

Dangerous occurrence include incidents involving

- Lifting equipment
- Pressure systems
- Overhead electric lines
- Electrical incidents causing explosion or fire
- Explosions, biological agents
- Radiation generators and radiography
- Breathing apparatus
- Diving operations
- Collapse of scaffolding
- Train collisions
- Pipelines or pipeline works

Reportable Accidents

- Accident that causes loss of life; or disables a person from work on which he was employed for the rest of the day or shift in which the accident occurred.
- If someone has died or has been injured because of a work-related accident this may have to be reported.

Types of reportable injury

- The death of any person
- Specified injuries to workers
- serious burns
- any scalping requiring hospital treatment
- any loss of consciousness caused by head injury or asphyxia
- any other injury arising from working in an enclosed space

Reportable Accidents

- Over-seven-day incapacitation of a worker
- Non fatal accidents to non-workers (eg: members of the public)
- Occupational diseases

Theories of Accident Causation

- Accident causation theory is the art and science that seeks to understand the deeper roots of why accidents happen.
- Understanding accident causation theory is essential in determining why workplace incidents occur and so that we can prevent re-occurrences.

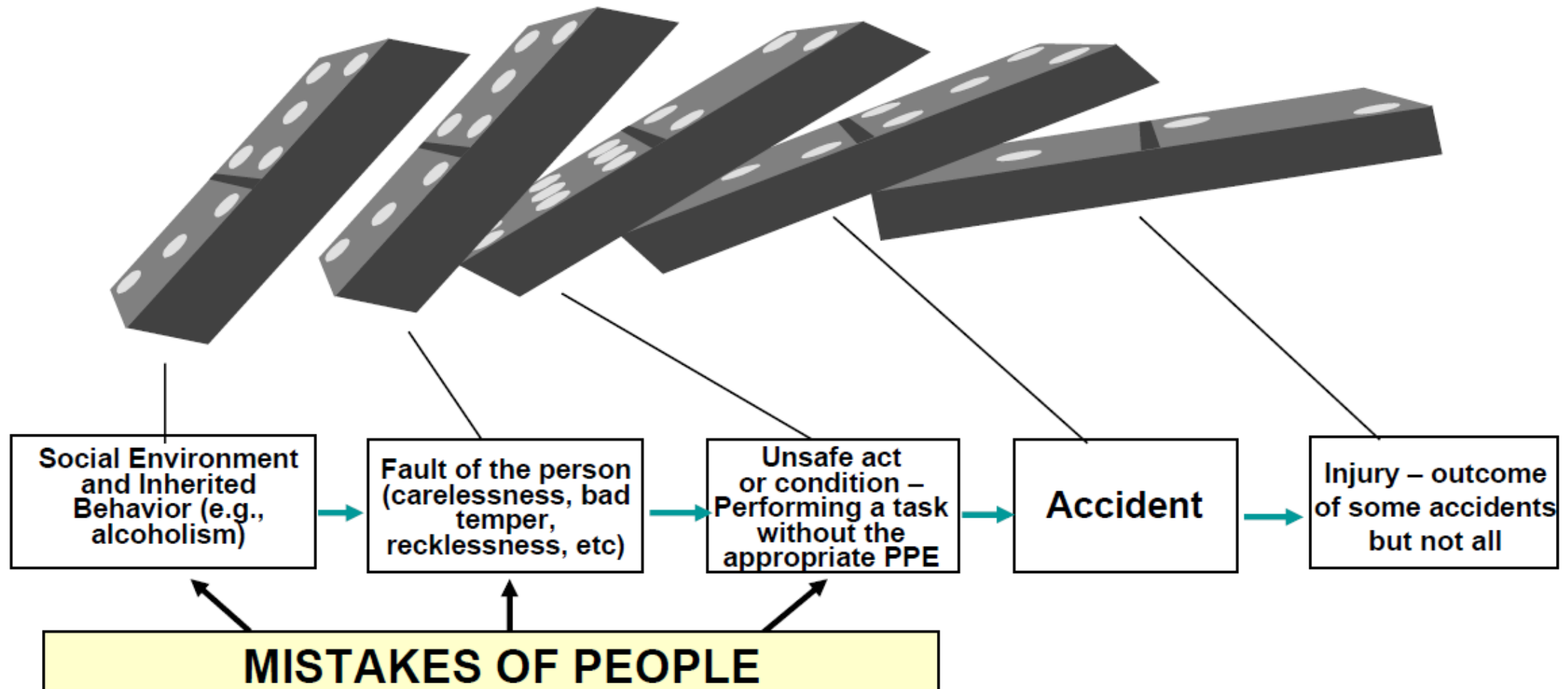
Theories of Accident Causation

- 1.The Domino theory
- 2.Human Factors Theory
- 3.Accident/Incident Theory
- 4.Epidemiological Theory
- 5.Systems Theory
- 6.The Energy Release Theory
- 7.Combination Theory
- 8.Behaviour Theory

Heinrich's Domino Theory

- According to Heinrich, an "accident" is one factor in a sequence that may lead to an injury.
- Factors can be visualized as a series of dominoes standing on edge; when one falls, the linkage required for a chain reaction is completed.
- Each of the factors is dependent on the preceding factor.
- After studying the reports of 75,000 industrial accidents, Heinrich concluded that
 - 88 % - caused by unsafe acts.
 - 10 % - caused by unsafe conditions.
 - 2% - unavoidable

1932 First Scientific Approach to Accident/Prevention - H.W. Heinrich



Heinrich's Domino Theory

Injury is the result of completion of 5 Dominos

1. Ancestry and Social Environment.

- Negative character traits leads to unsafe behavior can be inherited(ancestry) or acquired as a result of the social environment

2. Fault of the person

- Negative character traits (inherited or acquired) are why people behave in unsafe manner and why hazardous conditions exist

Heinrich's Domino Theory

3.Unsafe Action / Unsafe Condition

- Unsafe acts are committed by people and mechanical hazards are the causes of accidents

4.Accident

- Accidents that result in injury are caused by falling or being hit by moving object

5.Injury

- The consequences of the accident

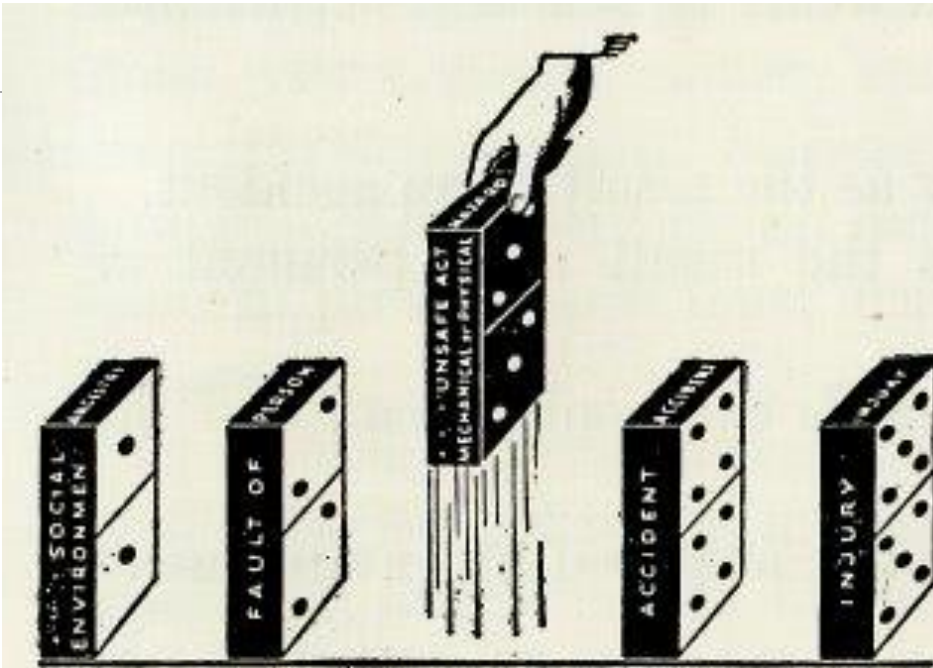


FIG. 4. The unsafe act and mechanical hazard constitute the central factor in the accident sequence.

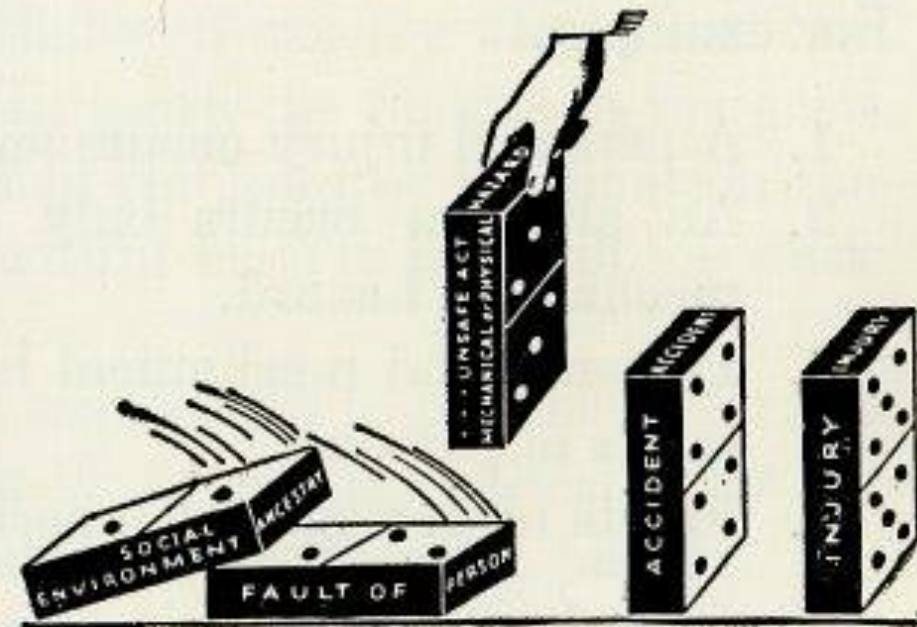


FIG. 5. The removal of the central factor makes the action of preceding factors ineffective.

Concepts in the Domino Theory: Preceding Factor, Central Factor

Heinrich's Theory has two central points:

1. Injuries are caused by the action of preceding factors.
2. Removal of the central factor (unsafe act/hazardous condition) negates the action of the preceding factor, and in doing so prevents accidents and injuries.

Heinrich's Domino Theory – Corrective Action Sequence (The three “E”s)

- Engineering – Control hazards through product design/ process change
- Education – Train workers regarding all facets of safety
- Enforcement – Insure that internal and external rules, regulations, and standard operating procedures are followed by workers as well as management.

Human Factors Theory

- Human errors cause accidents.
- These errors are categorized broadly as:
 - **Overload** - The work task is beyond the capability of the worker
 - Includes physical and psychological factors
 - Influenced by environmental factors, internal factors, and situational factors
 - **Inappropriate Worker Response**
 - Hazards and safety measures (worker's fault), incompatible work station (management, environment faults)
 - **Inappropriate Activities**
 - Lack of training and misjudgment of risk.

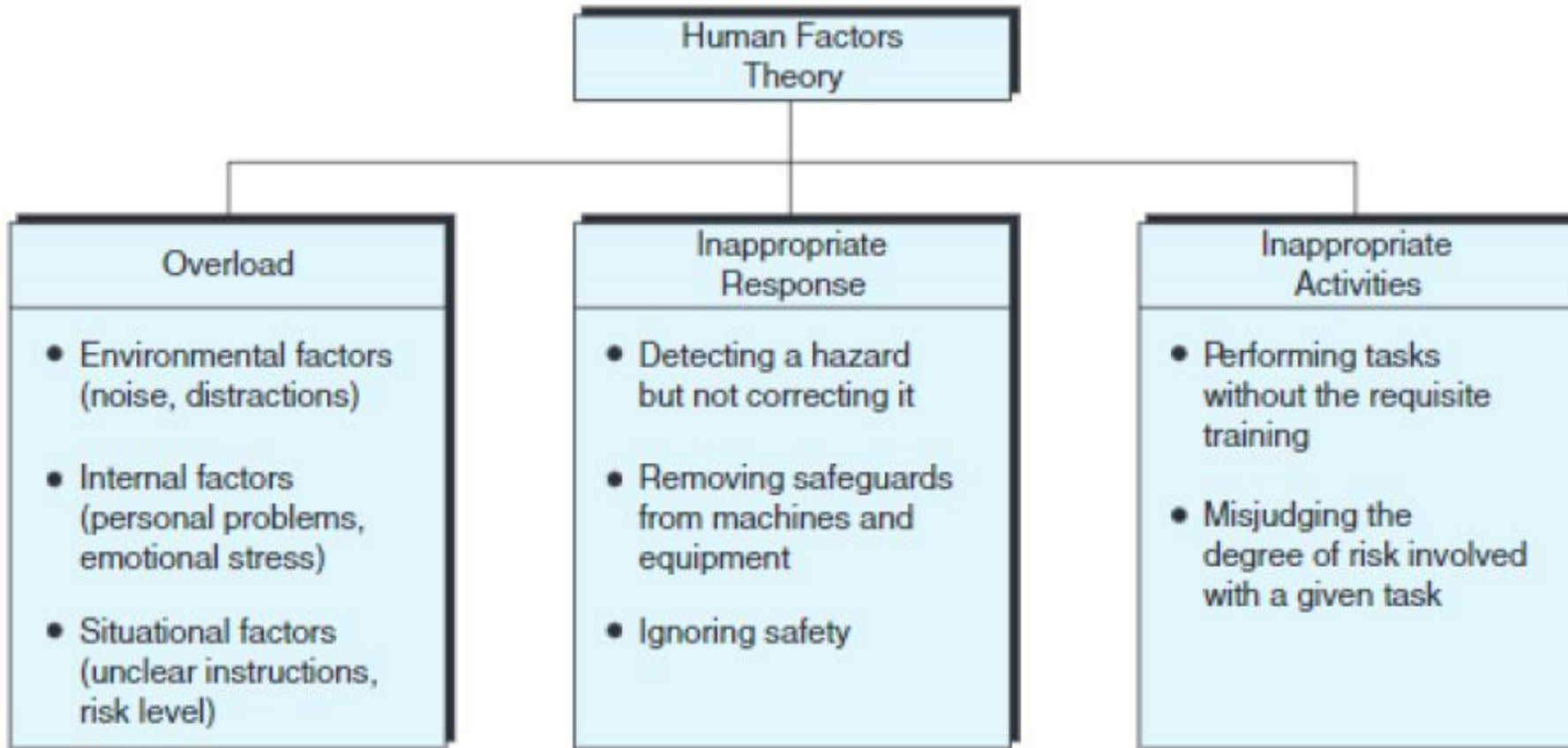


Figure 3–2
Human factors theory.

Accident/Incident Theory

- Extension of human factors theory and is referred to as the Petersen accident/incident theory.
- Following new elements are introduced:
 - Ergonomic traps – Incompatible work stations, tools or expectations (management failure)
 - Decision to err – Misjudgement of risk, Unconscious decision to err (personal failure)
 - Systems failure – Management failure (policy, training, etc.)

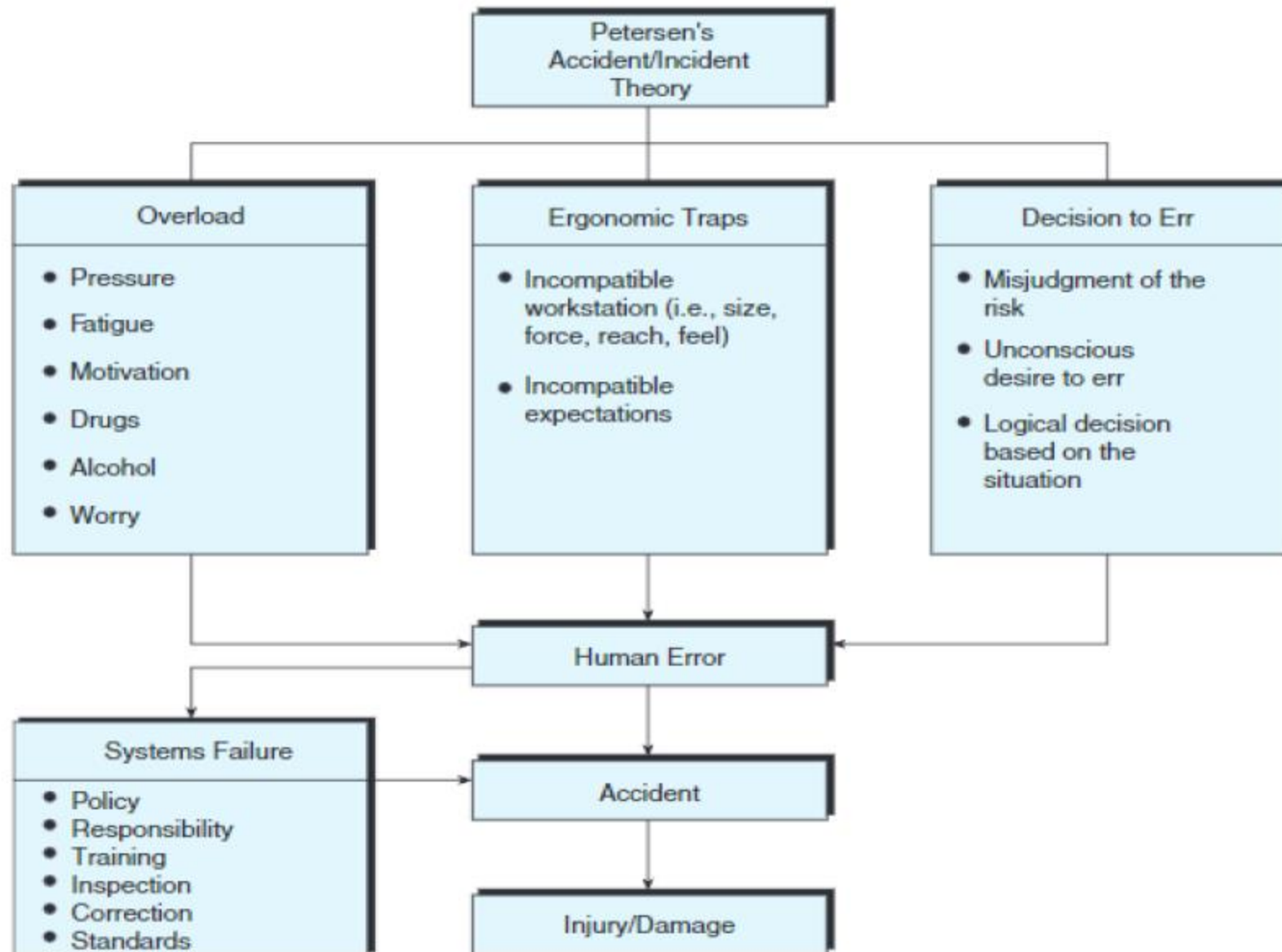


Figure 3–3
Accident/incident theory.

Accident/Incident Theory

- According to Petersen's Theory systems can fail due to:
 - Management does not establish a comprehensive safety policy.
 - Responsibility and authority with regard to safety are not clearly defined.
 - Safety procedures such as measurement, inspection, correction, and investigation are ignored or given insufficient attention.
 - Employees do not receive proper orientation.
 - Employees are not given sufficient safety training.

Epidemiological Theory

- Epidemiology : - studies relationship between environmental factors and disease
- Two key components:
 - Predisposition characteristics : tendencies may predispose worker to certain actions
 - Situational characteristics : peer pressure, poor attitude, risk taking
- These characteristics taken together can either result in or prevent conditions that may result in an accident.
- Eg: if an employee who is particularly susceptible to peer pressure (predisposition characteristic) is pressured by his workers (situational characteristic) to speed up his operation, the result will be an increased probability of an accident.

Systems Theory

- System is a group of regularly interacting and interrelated components that together form a unified whole.
- Views a situation in which an accident may occur as a system comprised of components:- person (host), machine (agency) and environment
- Likelihood of an accident occurring is determined by how these components interact.
- Changes in the patterns of interaction can increase or reduce the probability of an accident.
 - Eg: An experienced employee is replaced by a less experienced employee .
 - This change in one component of the system (person/host) increases the probability of an accident.

Systems Theory

- As a person interacts with a machine within an environment, three activities take place between the system and the task to be performed.
- Every time a task must be performed, there is the risk(great/small) that an accident may occur.
- This is where information collection and decision making come in.
- Based on the information that has been collected , the person weighs the risks and decides whether to perform the task

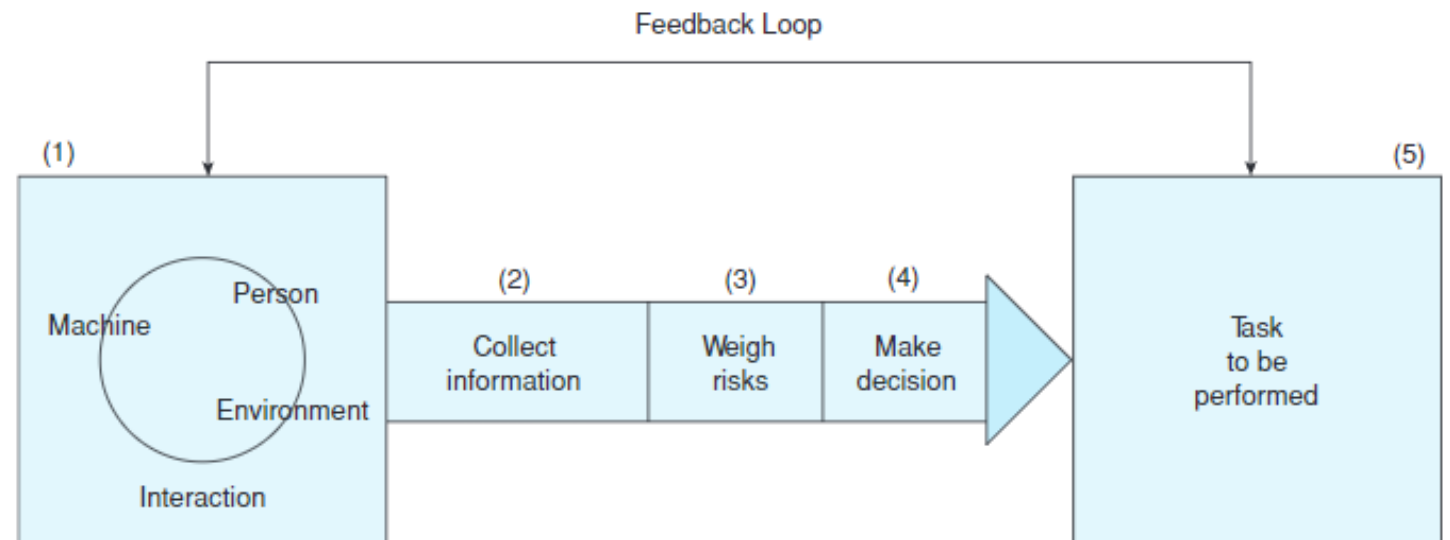


Figure 3–5
Systems theory model.

Energy Release Theory

- Developed by Dr. William Haddon Jr., portrays accidents in terms of energy transference.
- This transfer of energy, in large amounts and/or at rapid rates, can adversely affect living and nonliving objects, causing injury and damage.
- A worker incurs injury or equipment suffers damage through a change of energy, and that for every change of energy there is a source, a path and a receiver.
- Theory is useful for determining injury causation and evaluating energy hazards and control methodology.

Energy Release Theory

Control of energy transfer at the source can be achieved by :

- a) elimination of the source
- b) changes made to the design or specification of elements of the work station
- c) preventive maintenance.

The path of energy transfer can be modified by:

- a) enclosure of the path
- b) installation of barriers and absorbers
- d) positioning of isolators.

The receiver of energy transfer can be assisted by adopting the following measures:

- a) limitation of exposure
- b) Use of personal protective equipment.

Behavioral Theory

Often referred to as behavior-based safety (BBS)

- 7 basic principles of BBS
 - Intervention
 - Identification of internal factors
 - Motivation to behave in the desired manner
 - Focus on the positive consequences of appropriate behavior
 - Application of the scientific method
 - Integration of information
 - Planned interventions

Combination Theory

- Accidents may/may not fall under any one model
- Result from factors in several models.
- One model cannot be applied to all accidents

Safety organization

- Safety organization can be defined as the structure and process by which employees are divided into sections or departments, each section or department is assigned specific safety function or duty.
- Authority and responsibility of everybody is clearly defined and interrelationship between them is specified for the accomplishment

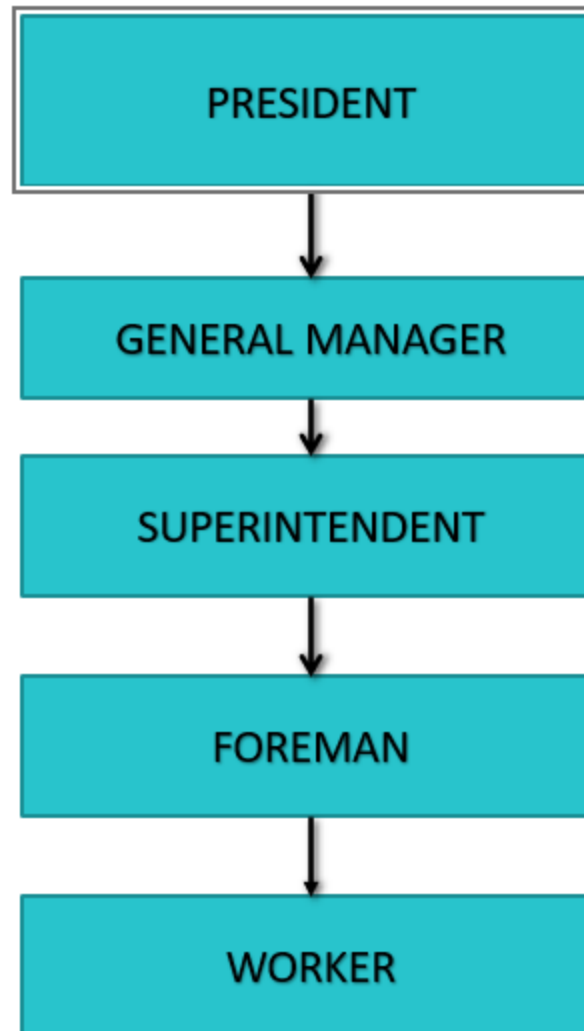
Objectives of Safety Organization

- To prevent accidents in future
- To provide safe work environment
- Safety consciousness
- Integrate safety policies with job process
- Compliance of rules as per factory act
- Ensure and modify on identified risk
- Training to ensure safety
- Invite cooperation and suggestions from the employees
- To take measures after accident

Types of Safety Organization

1.Line Organization(scalar organization)

- Oldest method of administrative organization.
- Most simplest form of organization.
- Line of authority is vertical flowing from top to the bottom and no staff specialists.
- Specialized and supportive services do not take place in these organization.
- Unified control by the line officers can be maintained since they can independently take decisions in their areas
- This kind of organization always helps in bringing efficiency in communication and bringing stability to a concern.



Types of Safety Organization

MERITS OF LINE ORGANIZATION

- 1.Simplest
- 2.Unity of Command
- 3.Better discipline
- 4.Fixed responsibility
- 5.Flexibility
- 6.Prompt decision

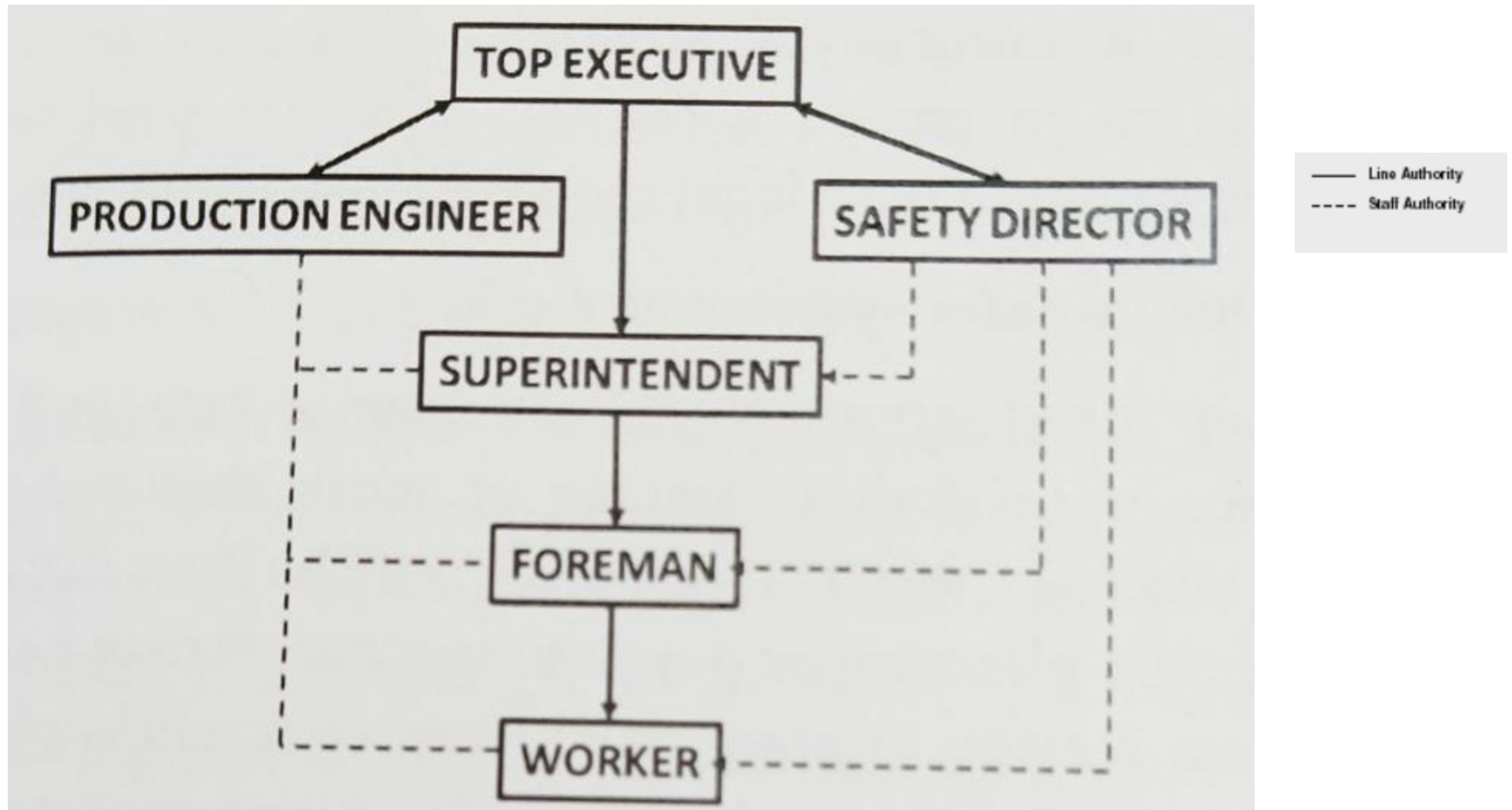
DEMERITS OF LINE ORGANIZATION

- 1.Over reliance
- 2.Lack of specialization
- 3.Inadequate communication
- 4.Lack of Co-ordination
- 5.Authority leadership

Types of Safety Organization

2.Line and Staff Organization

- Modification of the Line Organization
- Functional specialists work with line managers to guide and advise them.
- This structure is more common in the present day, and most of the larger enterprises adopt this type of setup.
- The staff consists of two categories; the general and the specialized team.
 - General Staff:
 - Consists of ordinary employees that assist the top management.
 - These staff aren't experts
 - Specialized Staff:
 - Experts that offer services to the organization.
 - Their roles can be advisory, control (as in quality control), or service (such as maintenance).
- The Line and Staff Organization uses the expertise of specialists. So the line managers become better in several fields.



Line and Staff Organization

Types of Safety Organization

Merits of Line and Staff Organization

1. Relief to line of executive
2. Expert advice
3. Benefit of Specialization
4. Better co-ordination
5. Benefits of Research and Development
6. Training
7. Balanced decisions
8. Unity of action

Demerits of Line and Staff Organization

1. Lack of understanding
2. Lack of sound advice
3. Line and staff conflicts
4. Costly
5. Assumption of authority
6. Staff steals the show

Functions & Duties of Safety Organization

- Monitoring implementation of all directives issued in matters pertaining to safety.
- Ensuring super checks of functioning of operational & maintenance machinery on the division.
- Implementation of safety circular & safety drives on the division.
- To coordinate disaster management functions, relief, & restoration etc.
- Assisting authorities in conducting inquiries in serious accidents.
- Counselling & monitoring of staff involved in maintenance & operations

Role of management in safety

- Design safe and healthy systems of work
- Exhibit strong management commitment
- Inspect workplace for health and safety problems
- Establish procedures and controls for dealing with health and safety issues
- Develop training programs
- Set up health and safety committees
- Monitor safety policies
- Draw up action plan and checklist

Role of management in safety

- Timely payment of compensation
- Following specific rules and regulations
- Appointment of medical, welfare and safety officers
- Formation of committee(safety, welfare, pollution control, canteen..)
- Education and training employees
- Promote coverage of employee under act

Role of supervisors in Safety

The supervisor is the one person who can take immediate, direct action to make sure that his or her work area is safe and healthful for all employees. The primary role of a supervisor in a safety program is to assure employee safety and health and to protect the company needs.

Responsibilities of supervisor

- Detecting and correcting unsafe working conditions and practices.
- Training subordinates in proper procedures and company safety rules.
- Ensuring that each subordinate knows, understands, and follows safety rules specifically pertaining to his or her job.
- Writing policies, procedures, and/or safe work practices.
- Completing proper reports on all accidents and incidents.

Role of supervisors in Safety

- Keeping informed of new developments impacting them and their subordinates.
- Safety motivation.
- Supervisors are also the best choice to investigate small accidents and incidents involving their subordinates and participate with more experienced investigators on more serious accidents
- Supervisors must ensure that 'suitable and sufficient' risk assessments are undertaken and recorded for all activities with significant risk, and that any measures decided upon in the assessment are discussed fully with those involved in the work and that all control measures are properly implemented.
- Supervisors must ensure that all the equipment under their control is properly maintained in a safe condition, and taken out of service if a fault is identified.

Role of workmen in Safety

- Workers are responsible for their own safety on the job.
- They have the right to refuse to do any act or operate any tool, appliance, or equipment when they have reasonable cause to believe that to do so would put them in danger.
- As a worker, he/she should keep the following personal responsibilities in mind: The worker must
 - not remove any safety equipment from machines or equipment
 - have adequate instruction about a piece of machinery or equipment before he use it.
 - make sure that no machine, equipment, or tool is used in a way that would cause injury to someone else.
 - make sure that there are safe entrances to and exits from the workplace.
 - make sure that the work area is safe for the movement of workers, equipment and materials.

Role of unions in Safety

- Health and safety of workers is a priority for unions in the workplace.
- Duties of unions
 - Surveying membership on their workplace, health and safety concerns
 - Conducting investigations of injuries, illness and near misses
 - Monitoring workplace conditions
 - Educating members and leaders about specific health and safety issues
 - Developing strategies for getting issues concerning worker health and safety addressed
 - Filing and following up OSHA complaints

Role of Government

The Ministry's goal is to ensure safe, fair and harmonious workplaces

General responsibilities of governments for occupational health and safety include:

- Enforcement of occupational health and safety legislation
- Workplace inspections
- Dissemination of information
- Promotion of training, education and research
- Resolution of OH&S disputes.
- Focus the Ministry's role on setting, communicating and enforcing fair and reasonable workplace standards while encouraging greater self-reliance in achieving these standards in the workplace

Role of Government

- Establish fair workplace standards that are flexible enough to respond to the demands of the new global economy, and which encourage new investment and job creation
- Remain firmly committed to a strong enforcement program, aimed at helping those employees in greatest need, and
- Improving service to the Ministry's customers

Role of volunteer organization in safety

Volunteer organization could involve volunteers by:

- holding regular meetings that focus on health and safety
- making health and safety a standing agenda item at meetings
- including health and safety information in regular newsletters, and
- sending regular emails to volunteers regarding health and safety issues and safe working practices

Safety Policy

- An organization's safety policy is a recognized, written statement of its commitment to protect the health and safety of the employees, as well as the surrounding community.
- It details the measures the company takes and will take to protect the life and health of their employees
- The Occupational Health and Safety Act requires employers to develop and implement a safety policy.
- To succeed, a safety policy requires both a commitment and endorsement from the employer and buy-in from the employees.

Safety Policy-3 Sections

1. **Statement of the policy** - The employer's commitment to managing health and safety and the goal of the policy
2. **Responsibility** - Stating who is responsible for implementing, enacting, and tracking each element of the policy
3. **Arrangements or procedures** - Outlines the details of procedures including the reduction of hazard policy
 - Details about :
 - Employee training
 - Use of administrative controls, hazard isolation, locking, warnings, signs and symbols marking hazards, etc.
 - Use of personal protective equipment (PPE)
 - Removing hazardous materials or replacing them with less harmful alternatives
 - Improved lighting and working environment
 - Prevention of slip, trip, and fall incidents

Safety Officer

- The safety officer is an internal employee who is assigned to prevent accidents, respond to emergencies and evaluate the effectiveness of the company's safety programs.
- Identifies safety hazards, investigates them thoroughly and controls them before someone gets hurt.
- 'Head' of the safety department reports to the Chief Operations Officer.
- Checks if the safety program is working effectively and efficiently to meet all requirements.

Safety Officer-3 main roles

- **Planning**

- Must create a safe environment by making sure they have all the necessary equipment for their team.
- Ensure that they have all the required things for their team.

- **Organizing**

- Safety officers are also responsible for organizing their workload so that no harm will come to them or anyone else during their work activities.
- Make sure that employees can complete the tasks without causing any damage to the workplace or anyone else.

- **Supervising**

- Supervising everyone who works under them to ensure that they are doing their work safely.
- When supervising, they need to make sure that each person knows their role in the process and where they fit in.

Safety officer- Specific responsibilities

- Identify and assess hazards, risks and control measures for a specific operation or process.
- Conduct ongoing review of operations and processes to identify potential hazards, risks and control measures that should be implemented to reduce these risks
- Assess and document hazards, risks and controls
- Set up and supervising temporary work areas.
- Supervise the safe handling, storage & disposal of hazardous materials.
- Supervise the operation of any potential hazards in the workplace.

Safety officer- Specific responsibilities

-
- Improve workplace safety and employee productivity(manual to digital safety management systems.)
 - Ensure that all company employees meet all OSHA requirements.
 - Provide OSHA training if necessary.
 - Ensure that health, safety, and environmental policies are followed.
 - Investigate workplace accidents and injuries and refer them to the proper authorities.

Safety Committee

- An organization group that operates within a workplace and is composed of members from its various departments, including management, frontline workers and office staff.
- Main purpose is to mitigate the risk of workplace injuries and illnesses.
- Informing and educating employees about safety issues, setting achievable safety goals for the organization and fostering a safety culture among the workforce
- Hold regular meetings, either weekly or monthly.
- In smaller companies safety committee gather all staff members for a monthly or quarterly safety meeting.

Functions of Safety Committee

- Developing written safety programs
- Promoting safe work practices
- Facilitating safety training
- Performing workplace inspections
- Carrying out accident investigations
- Acting as a point of contact between employees and management
- Reviewing injury and illness records
- Increasing awareness about workplace safety issues
- Identifying hazards and recommending appropriate control measures

Need for Safety Committee

- Reasons why companies should have a safety committee
 - Financial
 - Concern for employee safety

Types of Safety Committee

- Labor management committee
 - Prevalent in organizations having union contracts which contain safety clauses that designate the joint acceptance of responsibility and the specific activities of labour and management.
 - Union members of this committee are appointed by the union

Types of Safety Committee

- Management committee
 - Where there is no union agreement or where the contract contains no safety clause, the safety committee functions directly under the policies established by management.
 - Management may appoint union members to this committee
- Management supervisors committee
 - Some management safety committees are made up entirely of supervisory personnel
 - This committee supplements the activities of the committee which includes workers

Types of Safety Committee

- Technical committee
 - Useful on specific problems or activities for which specialized knowledge is needed
 - Problems requiring engineering revision, controls or guard design, or relating to special processes or sciences are often handled by such a committee of engineers, safety engineer, chief electrician, master mechanic and others.
- Special committee
 - Set up for specific activities- safety contests, safety celebrations or awards, accident investigations, off the job safety campaigns
 - Dismissed on completion of the project

Advantages of Safety Committee

- Most insurance companies offer incentives or discounts to facilities that establish and maintain safety committees.
- Because of their training, safety committee members can help identify potential problems
- When there is an incident, safety committee members have the knowledge to complete incident reports, conduct interviews and look for the true cause of the incident.
- These skills also help them make recommendations to prevent future incidents.