

PE8403/ Health, Safety and Environmental
Management in Petroleum Industries

Year: 4th Year
Sem: IV Sem

Unit - I

Part B & C

Q

Describe the role of trade union representative.
All representatives, either appointed by trade unions or elected by employees can.

- Represent the workforce on health and safety generally or make rep on potential hazards and dangers.
- Attend training courses
- Have contact with inspectors

Functions of union-appointed health and safety representatives.

→ Represent employees generally and when you consult them about specific matters that will affect the health, safety and welfare of the employees.

→ Represent employees when health and safety inspectors from HSE or local authorities consult them.

→ Investigate accidents, near misses, and other potential hazards and dangerous occurrences in the workplace.

→ Investigate complaints made by an employee they represent about their health, safety or welfare in the workplace.

- Inspect the workplace
- With at least one other appointed representative, request in writing that you setup a health and safety committee,
- Attend health and safety committee meetings as a representative of your employees.

Definitions

- The role of the health and safety Management representative is independent of Management.
 - Representatives are there to represent the interests and concerns of their co-workers and respond on their behalf.
 - They provide valuable insight, skills and resources that help employers and their co-workers.
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Discuss the health and safety systems in work places of petroleum industry.

Goals:

- The Government firmly believes that building and maintaining national preventive safety and health culture is the need of the hour.
- With a view to develop such a culture and to improve the safety, health and environment at work place, it is essential to meet the following requirements,
 - providing a statutory framework on occupational safety and health in respect of all sectors of industrial activities including the construction sector, designing suitable control systems of compliance, enforcement and incentives for better compliance.
 - providing administrative, enforcement and incentives for better compliance.
 - providing a system of incentives to employers and employees to achieve higher health and safety standards.
 - providing for a system of non-financial incentives for improvements in safety and health.
 - Establishing and developing the research and development capability in emerging areas of risk and providing for effective control measures.
 - Focusing on prevention strategies and monitoring performance through improved data collection system on work related injuries and diseases.

→ Developing and providing required technical manpower and knowledge in the areas of safety, health, environment at workplaces in different sectors.

→ Including safety and occupational health as an integral part of every operation.

→ Promoting inclusion of safety, health and EV improvement at workplaces as an important component in other relevant national policy documents.

Objective:

→ Continuous reduction of work related in the incidence of work related injuries, fatalities, diseases, disasters and loss of national assets.

→ Improved coverage of work related injuries, fatalities and diseases and provide for a more comprehensive data base for facilitating better performance and monitoring.

→ Continuous enhancement of community awareness regarding safety, health and environment at workplace related areas.

→ Continually increasing community expectation of workplace health and safety standards.

→ Improving safety, health and environment at workplace by creation of "green jobs" contributing to sustainable enterprise development.

3. Discuss in detail about the Factory act, 1948.

• The act has been promulgated primarily to provide safety measures and to promote the health and welfare of the workers employed in factories.

provisions relating to health for employees working in factories and the manufacturing process addressed by the factories act, 1948

• Section 11: This section basically specifies the issues of cleanliness at the workplace. This includes that there should be no accumulation of dirt and refuse and should be removed daily and entire area should be kept clean.

• Section 12: This section on disposal of wastes and effluents.

• Section 13: This section focuses on ventilation and temperature maintenance at workplace.

• Section 14: This section details on the proper exhaustion of dust and fume in the factory.

• Section 15: This section specifies regarding the artificial humidification in factories.

• Section 16: - overcrowding is also an important issue which is specified in this section.

• Section 18: Arrangements for sufficient and pure drinking water for the workers.

• Section 19: - details relating to urinals and latrine construction at factories.

• Section 20: proper arrangement of spittoons in the factory.

Section 17: proper arrangement of lighting in factories.

Section 21: This section specifies that fencing of Machinery is necessary.

Section 23: This section prescribes that employment of young person on dangerous machinery is not allowed.

Section 24: provisions of striking gear and devices for cutting off power in case of emergency.

Section 28: This section prohibits working of women & children on specific machinery.

Section 32: Specified all floors, stairs, passages and gangways should be properly constructed.

Section 34: Specify no person in any factory shall be employed to lift, carry or move any load so heavy that might cause injury.

Section 35: safety protection of eyes of worker

Section 36: no worker forced to enter any chamber, tank, etc.

Section 38: proper precautionary measures built for fire.

Section 45: well equipped first aid box.

Section 22: prohibits that no women shall be allowed to clean, lubricate or adjust any Machinery part.

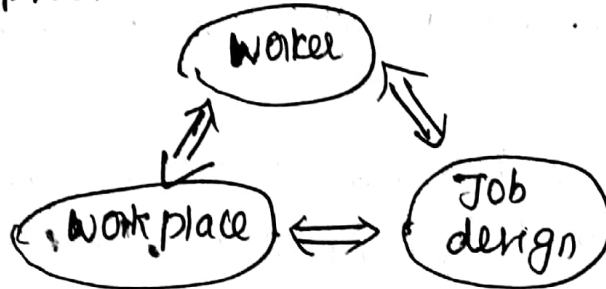
Section 27: no women shall be employed in any part of a factory for pressing cotton.

Section 25: bans women in any plant from 6.00 am.

Section 26: prohibits women in Mining process.

4. Define Ergonomics:-

- Ergonomics is the study of work in relation to the environment in which it is performed and those who perform it.
- Used to determine how the workplace can be designed or adapted to the worker in order to prevent a variety of health problems and to increase efficiency.



Injuries can result from:

- Repeated use overtime of vibrating tools and equipment such as Jackhammer.
- Applying force in an awkward position.
- Applying excessive pressure on parts of the hand, back, wrists or joints.
- Working with a bent back.

Repetitive work is a common cause of musculoskeletal injuries and diseases.

Permanent RSI (Repetitive Strain Injuries) can be prevented by,

- eliminating the risk factors from the job
- reducing the pace of work.
- increasing the number of breaks from repetitive work.
- Moving the worker to other work, or by alternating repetitive tasks with non-repetitive tasks at regular intervals.

Types of Ergonomics:

Physical ergonomics: human body's responses to physical and physiological work loads. Repetitive strain injuries from repetition, vibration, force and posture fall into category.

Cognitive ergonomics: deals with the mental processes and capacities of humans when at work.

Organizational ergonomics: deals with the organizational structures, policies and processes in the work environment.

Common work-related (Musculoskeletal disorders)

Affect the muscles, nerves, blood vessels, ligaments and tendons.

Symptoms: - Discomfort, Pain, Numbness, Loss of motion/flexibility, Spasticity, stiff joints, Burning, Swelling, Tingling, Inflammation, Paralysis.

Injuries are costly:

- Injuries to workers caused by poorly designed tools or workstations can be very costly in terms of pain and suffering, not to mention the financial loss to workers and their families.

- Carefully designing a job from the beginning or redesigning it may cost an employer some money initially.

- For workers, the benefits are obvious applying ergonomics principles can prevent painful and potentially crippling injuries or illness and make work more comfortable and therefore easier to perform.

5. Discuss about International initiatives about awards ⑤

Such as ISO 14000 and ISO 4001 :-

ISO 14000: is a family of standards related to environment that exists to help organizations (a) minimize how their operations negatively affect the environment. (b) comply with applicable laws, regulations (c) continually improve in the above.

ISO 4001 :- ISO 4001, defines criteria for an EMS.

This includes.

- Single site to large multi-national companies
- high-risk companies to low risk service organizations
- The Manufacturing, process and service industries including local governments.
- all industry sectors, including public and private sectors
- Original equipment manufacturers and their suppliers.

Basic principles and Methodology

The basic principles of ISO 4001 are based on well known plan-Do-check-Act (PDCA) cycle.

- ① Plan: Establish objectives and processes required
- ② Do: Implement the processes
- ③ Check: Measure and monitor the processes and report results.
- ④ Act: Take action to improve performance of EMS Based on results.

List of ISO 14000 series standards:

- ISO 14001: Environmental management systems - Requirements with guidance for use.
- ISO 14004: Environmental management systems - General guidelines on implementation.
- ISO 14006: Environmental management systems - Guidelines for incorporating ecodesign.
- ISO 14020 to 14025: Environmental labels and declarations.
- ISO/MP 14030: Green bonds - Environmental performance of nominated projects and assets: discusses post-production environmental assessment.
- ISO 14031: Environmental performance evaluation - Guidelines.
- ISO 14040 to 14049 - Environmental management - life cycle assessment.
- ISO 14046: Water footprint - principles, requirements and guidelines.
- ISO 14050: Vocabulary: terms and definitions.
- ISO/TR 14062: Integrating environmental aspects into product design and development.
- ISO 14064: Greenhouse gases, measuring, quantifying and reducing greenhouse gas emissions.
- ISO 14011: Guidelines for auditing management systems.

b. How checklist are preparing and what is collective bargaining:-

- First read over the original document quickly to get a general idea of what it covers.
- Read the document and write down the main headings and the topics covered.
- Read it again carefully and underline or write down the key words or phrases.
- Make questions out of the main ideas. The question should apply to your workplace.
- Write down the reference next to the question.
- Includes specific regulations in the check- lists so you can check for compliance.

checklist from the legislation :-

- Does your employer make sure that the workplace all machinery, equipment and work processes are safe and do not cause any health problems now or health problems that may occur in the future. (Article 16(1))
- Does your employer provide workers with proper and adequate personal protective equipment when it is needed. (Article 16(2))
- Do the safety rep or the union help workers comply with health and safety regulations (Article 19(5))

Collective bargaining:-

— Industrial disputes b/w the employee and employer can also be settled by discussion and negotiation b/w these two parties in order to arrive at a decision.

— Collective bargaining involves

- Negotiations
- Drafting
- Administration
- Interpretation of documents written by employees, employers and the union representatives.
- Organizational trade unions with open mind.

— Often the bargaining process can bring about improvements in the workplace much more quickly than waiting for national legislation to change, which can be a very slow process.

7. What are the act, rules and regulations' are? it provided by the government for industries? (7)

Definition:- Government legislation is what provides workers with minimum standards of health and safety in the workplace.

Ideally, legislation should,

● Protect all workers :-

- Be oriented toward the prevention of occupational illnesses and injuries by requiring employers to comply with regulations that are more protective than just existing minimum standards;

- Include provisions for adequate compensation and rehabilitation for workers when needed.

- Include provisions for sufficient workplace inspection who are properly trained and equipped.

- Include strong enforcement

- allow for strong penalties for employers who break the law.

- address any region-specific needs.

Act:

- Most countries have acts dealing with Occupational health and safety. For eg: the factories act or the health and safety at work act.

- Acts are basically legal statements of the general health and safety principles and responsibilities in a particular country and they are made or approved by

→ The governments or parliaments of individual countries...
- Acts are fully supported by law, therefore potentially they have a great deal of power, but generally that power is only effective with adequate enforcement.

Regulations :-

- Once a health and safety act is passed, then a minister (The minister of labour), the cabinet or the state, provincial or even national government will develop detailed regulations.

- Regulations are fully supported by law so employees are required to comply with them, just like the overall act which they accompany.

- Regulation tend to cover specific industries or hazards and state the mandatory minimum standards and objectives. For, hazard control "safe level" training etc.,
