

Element 1: Why we should manage workplace health and safety

1. What is meant by the terms direct and indirect cost of a health and safety incident, with an example for each? (8)

ANS: Direct costs are those costs that directly relate to the accident/incident or incidence of ill-health. Direct costs may be insured or uninsured depending on the cause of the loss. In addition, many smaller costs may not be covered by insurance policies because the insurance company expects the employer to meet some of the costs of losses. An example of an insured cost is claims for compensation made against the employer by workers and other people. This may be covered by employer's liability insurance or public liability insurance or similar insurance policies. Indirect costs are those costs that indirectly relate to the accident/incident or incidence of ill-health. Some of these costs may be caused by a single accident/incident or incidence of ill-health or may be the result of an accumulation of occurrences over time. Direct costs may also be insured or uninsured although not many can be insured. An example of an uninsured cost is loss of important experience that the worker had.

2. What are the social reasons for preventing accidents/incidents and ill-health in the workplace? (8) **ANS:** The moral/social reason to prevent harm is usually further reinforced by social expectations of behavior, which require consideration of others that may be affected by interaction with them. In particular this includes work activities and how they may harm those involved in them or affected by them. This social expectation is often expressed in both civil law and criminal law as, without the potential for litigation or regulatory action, many employers would not act upon their implied obligation to provide protection. In many countries, it is a specific legal requirement to safeguard the health and safety of workers and others that might be affected by the organization's operations.

3. What are responsibilities and rights of workers in the Occupational Safety and Health Convention C155? (8)

ANS: Worker responsibilities include co-operating with employers with regard to obligations placed upon the employer, including reporting any situation that presents imminent risk or serious danger. In order to achieve this, workers and their representatives have rights. Workers' rights include; they should receive adequate information and training on measures taken by the employer to secure occupational health and safety. They or their representatives should be consulted by the employer on all aspects of occupational health and safety associated with their work. Workers should not be made to work in situations of continuing imminent or serious danger, until the employer takes remedial action.

4. What is meant by practicable duties placed on employers? (8) **ANS:** Practicable duties have to be met to an extent only limited by the current state of knowledge and invention, irrespective of cost or difficulty. This duty is often used for control of the provision of important or high risk precautions that involve applying technical solutions. As technical solutions may be influenced by technical characteristics of the work the duty allows the employer to adjust the solution to meet these characteristics and achieve health and safety. In addition, technical solutions may change over time as "knowledge and invention" produces alternative and better solutions. Employers are expected to use these solutions to meet the duty, therefore the duty expects employers to keep up to date with alternative solutions and apply them promptly when they become generally available.

5. Why are ISO international standards not in any way binding on either governments or industry merely by virtue of being international standards? (8) **ANS:** ISO international standards are not in any way binding on either Governments or industry merely by virtue of being international standards. This is to allow for situations where certain types of standards may conflict with social, cultural or legislative expectations and requirements. This also reflects the fact that national and international experts responsible for creating these standards do not always agree and not all proposals become standards by unanimous vote. The individual nations and their standards bodies remain the final arbiters.

Element 2 How health and safety management systems work and what they look like Contents

1) (a) What are the five key elements in ILO ‘Guidelines on Occupational Safety and Health Management Systems?’ (5)

ANS: The ILO ‘Guidelines on Occupational Safety and Health Management Systems - ILO-OSH 2001’ follow a structure that uses the following five key elements:

- Policy. • Organising. • Planning and implementation. • Evaluation. • Actions for improvement.

(b) Explain the requirement for two of the key elements identified. (3)

ANS:(any two from the following is required by the question:)

Policy: The health and safety policy establishes a plan which influences all the organization’s activities and decisions, including those to do with the selection of resources and information, the design and operation of working systems, the design and delivery of products and services, and the control and disposal of waste.

Organization: The organization section of the policy should clearly define the roles and responsibilities of everyone in the organization. This is required to establish a positive culture that secures involvement and participation at all levels. This culture is sustained by effective communications and the promotion of competence that enables all managers and workers to make a responsible and informed contribution to the health and safety effort. **Planning and implementation:** Planning and implementation should aim to minimise the risks created by work activities, products and services. They use risk assessment methods to identify hazards, decide priorities and set objectives for hazard elimination and risk reduction. Wherever possible, risks are eliminated by the careful selection and design of facilities, equipment, substances and processes or minimised by the use of physical control measures. Where this is not possible, provision of a safe system of work and personal protective equipment are used to control risks. **Evaluation:** Responsibilities, accountability and authority for evaluation should be clearly allocated at different levels in the management structure. Performance evaluation is consistently used to determine the extent to which the policy and objectives have been met and risks controlled. Many organizations establish health and safety committees to evaluate and report on the on-going progress of health and safety performance. **Actions for improvement:** When system non-conformities, for example, the identification of additional hazards, procedures not being followed or planned action not implemented, prompt corrective and preventive action systems should be taken. Corrective action is that action to correct the non-conformity and prevent further harm being caused by it, this tends to deal with the immediate causes of the nonconformity. Preventive action deals with the underlying and root causes of the non-conformity. This type of action reduces the likelihood of the non-conformity re-occurring in the same place or in other places.

2) What are the main benefits of introducing a recognised health and safety management system? (8)

<ul style="list-style-type: none"> • Demonstrates that the organization meets the requirements of a recognised standard. • Provides objective proof that the organization attaches great importance to health and safety. • Ensures clear responsibilities, (communication) structures and processes throughout the entire organization. • Confirms a commitment to be open to independent scrutiny. • Adds credibility to the organization. • Improves regard and reputation, giving a positive image of the organization. • Communicates a positive message to workers, customers and other stakeholders. 	<ul style="list-style-type: none"> • Confirms to regulators that recognised health and safety standards have been met. • Meets customers’ expectations. • Communicates a readiness to ensure consistent and improving health and safety performance. • Increases the reliability of the work done and raises awareness. • Establishes a level of performance to be maintained over the certification period. • Increases confidence in the organization and its ability to manage health and safety risk. • Helps to distinguish the organization from others who do not have certification.
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3) What are the key aims an organisation should commit to in their health and safety policy statement? (8)

ANS: ILO-OSH 2001 suggests the health and safety policy statement should include, as a minimum, the following key aims: Protecting the health and safety of all members of the organization by preventing work-related injuries, ill-health, diseases and incidents. Complying with relevant National/International occupational health and safety legislation, voluntary programmes, collective agreements on health and safety and other requirements to which the organization subscribes. Ensuring that workers and their representatives are consulted and encouraged to participate actively in all elements of the health and safety management system. Continually improving the performance of the health and safety management system.

4) What is the purpose of the three key features of an effective health and safety policy? (8)

ANS: A general statement of management commitment, sometimes called a statement of intent.

The statement defines what is to be achieved. The purpose of the statement section of the health and safety policy is to set and demonstrate management's commitment to its health and safety aims and to set objectives and quantifiable targets for the organization. Details of the organization of health and safety: The organization section of the policy clarifies who will achieve the aims. Its purpose is to define the structure, role, relationships and responsibilities of individuals. It allocates responsibilities and ensures effective delegating, reporting and accountability. The organization section will usually define the organization of worker participation through health and safety representatives, committees and direct involvement. Arrangements to control risks.: The arrangements section describes show the aims will be achieved. The purpose of the arrangement section is to detail the specific systems and procedures that establish the direction, scope and actions of the organization when managing health and safety.

5) What methods could you use to communicate the health and safety policy to workers and others? (8)

ANS: All affected by the policy must understand their obligations. In order to achieve this, training and briefings will be necessary, as a minimum, to ensure effective communication. For new workers this is often done as part of the induction process. The health and safety policy should be communicated in a language and medium that managers and workers readily understand. The health and safety policy should be readily accessible to all persons in their workplace and made available to external interested parties, for example visitors, neighbors, customers and Suppliers. The health and safety policy statement is often posted in prominent positions in the organization as part of the communication process and can serve as a lasting reminder to managers and workers after completion of training.

6) (a) Who should sign the health and safety policy statement? (2)

ANS: The most senior accountable person in the organization should sign the policy statement

(b) Why should the policy be signed and dated? (6)

ANS: In order to emphasise the necessary commitment to the organization's aims the statement should be signed by the most senior accountable person in the organization and dated. This shows that the senior person has accepted their responsibilities. It also gives authority to the policy and demonstrates senior management commitment to health and safety. By signing the policy, the personal commitment demonstrated should mean that managers are more likely to implement the policy and workers are more likely to believe in it and follow it. Strong management commitment, shown by the application of a signature, can emphasize that health and safety is equal to other business objectives. The addition of a date to the statement will indicate the last time the statement was reviewed, which will assist with ensuring the statement remains relevant and up to date. The health and safety policy statement is often posted in prominent positions in the organization to reinforce the commitment to health and safety.

Element 3 Managing risk - understanding people and processes

1) What are the additional arrangements employers need to make to meet their responsibility to protect visitors, neighbours or members of the public from their work activities? (8)

ANS: The type of arrangements employers could make to meet their responsibility to protect visitors include; requiring prior notification of a visitor's intention to visit, so that risks related to the visit can be assessed and control measures put in place. Providing visitors with health and safety information in suitable languages, for example, information on hazards, control measures and emergency procedures. Providing visitors with an explanation of relevant site rules, for example, requirements not to enter restricted areas or to wear specified personal protective equipment (PPE). Controlling access to the site, for example, by procedures for signing in/out and issuing visitors with badges to confirm their presence on-site is approved. Providing visitors with special clothing so that they are easy to identify, enabling managers and workers to take account of their lack of awareness or knowledge of hazards. Providing visitors with a suitable person to guide them while on site, someone who knows the hazards of the site and how to keep the visitors safe and healthy.

2) What is meant by 'health and safety culture of an organisation'? (8)

ANS: The health and safety culture of an organization is concerned with:

'How people feel' about how health and safety encompasses the values, beliefs, attitudes and perceptions of individuals and groups at all levels of the organization which are often referred to as the health and safety climate of the organization.

'What people do' within the organization includes the health and safety related activities, actions and behaviours of individuals and groups at all levels. For example, individuals making time for health and safety and giving it due priority when making decisions.

'What the organization has' is reflected in the organization's policies, operating procedures, management systems, control systems, communication and workflow systems. For example, health and safety is integrated in planning work activities and design of the workplace.

3) Explain why an understanding of individual factors is important in the workplace. (8)

ANS: It is important to know what a particular job involves so that the effects of individual factors can be minimised, especially for high hazard jobs. Not all individuals are suited for all tasks, for example, they may not have the physical strength and stamina required for activities such as coal mining. Some individuals' mental disposition might put them at risk, for example, their motivation, i.e. they may feel that while doing their work in a particular way presents additional risks it is worth taking the risk to make the work easier or to complete the work quicker. Some individual characteristics, such as skills and attitudes, can be modified by training, experience and involvement.

4) (a) Explain the role of worker participation in health and safety (4)

ANS: The role of worker participation in health and safety is to provide the employer with a wider view of how risks affect workers, their view on the effectiveness of current control measures and on proposed control measures. In addition, the role of worker participation is to show management commitment and motivate workers to work safely and healthily.

(b) What are the benefits of participation for the employer? (4)

ANS: The benefits of worker participation of this type is that it has been identified as one of the most significant factors to influence health and safety behaviour and promote a positive health and safety culture in organizations. It can lead to shared health and safety values and the motivation of those involved to work together to improve health and safety.

5) What are the key stages that need to be followed in the risk assessment process? (8)

- The identification of hazards relative to the work activity or task being assessed.
- Identification of the population at risk, who might be harmed and how, particular regard should be given to young persons, those that are inexperienced, pregnant or nursing mothers and those with a disability.
- The evaluation of the risks from the hazards (likelihood and severity (consequence)) and deciding on precautions (adequacy of current controls and need for additional controls). Consideration of any residual risk that may remain.
- Recording significant findings and the implementation of them.
- Reviewing the risk assessment and updating it if necessary (periodically or when there is a significant change, for example, process or legislative change).

6) (a) What are two reasons why visitors to a workplace might be at a greater risk of injury than a worker? (2)

ANS: Visitors may be unfamiliar with controls and the processes carried out in the workplace, their vulnerability particularly if they are disabled or young persons; they may not have been issued with or know how to correctly use personal protective equipment; a lack of knowledge of the site layout including pedestrian routes, which might not be clearly defined or adequate; be unfamiliar with the emergency procedures.

(b) What are the measures to be taken to ensure the health and safety of visitors in the workplace? (6)

ANS: Procedures to deal with visitors to a workplace such as, visitor identification, by the issue of badges and a system requiring sign in and out; prior notification to those members of staff to be involved in the visit; the need for visitors to be escorted by a member of management or supervisory staff; the provision of information to the visitors on hazards and emergency procedures; an explanation of specific site rules, for example, the wearing of personal protective equipment; the clear marking of pedestrian routes.

7) What should you consider when developing and implementing a safe system of work for general activities? (8)

ANS: Development of a safe system of work requires a systematic approach and generally requires the involvement of a number of people in order to establish an effective system of work. The development process requires a number of stages. Identification and analysis of the task, for example, consider the risks, the complexity and layout, equipment, environment and materials. Identification of hazards and risk assessment and any issues which might affect individuals with special needs or disabilities. Introducing controls and formulating procedures -including the definition of the safe and healthy method and the implementation of the system, procedure, method statements, permits to work. Instruction and training in the operation of the system, developing skill and knowledge and close working to support a new person or trainee. Monitoring the system, supervisory checks and feedback of improvements identified. It is important that the development of a safe system of work involves relevant people; this could include managers, workers who will work to the system, maintenance workers, competent health and safety practitioners and specialists.

8) What is the function of a permit-to-work system? (8)

ANS: The function of a permit-to-work system is to ensure the proper authorisation of specified work, by an appointed individual competent in the task and associated hazards and risk controls systems available. This will include confirmation of the identity, nature, timing, extent and limitations of the work. Consideration of the need for minimum daily staffing levels and where there may be identical or similar work equipment in the same vicinity, how confusion is prevented. Controlling change and considering other work activities that might interact with specified work. Establish criteria to be considered when identifying hazards and what they are. Confirm through the permit in writing, that hazards have been removed, where possible and that control measures are in place to deal with residual hazards. Confirm who has control of the location and equipment

relating to the work when it passes between parties. Confirm work is started, suspended, conducted, and finished safely, evidenced by time and signature for each stage of the activity. Ultimately providing a method to identify the necessary steps and sequence to be followed.

9) Why is it important to develop emergency procedures for the workplace? (8)

ANS: It is important to develop and implement emergency procedures for potentially major loss-causing events in order to bring the event under control promptly, reduce the effects of the event (on premises, equipment, materials, environment and people that might be affected) and enable a fast return to normal operations. In the absence of emergency procedures there may not be a timely or suitable response to the emergency allowing it to get out of control and cause more serious effects than if procedures were in place. Depending on the emergency, this could result in major loss of life, long term ill-health, environmental effects, significant damage to buildings and equipment and long delays in the organization returning to normal operations. Some organizations or locations where emergencies take place that are not effectively controlled never recover from the effects and cease to function or trade.

10) What are eight items that should be included in a hot work permit-to-work? (8)

ANS: Identify eight Items included in a permit-to-work document from the following:

- Permit issue number. • Authorised person identification. • Standby fire warden.
- Locations of firefighting equipment. • Locations of flammable materials. • Warning information sign locations. • Emergency muster points. • Details of the work to be carried out. • Signature of authoriser.
- Signature of acceptor. • Signature for work clearance/extension/handover. • Signature for cancellation.
- Other precautions (RA, method statements, personal protective equipment (PPE)).

11) (a) What is the purpose of first-aid? (2)

ANS: The purpose of first-aid is to preserve life; prevent the condition requiring first-aid getting worse, i.e. minimise its consequences until medical help arrives; to promote recovery of the person requiring first-aid and provide treatment where medical attention of a minor injury is not required.

(b) Explain the role of first-aiders. (6)

ANS: The role of first-aiders is to ensure good planning is in place to manage health and safety incidents swiftly when they occur for the foreseeable risks of the organization. It is important to have arrangements in place for when accidents/incidents and ill-health occur. Emergencies that require first-aid treatment can happen at any time. Therefore the provision of first-aiders is an important part of an organization's emergency arrangements to provide a prompt first response to emergencies, preventing injuries and illness getting worse and providing care until the local medical emergency services respond. Where they are trained to do so they can also treat minor injuries that would not receive or do not require professional medical attention.

Element 4 Health and safety monitoring and measuring

1) What are three different types of inspections that might be used in any workplace and give an example of each one? (8)

General workplace inspections - carried out by local first-line managers and worker health and safety representatives. An example of a routine inspection would be an inspection of an office location undertaken every three months where standards of housekeeping were monitored. **Statutory** thorough examination of equipment, for example, boilers, lifting equipment - carried out by specialist competent persons. **Preventive** maintenance inspections of specific (critical) items - carried out by maintenance staff. **Pre-use checks** of equipment, for example, vehicles, fork-lift trucks, access equipment - carried out by the user.

2) What are the advantages and disadvantages of the use of a checklist when carrying out inspections? (8)

ANS: *(The question requires advantages and disadvantages, this question is best answered under two distinct headings, to demonstrate a full understanding of the requirement, and typical examples include:)*

<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> • Enables prior preparation and planning. • Quick and easy to arrange. • Brings a consistent approach. • Clearly identifies standards. • Thorough. • Provides readymade basis for inspection report. • Provides evidence for audits. 	<ul style="list-style-type: none"> • Does not encourage the inspector to think beyond the scope of the checklist. • Items not on checklist are not inspected. • May tempt people who are not authorised/competent to carry out the inspection. • Can be out of date if standards change. • Inspectors might be tempted to fill in the checklist without checking the work area/equipment

3) What are the functions of an accident investigation? (8)

ANS: *(Care should be taken with this style of question. Answers should state that any investigation will vary according to the circumstances, but it will generally include the need to establish the causes of an accident, both immediate and underlying; and the appropriate preventative action to be taken.)* The identification of weaknesses in current systems, including any non-compliance with statutory Requirements so that standards can be improved. Collection of statistics, by identification of trends or frequency of occurrence. Determination of economic losses caused by delay or failure to complete customer expectations; including making any preparations for criminal/civil action. Improve staff relations by demonstrating commitment to health and safety.

4) What is the purpose of active and reactive monitoring? (8)

ANS: *(There is a need for a range of both active and reactive measures to determine whether health and safety objectives have been met. A balanced approach to monitoring seeks to learn from all available sources. Hence two broad categories of monitoring are required)* **Active monitoring**, before the event, involves identification through regular, planned observations of workplace conditions, systems and the actions of people, to ensure that performance standards are being implemented and management controls are working, for example, workplace and plant inspections. **Reactive monitoring**, after the event, involves learning from mistakes, whether they result in injuries, illness, property damage or near-misses, for example, accident investigation. Organizations need to ensure that information from both active and reactive monitoring is used to identify situations that create risks, and to do something about them. Priority should be given where risks are greatest

5) What are the steps to be taken when conducting an accident investigation? (8)

ANS: When conducting accident investigations the following steps should be considered:

- Step one: gathering the information.
- Step two: analysing the information .
- Step three: identifying risk control measures.
- Step four: the action plan and its implementation.

6) What actions should be taken following an audit? (8)

ANS: The outcome from an audit should be a detailed written report of findings and recommendations to improve or maintain the health and safety management system. A structure and approach to the report should be agreed at the pre-audit stage. The final report should give a clear assessment of the overall performance of the organisation, identify deficiencies and make recommendations for improvement. It should also identify the observed strengths and suggest how they can be built upon. All audit reports need to be accurately and clearly communicated. In addition to the provision of a detailed written report a verbal presentation of the report may be provided soon after the close of the audit, in order to give an early opportunity for management to learn and take action.

7) What are the differences between audits and inspections? (8)

ANS: Health and safety audits assess the health and safety system, or parts of it, to determine if the system is ensuring health and safety. One of the parts of the system that may be examined by an audit is active monitoring methods, like inspections. In this way, the audit would identify if the correct people were conducting them, using the right methods, at the right frequency and how effective they were. Inspections usually involve the examination of the workplace, work equipment or work activities; with the purpose of identification of hazards, or conditions that can lead to hazards, and to put in controls to mitigate the hazards. It can therefore be said that inspections are concerned with hazard identification in the workplace, whereas auditing relates to the systems that manage the prevention and control of hazards.

8) (a) Who in the organisation should receive reports on health and safety performance from managers? (2)

ANS: The results of the review of health and safety performance should be reported at senior management level. This is particularly important in situations where the review has been conducted by a work group drawn from the senior management team, as this will enable all of senior management to understand and accept the implications of the review.

(b) Why should others in the organisation also receive the reports? (6)

ANS: The results of the review should be communicated widely in the organization and in particular to those managers that have responsibility for responding to the actions arising from the review. It is customary to include a statement of health and safety performance, along with other risks, within the annual report. Such reports should be available to all workers and other stakeholders.

9) What are the advantages and disadvantages of internally conducted audits of an organisation? (8)

Advantages	Disadvantages
<ul style="list-style-type: none"> Internal audits ensure local acceptance to implement recommendations and actions improving ownership of issues found. The auditor often has intimate knowledge of the hazards and existing work practices. Auditors are aware of what might be appropriate for the industry. Auditors are familiar with the workforce including their strengths and weaknesses. Relatively low cost and easier to arrange. Builds internal competence. 	<ul style="list-style-type: none"> Auditors may not possess auditing skills. Auditors may not be up to date with current legislation and best practice. The auditor may also be responsible for implementation of any proposed changes and this might inhibit recommendations because of the effect on their workload. Auditors may be subject to pressure from management and time constraints, causing them to carry out less verification and to make more assumptions with respect to compliance evaluation.

10) What information should you consider when carrying out a review of health and safety performance? (8)

<ul style="list-style-type: none"> Level of compliance with relevant legal and organizational requirements. Accident and incident data, corrective and preventive actions. Inspections, tours and sampling. Absences and sickness. Quality assurance reports. Audits and other monitoring data/records/reports. 	<ul style="list-style-type: none"> External communications and complaints. Results of participation and consultation. Objectives met. Actions from previous management reviews. Legal/good practice developments. Assessing opportunities for improvement and the need for change.
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Best Wishes from ASHEI!!