



2.2 Design an Occupational Health and Safety Management System Framework Appropriate to Organisational Context



Learning Outcome

By the end of this session, learners should be able to design an Occupational Health and Safety Management System (OH&SMS) framework that is appropriate to an organisation's context. Learners will examine policy development, hazard identification, risk assessment, operational controls, and emergency preparedness to establish an effective and sustainable OH&S management system.

Learning Objectives

After completing this topic, learners will be able to:

- Design an OH&SMS aligned with organisational context and strategic objectives.
- Develop an OH&S policy that reflects organisational commitments and legal obligations.
- Apply suitable hazard identification and risk assessment methodologies.
- Design operational controls using the Hierarchy of Controls.
- Evaluate emergency preparedness and operational control arrangements.



Introduction

An Occupational Health and Safety Management System (OH&SMS) provides a structured framework for managing workplace risks, ensuring legal compliance, and achieving continual improvement. ISO 45001 emphasises that every management system should be designed according to the organisation's size, activities, risks, legal obligations, and strategic objectives. There is no "one-size-fits-all" approach; instead, the system should reflect the organisation's unique operational context.

What is an Occupational Health and Safety Management System (OH&SMS)?

An OH&SMS is a coordinated set of policies, procedures, processes, responsibilities, and resources that enables an organisation to manage occupational health and safety risks systematically. Its objectives are to:

Prevent injuries and occupational illnesses.

Eliminate hazards and reduce risks.

Meet legal and other compliance obligations.

Improve organisational performance.

Support continual improvement.

Designing an OH&SMS

A well-designed management system should follow these stages:

01

Understand the organisational context.

03

Identify hazards and assess risks.

05

Prepare for emergencies.

02

Develop the OH&S policy.

04

Implement operational controls.

06

Monitor, review, and improve performance.

1. Policy Development Aligned to Organisational Context

An OH&S policy is the foundation of the management system. It expresses top management's commitment to protecting workers and continually improving OH&S performance.

Understanding Organisational Context

Before developing a policy, organisations should understand:

Internal Factors

- Nature of operations
- Organisational structure
- Workforce competence
- Available resources
- Existing safety culture

External Factors

- Legal requirements
- Industry risks
- Technological changes
- Stakeholder expectations
- Economic and environmental conditions

The policy should reflect these factors and align with the organisation's strategic direction.

Characteristics of an Effective OH&S Policy

The policy should:

Be appropriate to organisational activities.

Commit to preventing injury and ill health.

Commit to legal compliance.

Promote worker consultation and participation.

Support continual improvement.

Be communicated throughout the organisation.

Be reviewed periodically.

1. Hazard Identification and Risk Assessment Methodologies

Hazard identification and risk assessment form the core of an effective OH&SMS.

Hazard Identification

Hazards may include:

Physical hazards

Chemical hazards

Biological hazards

Ergonomic hazards

Psychosocial hazards

Environmental hazards

Hazards should be identified before work begins and whenever changes occur.

Risk Assessment Methodologies

Common methodologies include:

Qualitative Risk Assessment

Quantitative Risk Assessment

Job Safety Analysis (JSA)

Hazard Identification (HAZID)

**Hazard and Operability Study
(HAZOP)**

**Failure Mode and Effects
Analysis (FMEA)**

Bowtie Analysis

The chosen methodology should be proportionate to the complexity and level of risk.

Risk Assessment Process

01

Identify hazards.

02

Determine who may be harmed.

03

Assess likelihood and consequences.

04

Evaluate existing controls.

05

Implement additional controls where required.

06

Monitor and review.

1. Control Measures and Hierarchy of Controls

Once risks have been assessed, organisations should implement suitable controls. ISO 45001 promotes the Hierarchy of Controls, which prioritises the most effective methods of risk reduction.

Hierarchy of Controls	Example
Elimination	Remove hazardous machinery or processes
Substitution	Replace a hazardous chemical with a safer alternative
Engineering Controls	Machine guards, ventilation systems, noise barriers
Administrative Controls	Procedures, permits, training, supervision
Personal Protective Equipment (PPE)	Helmets, gloves, respirators, eye protection

Controls should be selected based on the level of risk and reviewed regularly to ensure effectiveness.

1. Emergency Preparedness and Operational Control

Organisations should prepare for foreseeable emergency situations and establish operational controls to manage routine and non-routine activities safely.

Emergency Preparedness

Emergency plans should address:

- Fire and explosion
- Chemical spills
- Medical emergencies
- Natural disasters
- Equipment failure
- Evacuation procedures

Organisations should:

- Conduct emergency drills.
- Train employees.
- Test emergency arrangements.
- Review lessons learned following exercises or incidents.

Operational Control

Operational controls help ensure work is carried out safely. Examples include:

Safe work procedures.

Permit-to-work systems.

Lockout/Tagout (LOTO).

Contractor management.

Inspection and maintenance programmes.

Competency and training requirements.



International Standards Supporting OH&SMS Design

The following standards support the design and implementation of an OH&SMS:

ISO 45001:2018

Occupational Health and Safety Management Systems.

ISO 31000:2018

Risk Management.

ISO 14001:2015

Environmental Management Systems.

ISO 19011:2018

Guidelines for Auditing Management Systems.

Practical Case Study

Scenario

A logistics company expands its operations by opening a new distribution centre. To design an effective OH&SMS, the organisation:

- Reviews its organisational context and legal requirements.
- Develops a new OH&S policy reflecting increased operational risks.
- Conducts hazard identification and risk assessments for warehouse activities.
- Introduces engineering controls, including automated pallet handling and traffic management systems.
- Implements permit-to-work procedures for maintenance activities.
- Develops emergency response plans for fires, chemical spills, and medical emergencies.
- Provides induction training for all employees and contractors.

Outcome: The new facility begins operations with a structured management system that supports legal compliance, reduces workplace risks, and promotes continual improvement.





Critical Evaluation

Designing an effective OH&SMS requires more than adopting standard procedures; it demands a systematic understanding of organisational context, operational risks, and stakeholder expectations. ISO 45001 provides a flexible framework that enables organisations to tailor their management systems to their specific needs while maintaining compliance and continual improvement. However, the effectiveness of the system depends on strong leadership, worker participation, appropriate resource allocation, and regular review. A management system that exists only on paper is unlikely to improve safety performance. Success depends on integrating the system into everyday organisational activities and decision-making.

Summary Table

OH&SMS Element	Purpose
Organisational Context	Ensures the system reflects organisational needs and external influences
OH&S Policy	Establishes leadership commitment and strategic direction
Hazard Identification	Recognises workplace hazards before harm occurs
Risk Assessment	Evaluates risks and determines appropriate controls
Hierarchy of Controls	Prioritises the most effective methods of risk reduction
Operational Controls	Ensures work activities are managed safely
Emergency Preparedness	Enables effective response to emergency situations

Reflective Questions

1

Why should an OH&SMS be designed according to an organisation's context rather than using a standard template?

2

How does hazard identification support effective risk management?

3

Why is the Hierarchy of Controls considered the preferred approach to controlling workplace risks?

4

How do emergency preparedness arrangements contribute to organisational resilience?

Key Takeaways

- An Occupational Health and Safety Management System (OH&SMS) provides a structured framework for managing health and safety risks and achieving continual improvement.
- The system should be designed according to the organisation's context, activities, legal requirements, and strategic objectives.
- An effective OH&S policy demonstrates leadership commitment and provides the foundation for the management system.
- Hazard identification and risk assessment enable organisations to proactively manage workplace risks using recognised methodologies.
- The Hierarchy of Controls ensures that risk controls are selected based on effectiveness, with elimination and substitution preferred over administrative controls and PPE.
- Emergency preparedness, operational controls, and continual review help organisations maintain legal compliance, strengthen governance, and improve overall OH&S performance.