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International Safety Management Systems Standards & Approaches

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CSP
CHEMICAL SECURITY ENGAGEMENT PROGRAM

Chemical
SAFETY AND SECURITY TRAINING

International Safety Management Systems

- Definitions
- Purpose
- Safety Concepts
- Standards
  - BS 8800
  - OHSAS 18001
  - ILO-OSH 2001
- Approaches
  - SAICM

Definitions

- **Safety: "The state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and *safety risk management*. " (U.S. Federal Aviation Administration, 2009)**

- **A Safety Management System (SMS) is a *systematic way* to identify hazards and control risks while maintaining assurance that these risks are effective.**
  - **Provides for goal setting, planning, and measuring performance**
  - **SMS is a business imperative: ethical, legal and financial reasons for establishing a SMS (ICAO, 2009)**

Reference: International Civil Aviation Organization (ICAO), Safety Management Manual, 2009; U.S. Federal Aviation Administration, System Approach for Safety Oversight, 2009

Purpose

- Ever-increasing pace of worldwide trade and economies
- Increase in occupational accidents and diseases
  - Over 1.2 million workers are killed due to work-related accidents and diseases annually
  - ~250 million occupational accidents annually
  - ~160 million work-related diseases annually
- The economic loss is estimated to be 4% of the world gross national product

Reference: International Labour Organisation, 2001

Safety Concepts

- Freedom from hazards
- Zero accidents or incidents?
- Instill safety culture towards unsafe acts and conditions
- Error avoidance
- Regulatory compliance

Reference: International Civil Aviation Organization, Safety Management Manual, 2009

Safety Concepts

- **Traditional approach – prevent accidents**
  - **Focus is on outcomes (causes)**
  - **Focus is on unsafe acts by operational personnel**
  - **Assign blame/punish for failure to "perform safely"**
  - **Address identified safety concerns exclusively**

- **Traditional approach: WHAT? WHO? WHEN, but NOT: WHY? HOW?**

Reference: International Civil Aviation Organization, Safety Management Manual, 2009

Evolution of Safety Concepts

- **Change in approach to incident causation:**
  - **1950s to 1970**
    - **Technical factors**
  - **1970s to 1990s**
    - **Human factors**
  - **1990s to present time**
    - **Organizational factors**

Reference: International Civil Aviation Organization, Safety Management Manual, 2009

Safety Management Standards
BS (British Standard) 8800

- BS (British Standard) 8800 (1996)
  - A guide to occupational health & safety management systems
  - Emphasizes good working practices to prevent accidents and ill health
  - Goal is to improve business performance and responsible image
  - Assists in continuous improvement beyond regulatory compliance

Safety Management Standards
BS (British Standard) 8800

- Last edition: July 2004
- New and improved annexes cover:
  - Hazardous event investigation
  - Risk assessment and control
  - Integration with other quality and environmental management systems into an overall management system

Safety Management Standards
OHSAS 18000

- OHSAS 18000 system specification comprises both OHSAS 18001 and OHSAS 18002.
- Created by leading national standards bodies, certification bodies, and specialist consultancies
- Intent—to remove confusion from the proliferation of certifiable occupational health & safety (OHS) specifications
- OHSAS publishes ***The Essential Health and Safety Manual*** for purchase.
- Emphasis is on policy and procedures

Safety Management Standards
OHSAS 18001

Requirements:

- Identify occupational health and safety (OHS) hazards
- Assess the risks associated with OHS hazards
- Determine the controls necessary to reduce OHS risks to acceptable levels
- Proactive v.s. reactive approach to safety and health hazards

OHSAS 18001 Relationships to ISO

- OHSAS 18001 developed to be compatible with ISO 9001 and ISO 14001
- Facilitates the integration of quality, environmental, and OHS management systems
  - Document and data control
  - Auditing
  - Process controls
  - Record controls
  - Training
  - Corrective and preventive actions

OHSAS 18001 Elements

- *OHS Management Program*
  - Designates responsibility and authority
  - Defines means through which objectives are to be achieved, and timeline for achieving them
  - Must be reviewed at regular, planned intervals
  - Must be amended to address relevant changes in activities, products/services or operating conditions
  - Top management must provide necessary resources

OHSAS 18001 Elements

- *Employee Awareness*
  - Importance of conforming to OHS management system
  - Health & safety consequences of their work activities
  - Individual roles & responsibilities
  - Potential consequences of non-conformance to operating procedures
- Employees should be involved in review of policies/procedures for managing risks and consulted on changes that affect workplace.

Employee involvement is KEY.

OHSAS 18001 Elements

- *Document Control*
  - Document procedures established and maintained
  - Can be readily located
  - Legible, identifiable and traceable
  - Are reviewed periodically and updated if necessary
  - Are available at all locations where the OHS management system operates
  - Documents may be integrated with other corporate documents where appropriate

OHSAS 18001 Elements

- *Records and Reviews*
  - Compliance records
  - Training records
  - Accident Information
  - Inspection, maintenance and calibration records
  - Contractor and supplier information
  - Incident reports
  - Hazard analyses
  - Audit results
  - Management review records

OHSAS 18001 Elements

- *Emergency Situations*
  - Identify potential emergency situations and response measures
  - There must be review of response measures after any incidents occur
  - Emergency response measures must be tested periodically

OHSAS 18001 Elements

- *Audit Program*
  - Determines whether OHS management plan has been properly implemented and maintained and meets policy and objectives
  - Reviews results of previous audits
  - Provides audit information to (top) management
  - Should be conducted by independent (not necessarily external) personnel

OHSAS 18001 Elements

- *Management Reviews*
  - Should be at specified periodic intervals, documented, and cite any need for changes to policy or objectives
  - Should include:
    - Audit results
    - Extent to which objectives are met
    - Confirmation of continued suitability of OHS management system
    - Concerns from any relevant interested parties

OHSAS 18001 Certification

Steps to certification are similar to those for ISO 9001/14001:

- **Commit to developing OHSAS 18001 system.**
- **Develop plan for implementation.**
  - **Understand legal/regulatory requirements.**
  - **Identify risks/hazards, and controls for them.**
- **Implementation and training.**
  - **Training for management/employees can be done in-house or through consultants.**
  - **Allow enough time for system to be correctly/effectively implemented.**
- **Once system is in place, consider options for certification.**

OHSAS 18001 Certification

Developing a program can be done with or without consultation:

- **Without consultants:**
  - Literature can be purchased to help guide through the process of designing and implementing the program.

- **With consultants**
  - Some consultants perform initial set-up, through development and implementation and certification.
  - Other consultants offer preliminary audits to diagnose implementation problems, and perform audits post-certification to monitor progress.

International Labour Organisation (ILO)
OSH 2001

OSH2001 <u>Guidelines on Occupational Safety and Health Management Systems</u>

- **Voluntary guidelines**
- **Do not require certification**
- **Basic Components**
  - **Safety Management Policy**
  - **Organization**
  - **Planning and Implementation**
  - **Evaluation**
  - **Action for Improvement**

International Labour Organisation (ILO) OSH 2001

- Policy statement- state requirements in terms of resources, management commitment, and define OSH targets
- Organizing – describe organizational structure, responsibilities and accountabilities
- Planning and Implementation – define regulations and standards that are applicable and how they will be implemented
- Evaluation – define how OSH performance measured and assessed
- Continuous improvement processes described

Strategic Approach to International Chemical Management (SAICM)

- Adopted by the International Conference on Chemicals Management (ICCM), 2006
- Policy framework to foster safe management of chemicals
- Multi-sectoral, multi-stakeholder
- Goal: ensure that by 2020, chemicals are produced and used in ways that minimize the significant adverse impacts on the environment and human health (ICCM, 2006)

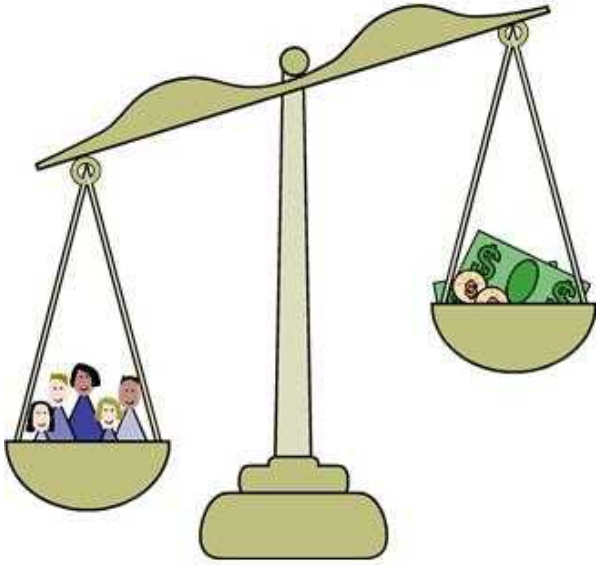
http://www.saicm.org/index.php?ql=h&content=home

Strategic Approach to International Chemical Management (SAICM)

- **Quick Start Programme:**
  - **A voluntary, time-limited trust fund for developing countries, and economies in transition**
  - **Priorities:**
    - **Development or updating of national chemical profiles**
    - **Identify capacity needs for sound chemicals management**
    - **Development and strengthening of national chemicals management institutions, plans, programmes and activities**
    - **Enable SAICM by integrating the sound management of chemicals in national strategies**

Why Implement Safety Management Standards?

- Safety of workers
- Quality of product
- Increased efficiency
- Business image



Integrated Management Systems

- Integrated management systems combine quality, environmental ***and*** OHS management systems
- Integration may vary from:
  - Increasing compatibility of system elements, to
  - Embedding an integrated management system (IMS) in a culture of learning and continuous improvements
- Some national integrated management standards are being developed (ISO (2008). Integrated Use of Management System Standards).
- For business sustainability an IMS needs to include the entire product chain and all stakeholders
- Jorgensen, et al. (2006). *Integrated management systems – three different levels of integration*. Journal of Cleaner Production, 14(8), 713-722.