PROVISION OF TRAINING ON SAFETY
MANAGEMENT SYSTEM FOR CSB

A brief introduction on SMS
•Legal duties
•Risk profiling
•safety management systems
•14 elements

A Safety Review for Hong Kong Safety and Health 1995

- **A company safety policy**
- **Safety plans**
- **Safety committees**
- **Regular safety audits or safety reviews**
- **General safety training**
  - All workers
- **Specific training**
  - Workers in hazardous trades or processes

Follow Up Actions – 1996

- **Voluntary action**

- **Safety charter**
  - Signed by employer & employees
  - Voluntary
  - Manage safety through co-operation
- **1090 organisations signed (Dec 2009)**

Follow Up Actions -1996

- **Contractual agreement**

- **Works Branch introduced**
  - Pay for Safety Scheme (PFSS)
  - Independent Safety Audit Scheme (ISAS)
- **Housing Authority joined the scheme**

Follow Up Actions - 1999

- **Mandatory requirement**
- **Factories & Industrial Undertakings (Safety Management) Regulation**
  - Affected organisations must introduce
    - Safety management system
    - Safety audit/review
- **Effective date : 1st April 2002**

Follow Up Actions - Training

- **Introducing Section 6BA**
  - Factories & Industrial Undertakings Ordinance
- **Compulsory training for**
  - Construction workers
  - Container workers
- **Factories & Industrial Undertakings**
  - Loadshifting Equipment Regulations
  - Gas Welding & Flame Cutting Regulations

Non Industrial Sectors

- **Occupational Safety & Health Ordinance CAP 509**
- **Occupational Safety & Health Regulations**
- **Occupational Safety & Health (Display Screen Equipment) Regulation**

- *Incorporate "general duties" provisions under F&IU Ordinance in 1989*
  - *first initiative with legal backing towards self-regulation*

- **OCCUPATIONAL SAFETY AND HEALTH ORDINANCE in 1998**

General Duties Provisions in Hong Kong

- The purposes of these Ordinances are as follows-
  (a) to ensure the safety and health of employees when they are at work;
  (b) to prescribe measures that will contribute to making the workplaces of employees safer and healthier for them;
  (c) to improve the safety and health standards applicable to certain hazardous processes, plant and substances used or kept in workplaces;
  (d) generally to improve the safety and health aspects of working environments of employees.

- This Ordinances apply to independent contractors and self-employed persons only in their capacity as employers or as occupiers of premises where workplaces are located.

- **The Ordinances bind the Government.**
  Neither the Government nor any public officer in the officer's capacity as such is liable to be prosecuted for an offence against these Ordinances.

General duties of employers and employee

- **The burden of proof** is transferred from the prosecution to the defence in prosecutions where it is alleged that the accused person or employer failed to do what was practicable or reasonably practicable as required , in the particular circumstances. **Employers must, as far as is reasonably practicable, safe guard the safety and health of employees.**

- **Employees must take reasonable care of their own safety and health and that of others who may be affected by their acts or omissions**. They must also **co-operate with their employer** so far as is necessary to enable the employer to comply with his duties under the ordinance.

- Members of management, who are also employees, are vulnerable to prosecution if they fail to carry out their safety and health responsibilities.

General duties of Occupier under OSHO
Occupier of premises to ensure safety and health of persons employed at those premises

- (1) If an employee's workplace is located on premises that are not under the control of the employee's employer, the occupier of the premises <u>must</u> ensure that-

  (a) the premises; and
  (b) the means of access to and egress from the premises; and
  (c) any plant or substances kept at the premises

are, <u>so far as reasonably practicable,</u> safe and without risks to health.

- "occupier" (佔用人), in relation to any premises or workplace, includes a person who has any degree of control over the premises or

General duties of employers and employees

The Duties of Proprietors
- Provision and maintenance of **safe system** of work and plant.
- Safe handling, storage and transport of materials
- Safety information, instruction, training and supervision.
- Maintenance of safe workplace, access and egress.
- Provision and maintenance safe working environment.

The Duties of Person employed
- Be cooperate and observe the safety rules
- Take care of himself and take care of the others.

Know Your General Duties

Safe Systems of Work

- Section 6(2)(a)a failure to provide or maintain plant and systems of work that are, so far as reasonably practicable, safe and without risks to health.
- A safe system of work is required when hazards cannot be physically separating the people from them, e.g. using effective guarding on a piece of machine.
- Specific legislation may require the use of formal permits to work, either directly or by implication as a means of compliance.

- Five basic steps
  - Assessment of the task
  - Hazard identification and risk assessment
  - Identification of safe methods
  - Implementing the system
  - monitoring the system

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5 Steps of Safe Systems of Work

1. **Task Assessment**
   - **What is used** – the plant and substances, potential failures of machinery, substances used, electrical needs of the task;
   - **Sources of errors** – possible human failures, short cuts, emergency work
   - **Where the task is carried out** – the working environment and its demands for protection
   - **How the task is carried out** – procedures, potential failures in work methods, frequency of the task, training needs.

2. **Hazard identification and risk assessment**
   Where hazards cannot be eliminated and risks reduced, procedures to ensure a safe method of work should be devised.

3. **Definition of safe methods**
   - Setting up the task and any authorisation necessary;
   - Planning of job sequences;
   - Specification of the approved safe working methods
   - Conditions which must be verified before work starts

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5 Steps of Safe Systems of Work

4. Implementing the system
- Adequate communication;
- Everyone appreciates the need for the system and its place in the accident prevention programme;
- Supervisors must know their duties in devising and maintaining the system;
- Put into operation and revised where necessary;
- Training
- Stop work

5. Monitoring the system
Regular checks to ensure that the system is still appropriate for the needs of the task, and that is being fully complied with.
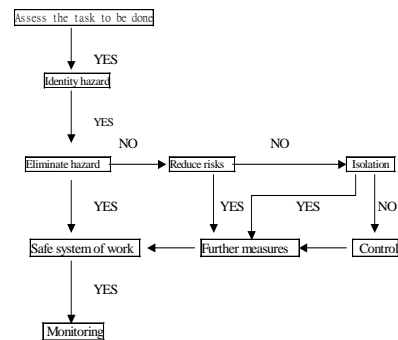
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Fig. 1 System of work

Discussion

Safe entry and work in Confined Spaces

Please follow fig 1
to establish a safe
system of work for
This confined space.

Assess the task to be done

How to recognize a confined space?

- **Construction**
  - **How may sides of the space enclosed?**
  - **What are the number, size, and location of openings, doors, vents etc.?**
- **Location**
  - **Is the space above or below normal floor level ?**
  - **Consider nearby operations as a source of contaminants**

Assess the task to be done

- **Contents**
  - What is the nature of the materials stored or contained in the space?
  - Do they give off flammable or toxic gases, fumes, dusts, vapours, fibres, mists, smoke, or radiation?
  - Is lack of oxygen possible (caused, for example, by rusting, or biological activity)? Is there too much oxygen?

Assess the task to be done

- **Work activity**
  - What is the nature of the work to be carried out in the space?
  - Is it likely to use up oxygen in the air?
  - Are there other hazards that the activity could generate – heat, noise, toxic, flammable ..

Identify hazards

- Confined space hazards
  - Oxygen deficiency
  - Oxygen enrichment
  - Fire and explosions
  - Toxic gases, vapours, dusts and fumes
  - Entry/Exit
  - Contents of pipes and supply lines
  - Shifting or collapse of bulk material

Identify hazards

  - Mechanical equipment
  - Electrical shock
  - Walking/working surfaces
  - Residual chemicals
  - Extreme temperatures
  - Poor visibility
  - Noise
  - Psychological factors

Hierarchy of control

- Eliminate of hazard
- Reduce
- Engineering control
- Administrating control
- Use of PPE

Pre-entry precautions

- Testing and evaluation the atmosphere
- Purging and ventilation
- Blanking-off procedures
- Clean out
- Lockout procedures
- Fire safety
- Electrical safety

Entry Precautions

- Personal Protective Equipment (PPE)
- Access and Egress

Emergency procedures

- Rescue plan and equipment

Administration

- Policy and procedures for confined space
- Selection, education and training
- Work permits
- Monitoring

Safe System of Work

Can a safe system of work exists without a safe management system ?

**Key Concepts of
Safety Management System**

Transition from Reactive to Proactive Approach to Managing Safety

**Key Concepts of
Safety Management System**

Transition from Reactive to Proactive Approach to Managing Safety
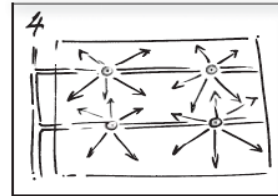
Key Concepts of
Safety Management System

Transition from Reactive to Proactive Approach to Managing Safety
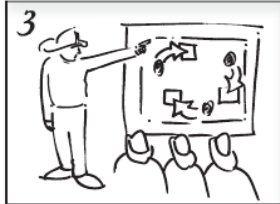
Systematic evaluation and improvement:
Evaluate with locations are most susceptible to fire.
Install heat sensors and sprinklers in those locations,

Key Concepts of
Safety Management System

Transition from Reactive to Proactive Approach to Managing Safety

Learning and strategic improvement:
Install system-wide heat sensors and a sprinkler system that is activated by the heat preceding fires

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Key Concepts of
Safety Management System

Transition from Reactive to Proactive Approach to Managing Safety

Organizational analysis and innovation:
Use fireproof and fire-retardant materials
Replace combustible solvents with water-based solvents.
Sensors and sprinklers become the secondary line of protection, with prevention the primary approach for protection.
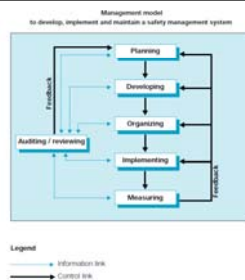

Safety Management System (SMS)

- " A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures"
- The SMS of an organization is a comprehensive integrated system for managing safety. Under this system, an organization defines its safety objectives and the procedures by which these are to be achieved. It also outlines its safety performance standards and the means of achieving these.

Managing for safety and health

SMS Purpose and Method

Provides:
➤ *a systematic way to identify and control risk*
➤*Assurance that risk controls remain effective*
➤*Forma means of meeting statutory requirements*

Safety Management System for Hong Kong
- *Recommended in Consultation Paper on Review of Industrial Safety in Hong Kong 1995.*
- *Emphasizing self-regulation.*
- *Phased implementation of whole regime.*

Factories &Industrial Undertakings (Safety Management) Regulations

Organisations have a legal duty to put in place suitable arrangements to manage for safety and health.

Working Group on Occupational Safety and Health in the Civil Service

- A Working Group on OSH in the Civil Service was set up in 1996.
- The Working Group is chaired by Deputy Secretary for the Civil Service 3 and comprises representatives from the OSH Council, Labour Department, the staff sides of the four Government's Central Consultative Councils and selected government departments.
- The roles of the Working Group are to examine OSH issues in the government sector, and to advise the Secretary for the Civil Service on measures to be taken for promoting OSH awareness at the central level and action by the management and staff at the B/D level.
- In the same year, the Government signed the Occupational Safety Charter to pledge its commitment to work with staff towards a healthy and safe working environment. The Charter sets out respective roles of employers and employees in safety and health protection in workplace, their rights and obligations and how this can be achieved with the co-operation of employers and employees.

Risk profiling

Effective top management and line managers know the risks their organisations/ departments face, rank them in order of importance and take action to control them. The range of risks goes beyond safety and health risks to include quality, environmental and asset damage, but issues in one area could impact in another.

- the nature and level of the risks faced by organisation;
- the likelihood of adverse effects occurring and the level of disruption;
- the costs associated with each type of risk;
- the effectiveness of the controls in place to manage those risks.

Risk profiling

Every organisation will have its own risk profile. This is the starting point for determining the greatest safety and health issues for the organisation. In some businesses the risks will be tangible and immediate safety hazards, whereas in other organisations the risks may be health-related and it may be a long time before the illness becomes apparent.

A risk profile examines:
- the nature and level of the threats faced by an organisation;
- the likelihood of adverse effects occurring;
- the level of disruption and costs associated with each type of risk;
- the effectiveness of controls in place to manage those risks.

Let's join hands to promote
Occupational Safety & Health

Occupational Safety and Health in the Civil Service

Government as an employer attaches great importance to the safety and health of staff. In conjunction with the Working Group on Occupational Safety and Health (OSH) in the Civil Service, the Civil Service Bureau has been promoting OSH in the workplace through organisation of service-wide publicity and educational programmes with focuses on the major areas of concern common to Government bureaux and departments (B/Ds). These include exhibitions, seminars, experience-sharing workshops and production of guidelines and reference materials. In addition, we have been encouraging B/Ds to establish and enhance their own **safety management system** and organise publicity and educational activities and providing financial assistance where appropriate.

Safety Management System

As pledged in 1998 Policy Address, a 'Practical Guide on Safety Management System' was produced in July 1999 to provide guidance and supportive tools for bureaux/departments to develop the system.

安全管理制度執行指引
A Practical Guide on Safety Management System

A safety management system consists of the following elements:

1. A safety policy which states the commitment of the proprietor or contractor to safety and health at work;
2. A structure to assure implementation of the commitment to safety and health at work;
3. Training to equip personnel with knowledge to work safely and without risk to health;
4. In-house safety rules to provide instruction for achieving safety management objectives;
5. A programme of inspection to identify hazardous conditions and for the rectification of any such conditions at regular intervals or as appropriate;
6. A programme to identify hazardous exposure or the risk of such exposure to the workers and to provide suitable personal protective equipment as a last resort where engineering control methods are not feasible;
7. Investigation of accidents or incidents to find out the cause of any accident or incident and to develop prompt arrangements to prevent recurrence;
8. Emergency preparedness to develop, communicate and execute plans prescribing the effective management of emergency situations;
9. Evaluation, selection and control of sub-contractors to ensure that sub-contractors are fully aware of their safety obligations and are in fact meeting them;
10. Safety committees to identify, recommend and keep under review measures to improve the safety and health at work;
11. Evaluation of job related hazards or potential hazards and development of safety procedures;
12. Promotion, development and maintenance of safety and health awareness in a workplace;
13. A programme for accident control and elimination of hazards before exposing workers to any adverse work environment; and
14. A programme to protect workers from occupational health hazards.
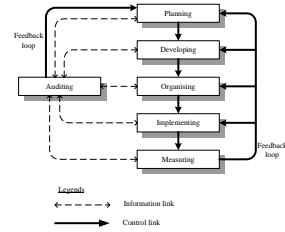

Safety Management Systems

A formal management system or framework can help government departments to set up their own safety management system to manage health and safety

Safety Management Regulations

A proprietor or contractor required to :
- Develop
- Implement
- Maintain

a safety management system.

Safety Management Model HK

Management System

What makes it a <u>management</u> system is the allocation of accountabilities, responsibilities and resources from senior management through to all employees to enable decisions to be made on OSH matters.

Planning a safety management system

1. Appoint and train a safety management programme coordinator
2. Set up a safety committee
3. Set up task groups
4. Conduct initial status review
5. Gap analysis

Set up task group

Central/Corporate Safety Committee

Safety Manager/Officer — Safety Consultant

Task Groups

Policy   Safety training   Inspection programme   Emergency Preparedness

Oranization   in-house rules   accident/incident   sub-contractors

Safety committee   hazard control   safety audit/review   Process control

Risk assessment   safety promotion   Occupational health

How to establish a safety management system?

Planning
- Initial status analysis
- Periodic status analysis
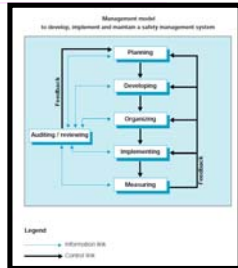- Risk assessment
- Developing
  - Safety Policy
  - Safety Plan
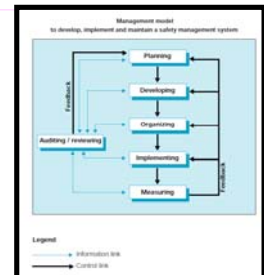
How to develop a safety management system?

Organizing
- People and resources to accomplish objectives

Implementing
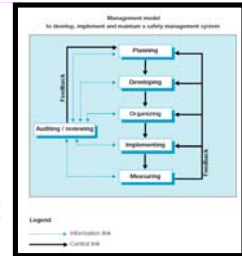- Carrying out the plans to achieve the desired objectives under control.

How to develop a safety management system?

- **Measuring**
  - Proactive monitoring of performance
  - Reactive monitoring of performance
- **Auditing**
  - Feedback loop to the planning stage.
  - Safety auditor or review officer
  - Take actions on reports.

Development a Safety Management System

- **Step 1- Initial Status Review**
  Start with the initial status review the current conditions. This information will guide in planning the SMS.
- **Step 2 - Safety Policy & Safety Plan**
  Define safety policy and commitment

  Plan to achieve the safety targets and goals

Development a Safety Management System

- **Step 3 - Organizing**
  Allocation of responsibilities and organization of people.
  - **Safety Organization**

Development a Safety Management System

- **Process 4 - Implementation**
  Implement the safety plan to fulfill its safety policy and objectives and targets.
  - **Safety Training**
  - **In-house safety rules**
  - **Personal protection program**
  - **Emergency preparedness**

Development a Safety Management System

  - **Evaluation, selection and control of subcontractor**
  - **Safety Committee**
  - **Programme for accident control and elimination of hazards**
  - **Evaluation of job related hazards**
  - **Safety promotion**
  - **Process control programme**
  - **Program on protection of occupational health**

Development a Safety Management System

- **Step 5 - Measuring and Auditing**

Measure, monitor and evaluate safety performance and take preventive and corrective action.

- – Program for inspection of hazardous conditions
- – Accident/Incident investigation
- – Safety audit/review
- – Continual improvement

Development a Safety Management System

- **Process 6 – Periodic Status Review (Planning)**

Conduct a review of the SMS to ensure its continuing suitability and effectiveness in satisfying the organization's safety policy and objectives.

Review Questions

Leading for safety and health

- Is there leadership from the top of your organisation? Is it visible?
- What example do you set? Do you talk about health and safety? When did you last do this?
- What are your significant risks and how do you know they are being controlled?
- Are the safety and health implications of your organisation decisions recognised and addressed?
- Is there evidence that the board or top management of your organisation is responsive to the safety health and information that is reported?

Review Questions

Management tasks

- How is safety and health included in the processes or management arrangements you have for running the operation?
- Are the safety and health responsibilities of key people set out, for example: Who is the champion/focus at the management board?
- Who sets policy and standards?
- Who monitors performance?
- Are these responsibilities reflected in their job descriptions?
- How do you ensure access to competent advice?
- How do you ensure safety and health information is communicated effectively within and beyond your organisation?
- How do you control your contractors?
- How do you review your safety and health performance?