Construction Site Safety Manual

Published by

The Real Estate Developers Association of Hong Kong
and
The Hong Kong Construction Association
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The materials contained in this Construction Site Safety Manual (hereunder ‘Manual’) have been developed to provide guidance to interested parties, including contractors and subcontractors, in managing safety and health risks in accordance with the agreed principles of the REDA/HKCA Safety Partnering Programme and the contractual requirements. Every due care has been exercised taking into the account the circumstances of local working environment and requirements of the laws of Hong Kong. Any advice or comment in this Manual is given in this general context and should not be relied upon as a substitute for legal or other professional advice.

This document is produced to provide practical guidance on managing safety and health on construction sites and to meet legal obligations. There is no intention whatsoever to offer exhaustive guidance and interpretation of the Factories and Industrial Undertakings Ordinance and its subsidiary regulations. Anyone wishing to affirm the legal position of individual facts or situation should refer to the relevant regulations and other related statutory documents or consult a lawyer.

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Preface

We are pleased to publish a set of four safety management documents to serve as reference for participating companies under a Safety Partnering Programme. It is the first phase of an ambitious programme that has a vision to bring Hong Kong’s private sector construction safety performance to match the world’s best performers by 2008.


We have commissioned K & M Consultancy Company Limited to undertake the drafting of this set of documents. In the production process, we have in mind target users from different backgrounds, such as developers, their project management staff and representative, designers, contractors and their site employees as well as professionals in different disciplines.

Contractual Provisions for the Pay for Safety Scheme sets out the principal features of a Employer’s commitment to pay for safety-related items of expenditure through conditions in a construction contract. It embodies payment for implementing pre-set items in a schedule and incentive payment for achieving excellence. Employers and contractors under the Programme are expected to follow the provisions in this document to realize the Pay for Safety Scheme in a fair and equitable manner.

Construction Site Safety Manual provides a framework for managing site safety, with an analysis of the statutory provisions and contractual requirements relevant to managing safety from the perspectives of the Employer and his representative, the designer, the contractor and various professionals in the safety supply chain. The Manual attempts to relate the safety management responsibilities with the management structure of the Building Authority’s Site Safety Supervision Plan that is also applicable to private sector projects.

Construction Site Safety Handbook, as the name suggests, is intended to serve as a handy reference to frontline management teams in managing certain critical and accident-prone site safety issues. By drawing on past accident cases, good and bad trade practices, the Handbook aims to provide a basic framework for those who have direct influence over safety performance, with some useful pointers for continuous improvement. There is a Chinese translation of the Handbook available for use by frontline supervisors.
A Practical Guide to Construction Site Safety Management takes the safety management issues to the forefront. It is intended to help Employers or their representatives monitor the safety performance of their contractors, implement the concept of construction design and management (CDM) and protect the safety and health of the employees assigned to work on the contractor’s sites. It will also help to equip contractors and their management teams with the necessary skills to run an effective safety management system.

Together, the four reference documents are intended to fill a knowledge gap for those who are not too familiar with what it takes to raise site safety performance standards. To complement what is in these documents, participating companies under the Programme are expected to attend a series of training modules that will elaborate on areas not fully covered in the guidance materials. This will be the second significant step in grasping the concepts and understanding the best practices promulgated in these documents.

Acknowledgements

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We would like to record our acknowledgements and thanks to the following companies and organizations (in alphabetical order) –

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- Heng Tat Construction Co. Ltd.
- Hip Hing Construction Co. Ltd.
- Hip Shing Hong
- Hong Kong Housing Authority
- Hong Kong Housing Society
- MTR Corporation Limited
1. Introduction

1.1 The Safety Partnering Programme

The Safety Partnering Programme was jointly initiated by the Real Estate Developers Association of Hong Kong (REDA) and the Hong Kong Construction Association (HKCA). The goal of the programme is to raise the Hong Kong construction industry’s standard of safety and health to a level that is comparable to the world’s best performers.

The specific targets for every construction project participating in the Safety Partnering Programme are:
- Zero fatal accidents;
- Zero dangerous occurrences;
- Before 2008, yearly target as announced from time to time by the Environment, Transport and Works Bureau (ETWB)
- Less than 10 per 1,000 workers per annum by 2008

1.2 Construction Site Safety Manual

The Construction Site Safety Manual has been developed to assist stakeholders in the implementation of the Programme.

The guidelines in this Manual are designed to foster a systematic and proactive approach to the management of safety and health in the private sector undertaking property development and maintenance contracts. It is aimed at controlling workplace risks, thereby substantially reducing the frequency and severity of workplace injuries and ill-health. This will also have a positive effect on productivity and the overall well-being of the workforce.

This Manual sets out a comprehensive programme based on past experience, success stories and best practice of the construction industry. It may be used as a reference manual or as a working tool to manage safety and health on construction sites. It helps to realize the aims, strategies and targets of the Safety Partnering Programme.

A comprehensive programme comprises, in the context of Hong Kong’s safety management regulation, fourteen elements. These are Safety Policy, Organizational Structure, Safety Training, In-house Safety Rules, Inspection Programme, Hazard Control Programme, Accident/incident Investigation, Emergency Preparedness, Evaluation, Selection and Control of Subcontractors, Safety Committee, Job Hazard Analysis, Safety and Health Awareness, Accident Control and Hazard Elimination and Occupational Health
Assurance Programme. A more detailed analysis of these elements and their application can be found in Chapter 6 of *A practical Guide to Construction Site Safety Management*.

1.3 Who should read this Manual?

This Manual has been developed for contractors and their staff working on building projects which are covered by this Programme. It will also be useful for developers or their representatives involved in the management of building projects.

1.4 Related reference documents

The Manual is to be read in conjunction with the following documents developed for the implementation of this programme:

- *Contractual Provisions for the Pay for Safety Scheme*
- *Construction Site Safety Handbook*
- *A Practical Guide to Construction Site Safety Management*
2. Policy and Strategies

2.1 Policy

Striving for total safety is the best means of attaining excellence and leadership in safety and health performance. It is an excellent “way-in” to the management of other aspects of the business, including production, quality, environment, resources and personnel. It is a clear demonstration that top management cares about the well-being of its workforce.

Accidents cause human sufferings and economic loss to all parties, including the society at large. Employers, their agents, designers and contractors should adopt a “total safety” policy and a structured approach to managing safety and health through all stages of a construction project.

This approach should cover all construction activities, including new building projects, maintenance and repair, additions and alterations, refurbishment and demolition works.

During the planning and design stage, consideration should be given to alternative engineering solutions to eliminate or reduce risks that will only become apparent during the subsequent stages of construction. A detailed Site Safety Plan, including safe working method statements for major phases of construction, should be developed jointly by the engineering and safety professionals.

Prevention and risk control are not only good management planning but also more economical than “fixing” the problems when they emerge later. In the long run, it is sound business strategy to invest in the well-being of employees and to prevent injuries to the public who may be affected by the works.

The development and implementation of an effective safety and health management system should be a top corporate and project priority for the decision makers. It is a key element in ensuring sustainable development and fulfilling corporate social accountability.

2.2 Strategies

Under the Safety Partnering Programme, the following strategies have been adopted to achieve the intended policy objectives:

(a) The REDA and HKCA will undertake to encourage member companies to participate, support and implement the Programme on a voluntary basis. The intention is for member companies to lead by example and persuade others, including non-REDA
and HKCA members, to join the Programme.

(b) Although the REDA and the HKCA initially assume the leading role in promoting and implementing the programme, other organizations having a property development role will also be invited to join the Programme. It is envisaged that they will accept the invitation and take part in the initiative. There is no doubt that these organizations will be able to contribute significantly to the long-term success of the Programme.

(c) The Programme is based on the principle that it is better to take proactive strategies in a self-regulatory manner to prevent workplace injuries and illnesses than to have to rely on reactive steps to remedy the situation. In the unfortunate circumstances that a serious incident does occur, there may be the added problems of having to defend against legal proceedings by way of either statutory prosecutions or common law claims (or both).

(d) It is of prime importance to secure the commitment of all stakeholders (including members of the REDA and the HKCA, professionals, consultants, subcontractors, suppliers, utility companies and workers) to support this Programme. The Safety Partnership Programme therefore advocates the philosophical approach of “shared responsibility”.

(e) Under the Programme, contractors will be required to improve safety and health for everyone, including protection of the public, who may be affected by the construction activities. These requirements will be incorporated in all works contracts. Such contractual provisions also require contractors to ensure compliance by their subcontractors, suppliers and consultants.

(f) Only contractors who have demonstrated the necessary commitment to safety and health will gain a preferred status for construction projects. The capability of the prospective contractors to manage safety, as demonstrated by their previous track record, should be one of the key factors in a pre-qualification exercise and the subsequent tender assessment.

(g) Relevant training programmes, including accident prevention and safety management principles, will be provided to site supervision staff of REDA members and their consultants. The objective of this type of training is to reinforce their capability to manage safety and health under the Programme.

(h) Coordinating Meetings between the Employer’s representative and the Contractor and Site Safety Management Committees should be established in each project to
monitor the implementation of the Site Safety Plan in order to fulfill the contractor’s safety and health obligations as set out in the contract.

(i) A database for dangerous occurrence and accidents, which result in death or incapacity for 3 days or more than 3 days, will be established to monitor the safety performance of companies taking part in the Programme. Information from the database will also be analyzed to identify significant trends to assist with the formulation of strategies on accident and ill-health prevention; and

(j) A “Construction Site Safety Manual" will be published and distributed to assist private sector developers, their representatives, consultants and contractors in administering construction safety matters for contracts covered by the Programme. The Manual will be periodically reviewed and updated.
3. Legislations and Quasi-legal Documents

3.1 Background

The structure of Hong Kong’s occupational safety and health legislation (in relation to the philosophical approach in the formulation of legislative provisions) reflects its position between two distinct cultures. The American approach, on the one hand, is prescriptive, with compulsory rules and detailed restrictive occupational safety and health standards. The Anglo-Saxon approach, on the other hand, is based on setting performance standards (or objectives), which duty holders are required to meet, preferably in a cooperative and voluntary spirit amongst stakeholder groups.

In order to get the best from both approaches, Hong Kong has adopted a legal framework that principally lays down the safety objectives, together with ways to achieve the objectives through subsidiary regulations or workplace codes of practice.

The characteristic of the current safety and health legislation is the adoption of the United Kingdom’s innovative approach, as promulgated in the Roben Report. This approach uses the statute as a basis for fostering a particular attitude – often quoted as the “Roben Philosophy” – to the sporadic improvement of safety and health standard in workplaces.

The philosophy rests on two premises. First, that the function of the safety and health law is to afford a legal framework within which those in the industry could take on the responsibilities for safety and health at work. This is the spirit behind “self-regulation”. The second is that there should be means for workforce involvement - that safety is a “shared responsibility”.

The feature of the legal framework of Hong Kong safety and health laws is a combination of the detailed, restrictive and punitive UK Factory Act provisions, embedded with some of the Roben philosophy of self-regulation and objective-driven provisions.

3.2 Architecture of safety legislation

Broadly speaking, the architecture of the legal instrument comprises the following:

(a) The general duties on employers and others, including employees, occupier, etc., in Sections 6, 7 and 8 of the Occupational Safety and Health Ordinance and Section 6A and 6B of the Factories and Industrial Undertakings Ordinance.

(b) Ordinances that provide a safety net for the protection of workers and “other
persons” against hazards that are not specifically dealt with in other legal provisions. The safety net is in the form of obligations on duty holders. Even though the obligation provisions are comprehensive in coverage, they are not uncompromising. In general, duty holders are required to do only what is “reasonably practical” to control workplace risks. The law allows for a balance between the need to eliminate the risk and the cost incurred to implement the necessary control measures. In any case, the risk involved must be kept within an acceptable level.

(c) Regulations, especially those enacted before 1987, are fairly prescriptive i.e. they require employers and other persons (including the owner and competent persons) to take certain precautions regardless of cost or risk level. These regulations generally cover hazards in a single environment or industry-specific.

(d) Recently enacted regulations generally apply across more than one industry. They are broader in scope and are based on risk assessment and its management. Failure to comply with these regulations will incur legal sanction. These regulations are expressed in the form of goal-setting provisions for duty holders.

(e) Where mandatory adherence to a set of rules is unnecessary or highly undesirable, an approved code of practice may be introduced.

3.3 Legislations applicable to construction sites

The lists of Ordinances and Regulations, which are relevant to site safety and health listed in this chapter, are not exhaustive and should not be regarded as complete. Duty holders and interested parties must appraise the full extent of their legal responsibilities in relation to workplace safety and health.

Broadly speaking, the Hong Kong safety and health legal framework comprises of two vehicles:
- the Factories and Industrial Undertakings Ordinance and its 29 sets of subsidiary Regulations
- the Occupational Safety and Health Ordinance and its two sets of subsidiary Regulations

However, the following Ordinances are also relevant:
- the Boilers and Pressure Vessels Ordinance
- the Buildings Ordinance
- the Builders’ Lifts and Tower Working Platform (Safety) Ordinance
- the Dangerous Goods Ordinance
- the Electric Safety Ordinance
- the Fire Services Ordinance
• the Gas Safety Ordinance
• the Waste Disposal Ordinance

3.4 Factories and Industrial Undertakings Ordinance (F&IUO)

The Factories and Industrial Undertakings Ordinance provides for the safety and health protection of workers in the industrial sector.

(a) Coverage – This ordinance applies to industrial undertakings such as factories, construction sites, catering establishments, cargo and container handling undertakings, repair workshops and other industrial workplaces.

(b) General duties – This ordinance imposes general duties on proprietors and persons employed at industrial undertakings to ensure safety and health at work.

(1) Every proprietor should take care of the safety and health at work of all persons employed by him at an industrial undertaking by:
   - providing and maintaining plant and work systems that do not endanger safety or health;
   - making arrangement for ensuring safety and health in connection with the use, handling, storage or transport of plant or substances;
   - providing all necessary information, instruction, training, and supervision for ensuring safety and health;
   - providing and maintaining safe access to and egress from the workplace; and
   - providing and maintaining a safe and healthy work environment.

(2) Every person employed at an industrial undertaking should also contribute to safety and health at work by:
   - taking care for the safety and health of himself and other persons in the workplace; and
   - using any equipment or following any system or work practices provided by the proprietor.

(c) Regulations made under the F&IUO - The principal and issue-specific regulations made under the Factories and Industrial Undertakings Ordinance are as follows:

(1) Factories and Industrial Undertakings Regulations
They provide for the provision of fencing at dangerous areas, adequate lighting and ventilation to remove injurious fumes or dusts, cleaning and maintenance of floors and work benches. A minimum space of 7 cubic meters for each
person and prohibition of cleaning of dangerous machinery by women and young persons are stipulated.

(2) **Factories and Industrial Undertakings (Confined Spaces) Regulations**
They require the proprietor to conduct risk assessment and implement risk control measures (in a systematic manner) to ensure the safety and health of workers entering and working in confined spaces.

(3) **Factories and Industrial Undertakings (Blasting by Abrasives) Special Regulations**
They restrict the use of sand or free silica-containing materials as an abrasive medium in a blasting process subject to the provision of suitable protective equipment and clean and fresh air.

(4) **Factories and Industrial Undertakings (Woodworking Machinery) Regulations**
They require the provision of unobstructed and well-maintained flooring and surroundings in the workroom, and adequate guarding and maintenance of woodwork machines. Persons under 16 years of age are prohibited from operating machines.

(5) **Factories and Industrial Undertakings (Abrasive Wheels) Regulations**
They require the proper mounting of abrasive wheels by competent persons, marking of wheel and spindle speeds, guarding and maintenance of wheels.

(6) **Factories and Industrial Undertakings (Electricity) Regulations**
They provide for suitable design, construction, installation and protection of electric circuits and apparatus for the prevention of electrical hazards to workers.

(7) **Factories and Industrial Undertakings (Asbestos) Special Regulations**
They prohibit the use of certain type of asbestos and control the asbestos working process. The employment of young persons in asbestos process is forbidden.

(8) **Factories and Industrial Undertakings (Carcinogenic Substances) Regulations**
They prohibit the use of certain carcinogenic substances (prohibited substances) and the employment of workers involving in manufacturing of such substances. The regulations also prescribe safety measures for any process or work involving other carcinogenic substances (controlled substances).
(9) **Factories and Industrial Undertakings (Cartridge-operated Fixing Tools) Regulations**

They prescribe the operational safety requirements for the cartridge-operated fixing tools, the provision of personal safety equipment and training of operators. Persons under 18 years of age are prohibited from operating cartridge-operated fixing tools.

(10) **Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations**

They provide for the proper construction, testing and thorough examination of lifting appliances and lifting tackles by professional engineers. Crane operators are required to hold a valid certificate of competency.

(11) **Factories and Industrial Undertakings (Noise at Work) Regulations**

It prescribes the requirements for making noise assessment, the use of engineering method to reduce noise emanated, the demarcation of ear protection zone and taking measures to reduce the noise exposure of employees. The regulations also require the provision and use of approved ear protectors when the daily personal noise exposure of 90 dB (A) is exceeded.

(12) **Factories and Industrial Undertakings (Dangerous Substances) Regulations**

They prescribe requirements for the proper classification, labelling and handling of 231 listed chemicals. The regulations require the provision of safety information, training, supervision and personal protective equipment to employees.

(13) **Factories and Industrial Undertakings (Work in Compressed Air) Regulations**

They prescribe safety procedures for working in compressed air and provide for the construction and use of man-lock, decant-lock and medical-lock compressed air operations.

(14) **Construction Sites (Safety) Regulations**

They provide for the proper construction of scaffold, working platforms, means of access and egress and work at height safety. They also prescribe requirements for excavation safety, safe operation of hoists and heavy mechanical equipment and general safety in electricity, lighting at workplaces, protection from falling objects, proper storage of materials and maintenance of fire escapes.
(15) Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations
They prescribe requirements for the contractor of a construction site to employ a safety supervisor and a full time safety officer for any employment of 20 or more persons and 100 or more persons in his construction sites respectively. The regulations also provide for the registration of safety officers by the authority and the duties of safety officers and safety supervisors. The provisions are also applicable to shipyards and container yards.

(16) Factories and Industrial Undertakings (Protection of Eyes) Regulations
They specify the processes for which suitable eye protectors should be provided and worn by workers.

(17) Factories and Industrial Undertakings (Notification of Occupational Diseases) Regulations
They lay down the protocol and procedure for notifying defined occupational diseases to the Commissioner for Labour.

(18) Factories and Industrial Undertakings (Suspended Working Platforms) Regulation
It lays down the control regime, including requirements for the construction, the protocol for examination, inspection, maintenance, etc. of suspended working platforms to ensure their safe operation.

(19) Factories and Industrial Undertakings (Safety Management) Regulation
It imposes obligations on the duty holders to implement an appropriate safety management system for improving the safety performance of the workplace. It also prescribes the requirements to conduct safety audits or reviews periodically.

(20) Factories and Industrial Undertakings (Load Shifting) Regulation
It regulates the safe operation of load shifting machines, including the training and certification of operators.

(21) Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulation
It ensures that gas welding and flame cutting work is performed by competent persons. The regulations impose a duty on the proprietor to ensure that gas welding and flame cutting work is only performed by a person who:
• has attained the age of 18; and
• holds a valid certificate or is undergoing relevant training and the
performance of such work is under the supervision of a certificate holder.

The regulation further imposes a duty on the proprietor to provide training courses designed to ensure that his employees are adequately trained and competent to perform gas welding and flame cutting work. Employees are required to attend training courses provided by proprietors.

3.5 Occupational Safety and Health Ordinance (OSHO)

The Occupational Safety and Health Ordinance provides for the safety and health protection to employees in workplaces, both industrial and non-industrial. It is basically an enabling ordinance setting out safety and health requirements in general terms.

(a) The coverage – This ordinance covers almost all workplaces where employees work. In addition to factories, construction sites and catering establishments, other places such as offices, laboratories, shopping arcades and, educational institutions also come under the ambit of the law. However, there are a few exceptions, namely:
   - an aircraft or vessel in a public place;
   - the place occupied by the driver of a land transport vehicle when it is in a public place (but other employees working in the vehicle are covered);
   - domestic premises at which only domestic servants are employed; and
   - places where only self-employed persons work.

(b) The roles of the duty Holders – Under this ordinance, everyone has a role to play in creating a safe and healthy workplace.

(1) Employers should contribute to the safety and health of their workplaces by:
   - providing and maintaining plant and work systems that do not endanger safety or health;
   - making arrangement for ensuring safety and health in connection with the use, handling, storage or transport of plant or substances;
   - providing all necessary information, instructions, training, and supervision for ensuring safety and health;
   - providing and maintaining safe access to and egress from the workplaces; and
   - providing and maintaining a safe and healthy work environment

(2) Occupiers of premises should take responsibility for:
   - ensuring the means of access to and egress from the premises; and
   - any plant or substance kept at the premises are safe and without risks to health to any person working on the premises, even if they do not directly employ that person on the premises.
(3) Employees should also contribute to the safety and health of the workplaces by:
- taking care of the safety and health of persons at the workplace; and
- using any equipment or following any system or work practices provided by their employers.

(c) Subsidiary Regulations made under the OSHO

(1) Occupational Safety and Health Regulation

The Occupational Safety and Health Regulation, made under the OSHO, sets down some basic requirements for accident prevention, fire precaution, workplace environment control, hygiene at workplaces, first aid, as well as what employers and employees are expected to do in manual handling operations. The main provisions of the Regulation are:

(a) To prevent accidents by:
- ensuring that the plant is properly designed, constructed and maintained and that all dangerous parts are effectively guarded; and
- ensuring that all dangerous areas are securely fenced.

(b) To prevent fire hazard by:
- providing illuminated 'EXIT' signs over all exits and clear directions to them;
- keeping all means of escape in a safe condition and free from obstruction;
- making sure that all exit doors are unlocked and can easily be opened from the inside of a workplace; and
- providing suitable and adequate fire safety measures.

(c) To provide a safe and healthy work environment by:
- keeping the workplace clean and ensuring that it is adequately lit and ventilated; and
- providing adequate drainage.

(d) To ensure hygiene by:
- providing adequate lavatory and washing facilities as well as adequate supply of drinking water.

(e) To provide first aid by:
- keeping adequate first aid facilities on the premises and appointing designated employees to look after them.

(f) To ensure safe manual handling operations by:
- assessing and reviewing risks to the safety and health of employees who undertake manual handling operations; and
- providing proper training and other necessary protective measures for employees who undertake manual handling operations.
(2) Occupational Safety and Health (Display Screen) Regulation

It requires the person responsible for the workplace to perform risk assessment on display screen workstation and to take steps to reduce any risk identified in the risk assessment to the lowest level, as is reasonably practicable. Employers should ensure that their employees are provided with the necessary training in the use of the workstations and the precautionary measures that have been implemented. Employees should, on the other hand, conform to the safe system of work and work practice and comply with the risk reduction measures.

(d) Enforcement of the Ordinances and Subsidiary Regulations

The Occupational Safety and Health Branch of the Labour Department is responsible for the enforcement of the safety legislations applicable to a construction site. They are empowered to issue improvement notices and suspension notices against a workplace activity, which may create an imminent hazard to employees. Failure to comply with the notices constitutes an offence punishable by a fine of up to HK$200,000 and HK$500,000 respectively and imprisonment of up to 12 months.

The Quarries Safety Regulations made under the Factories and Industrial Undertakings Ordinance are however administered by the Mines Division of the Civil Engineering and Development Department. Prosecution may be taken against a breach of any statutory provisions. A Senior Shipping Safety Officer of the Marine Department is responsible for marine construction safety matters.

(e) Statutory Forms

(1) The statutory forms under the subsidiary regulations of the Factories and Industrial Undertakings Ordinance and applicable to construction sites are listed below:

(i) Factories and Industrial Undertakings Regulations
   - Form 1 Register of Persons Employed to Work Underground in Industrial Undertakings
   - Form 2 Medical Examination Report
   - Form 3 Certificates as to Fitness of Employee/Proposed Employees

(ii) Factories and Industrial Undertakings (Notification of Occupational Diseases) Regulations
   - Forms of Notice (Notice of Occupational Disease)

(iii) Construction Sites (Safety) Regulations
   - Form 1 Reports of Result of Weekly Inspections of Hoists
   - Form 2 Certificate of Test and Thorough Examination of Hoist
   - Form 3 Hoists: Reports of Result of Six-monthly Thorough Examination
   - Form 4 Excavations and Earth Works: Reports of Results of Weekly
Examinations
Form 5  Scaffolds: Reports of Results of Fortnightly or Other Inspections

(iv)  *Factories and Industrial Undertakings (Work in Compressed Air) Regulations*

Form 1  Lock Attendant’s Report
Form 2  Compressed Air Worker’s Transfer Record
Form 3  Compressed Air Worker’s Medical Card
Form 4  Compressed Air Worker’s Decompression Sickness Case sheet
Form 5  Compressed Air Worker’s Individual Air Record
Form 6  Compressed Air Health Register
Form 7  Notification of Commencement of Work in Compressed Air
Form 8  Advisory Leaflet for Issue to Persons Who Work In or Enter Compressed Air

(v)  *Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations*

Form 2A  Monthly Report to be Prepared by Safety Officer Employed at Construction Sites
Form 3A  Weekly Report to be Prepared by Safety Supervisor Employed at Construction Sites
Form 4  Notice of Employment of Safety Officer
Form 5  Notice of Employment of Safety Supervisors

(vi)  *Factories and Industrial Undertakings (Carcinogenic Substances) Regulations*

Schedule (Health Register of Person Employed in connection with Carcinogenic Substances)

(vii)  *Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations*

Form 1  Reports of Results of Weekly Inspections of Lifting Appliances
Form 2  Certificate of Test and Thorough Examination of Anchoring or Ballasting of Cranes
Form 3  Certificate of Test and Thorough Examination of Cranes, Crabs and Winch
Form 4  Certificate of Test and Thorough Examination of Lifting Appliances [Except Cranes, Crabs and Winches]
Form 5  Lifting Appliances: Certificate of Results of Thorough Examinations in the Preceding Twelve Months
Form 6  Certificate of Test and Thorough Examination of Chains, Ropes and Lifting Gear
Form 7  Chains, Ropes and Lifting Gear: Certificate of Results of Thorough Examination in the Preceding Six Months

(viii)  *Factories and Industrial Undertakings (Suspended Working Platforms)*
Regulation
Form 1 Certificate of Weekly Inspection of Suspended Working Platform
Form 2 Certificates of Thorough Examination of Suspended Working Platform
Form 3 Certificate of Load Test and Thorough Examination of Suspended Working Platform
(ix) Factories and Industrial Undertakings (Noise at Work) Regulations
Noise Assessment Reports
The following standard Noise Assessment Reports forms have been produced by the Labour Department to facilitate reporting:
- Construction Sites (Safety) Regulations - Notification of Construction Work (L.D. 202)
- Factories and Industrial Undertaking (Asbestos) Special Regulation
- Notification of Processes Involving Asbestos (LD 403)

3.6 Boilers and Pressure Vessels Ordinance

This Ordinance and its subsidiary regulations control the safe use and operation of boilers, steam receivers, pressurized fuel containers and air receivers. The provisions in respect of air receivers that are commonly used in construction sites are:

(a) The owner of an air receiver shall, at least 30 days before the equipment is put into use, apply to the Boilers and Pressure Vessels Authority (the Authority) for registration. Documents to be submitted include:
   (1) Application for Registration (Form 3)
   (2) Copies of makers and inspection certificates of the air receivers duly endorsed by an Appointed Examiner.

(b) An air receiver can only be used if and only if:
   (1) It is registered by the Authority; and
   (2) It has been examined by the Appointed Examiner and a Certificate of Fitness has been issued.

(c) The validity of the Certificate of Fitness is 26 months. After extensive repairs, the equipment must be examined by an Appointed Examiner and issued with a certificate before being put back into use.

3.7 Buildings Ordinance

Legal provisions governing the planning, design and construction of buildings and the handling of dangerous buildings are embodied in the Buildings Ordinance. Inter alias, it
ensure that:

(a) building works or street works are carried out in general accordance with the provisions of the Buildings Ordinance and regulations and with the plans approved in respect of such work by the Building Authority and with any order or condition imposed;

(b) the control of hazards from building works and street works so as to mitigate the risk to:

   (1) the workers on site;
   (2) all persons around the sites, and
   (3) adjoining buildings, structures and land.

To meet the requirements, an authorized person and registered structural engineer under Section 4(3)(a) of the Ordinance and a registered general building contractor or registered specialist contractor under Section 9(3)(a) of the same Ordinance are required to supervise the carrying out of the building works and street works. To discharge the legal obligation, they have to prepare, submit and obtain the approval of a supervision plan that set out the safety management of the said work.

3.7.1 Technical Memorandum for Supervision Plans

The memorandum is issued by the Secretary for Planning, Environment and Lands under section 39A of the Buildings Ordinance to supplement the provisions of the Buildings Ordinance governing the supervision of building works and street works. It sets out the principles, requirements and operation of supervision plans. For detailed requirements and guidance on the preparation of supervision plans, the Code of Practice, the relevant practice notes for authorized persons and registered structural engineers and the relevant practice notes for contractors issued from time to time by the Building Authority should be referred to.

3.8 Builders’ Lifts and Tower Working Platforms (Safety) Ordinance

This Ordinance aims at the safe design, construction, installation and maintenance of builders’ lifts and tower working platforms. The salient provisions are:

- It requires that the owner shall at all times retain the services of a registered contractor who shall ensure that no lift work is carried out except by or under the supervision of such registered contractor or a registered examiner employed by such registered contractor.
- Before installing the equipment, the registered contractor shall obtain the written approval of the Director of Electrical and Mechanical Services (the Director).
After installation, a registered examiner shall be employed to carry out a test and examination. The equipment shall not be used until the owner receives the endorsed original of the certificate of satisfaction from the Director. Thereafter, the registered contractor shall carry out routine maintenance at intervals not exceeding seven days and shall retain a log book recording any repairs, overhaul and routine maintenance.

The equipment shall be operated at all times by a competent operation.

3.8.1 Relevant Statutory Forms

The following forms should be kept on site and available for inspection:

- Form 7 Log Book
- Form 14 Certificate of Test and Examination of Builders’ Lift or Tower Working Platform after Installation
- Form 15 Certificate of Periodical Test and Examination of Safety Equipment of Builders’ Lift or Tower Working Platform
- Form 16 Certificate of Test and Examination of Builders’ Lift or Tower Working Platform
- Form 19 Report on Test and Examination of a Builders’ Lift or Tower Working Platform after Alteration of Height of Travel.

3.9 Dangerous Goods Ordinance

This Ordinance provides the legislative control regime and protocol for dangerous goods of categories 1 to 10, to be used or handled on land and at sea. In particular, Section 6 of the Ordinance specifies the need of a license for manufacturing, storing, conveying or using any dangerous goods. Other than exempted quantities, all dangerous goods should be stored in properly designed, and built dangerous good stores approved by the Director of Fire Services.

(a) Subsidiary Regulations
   (1) The Dangerous Goods (Application and Exemption) Regulations
   (2) The Dangerous Goods (General) Regulations
   (3) The Dangerous Goods (Shipping) Regulations

(b) Enforcement
   (1) The Mines Division of the Civil Engineering and Development Department is the enforcement agency for Category 1 dangerous goods, i.e. explosives.
   (2) The Director of Fire Services is the controlling authority for Category 2 (except LPG) to 10 on land whilst the Director of Marine is the controlling authority for dangerous goods at sea.
   (3) The Director of Electrical and Mechanical Services is the controlling authority for liquefied petroleum gas cylinders.
3.10 Electricity Ordinance

This Ordinance:
- requires the registration of electrical workers, contactors and generator facilities;
- specifies safety requirements for electricity supply, electrical wiring and electrical products;
- empowers the Government and electricity suppliers on issues related to electrical accidents; and
- gives powers to the Government for enforcement.

3.10.1 The Electricity (Wiring) Regulations

The regulations set requirements for the design, construction, installation, wiring and protection of fixed electrical installations.

The Electrical and Mechanical Services Department (EMSD) is primarily involved in the enforcement of the Ordinance and its subsidiary Regulations through:

(1) Maintaining and administering registers of registered electrical workers and contractors, monitoring their performance in line with safety standards and taking disciplinary action when necessary.

(2) Ensuring electrical safety through the inspection of electrical installations in buildings and of electrical product outlets, sample surveillance testing of electrical products, and investigation of electrical complaints and accidents.

3.11 Gas Safety Ordinance

As Hong Kong's Gas Authority, the Director of EMSD is responsible for the enforcement of the Gas Safety Ordinance. The Ordinance authorizes the EMSD to establish gas safety standards and to implement safe working practices in relation to the importation, manufacture, storage, transport, supply and use of Towngas, Liquefied Petroleum Gas (LPG) and Natural Gas.

The EMSD is primarily involved in the enforcement of gas safety practices and its safe utilization through:
- maintaining and administering a Register of gas supply companies, gas contractors and installers, monitoring their performance and enforcing safety measures when necessary; and
- monitoring, inspecting and approving the construction and operations of both new and existing LPG installations, bulk storage at LPG terminals and the approval of LPG road tankers.
3.12 Fire Services Ordinance

This Ordinance:
- specifies the requirements on the prevention of fire hazard and the registration of fire services installation contractors;
- controls the sale, supply, installation, repair, maintenance and inspection of fire services installations or equipment; and.
- provides power to the enforcement agency to administer and enforce the provisions of this Ordinance, including the investigation of fire outbreaks.

3.13 Waste Disposal Ordinance

The Waste Disposal Ordinance, enacted in 1980, provides a comprehensive framework for managing waste from the original source to the point of final disposal. The intention is that waste must be disposed of in an environmentally acceptable manner.

The Ordinance provides for:
- the licensing of collection services and disposal facilities for waste,
- the control scheme on chemical waste, including asbestos waste,
- the control of illegal dumping of waste,
- the control on import and export of waste,
- the establishment of a system whereby specified wastes must be notified to the relevant authority who may give directions as to the method of disposal, and
- the production of a comprehensive plan for the collection and disposal of wastes.

3.13.1 Waste Disposal (Chemical Waste) (General) Regulation

(1) Section 6 requires all chemical wastes producers to be registered. Production of asbestos waste without registration is an offence.

(2) Under Section 8, asbestos waste has to be delivered to a prescribed reception point and asbestos waste producers must assign a licensed waste collector to transport the waste of the disposal facility.

(3) Under Sections 9-19, asbestos waste has to be properly packed and stored before disposal.

(4) Under Sections 20-29, asbestos waste producer must engage a Waste Collector to remove his asbestos waste. He must also maintain records and particulars of waste movements in the form of trip tickets.

3.14 Code of Practices

(a) General
A characteristic common to all codes of practice is that they normally do not have legally binding effect. Instead of being purported to provide new control regime and requirements, they only give guidance to the public on such matters as to how the Administration intends to apply or interpret specified provisions of the law in various circumstances or how administrative decisions will be reached.

If a code of practice is intended to have legislative effect, then it can only be issued under the power conferred by an ordinance or by regulations made by the Legislative Council. Such a code should only be issued by the person or body with given statutory power.

(b) Workplace Codes of Practice

Sections 39 and 40 of the Occupational Safety and Health Ordinance empower the Commissioner for Labour to issue workplace codes of practice. They are not part of the legal instrument. Currently, a document purports to be a copy of a particular workplace codes of practice shall, in the absence of evidence to the contrary, be regarded by the court as being a true copy of that code and would be admissible if relevant to the facts at issue. The code might then be relied upon by either the prosecution or the defense as tending to establish or to negate any liability that is in question in a criminal proceeding.

The following are workplace codes of practice issued by the Commissioner for Labour:

<table>
<thead>
<tr>
<th>APPROVED CODE OF PRACTICES – Safety</th>
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<tbody>
<tr>
<td>a. Code of Practice for Safety at Work (Lift and Escalator)</td>
</tr>
<tr>
<td>工作安全守則 (升降機及自動梯)</td>
</tr>
<tr>
<td>b. Code of Practice : Safety and Health at Work for Industrial Diving</td>
</tr>
<tr>
<td>工作守則：工業潛水的工作安全與健康</td>
</tr>
<tr>
<td>c. Code of Practice for Safe Use of Mobile Cranes and Tower Cranes (The content concerning safe use of tower cranes of this Code of Practice has been replaced by the &quot;Code of Practice for Safe Use of Tower Cranes&quot;)</td>
</tr>
<tr>
<td>安全使用流動式起重機及塔式起重機工作守則 (本工作守則內有關安全使用塔式起重機的內容已被“安全使用塔式起重機工作守則”所取代。)</td>
</tr>
<tr>
<td>d. Code of Practice : Safety and Health at Work with Asbestos</td>
</tr>
<tr>
<td>工作守則：石棉工作的安全與健康</td>
</tr>
<tr>
<td>e. Code of Practice for Safe Use and Operation of Suspended Working Platforms</td>
</tr>
<tr>
<td>安全使用和操作吊船工作守則</td>
</tr>
<tr>
<td>f. Code of Practice for Safety and Health at Work (Land-based Construction over water – Prevention of Fall)</td>
</tr>
<tr>
<td>工作安全及健康守則(沿岸的陸上建築 - 防止工人墮下)</td>
</tr>
<tr>
<td>g. Code of Practice for Safety and Health at Work in Confined Spaces</td>
</tr>
<tr>
<td>Code of Practice</td>
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<td>b.</td>
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</table>

| (c) Other Codes of Practice |

The following codes of practice have been prepared by the Government of the Hong Kong Special Administrative Region to provide guidance on safe practices to protect the workers-

1. Code of Practice for the Electricity (Wiring) Regulations (issued by the EMSD);
2. Code of Practice on the Design and Construction of Builders’ Lifts: (issued by the EMSD);
3. Code of Practice on the Design and Construction of Tower Working Platforms (issued by the EMSD);
4. Code of Practice on Avoiding Danger from Gas Pipes (issued by the EMSD);
5. Code of Practice for the Lighting, Signing and Guarding of Road Works (issued by the Highways Department);
6. Code of Practice for the Loading of Vehicles (issued by the Transport
Department);
(7) Code of Practice on the Packing, Handling, Transportation and Disposal of Asbestos Waste (issued by the Environmental Protection Department)
(8) Code of Practice on the Packing, Handling, Transportation of Chemical Waste (issued by the Environmental Protection Department);

3.15 Publications and pamphlets

The Labour Department has published a lot of guidance notes and pamphlets to help contractors provide a safe and healthy working environment for their work people. For easy reference, a complete list of all the publications and pamphlets is at Appendix XI

3.16 Reference Manuals for Inspection Reports

The Manual is intended to assist duty holders in complying with the statutory requirements as imposed by the Factories and Industrial Undertaking Ordinance and the Occupational Safety and Health Ordinance. After an occupational safety officer of the Labour Department has visited a workplace, he or she will issue an Inspection Report to the duty holder. The Report will refer to the requirements contained in the following manuals:
(a) Reference Manual for Inspection Reports on Construction Sites
(b) Reference Manual for Inspection Reports on Workplaces (Reference to the Factories and Industrial Undertakings Ordinance and its subsidiary regulations)
(c) Reference Manual for Inspection Report on Workplaces (Reference to the Occupational Safety and Health Ordinance and its subsidiary regulations)

The requirements contained in these manuals are by no means exhaustive, and it may be necessary to impose additional requirements to deal with special conditions in the workplace inspected. If that becomes necessary, the duty holder will be notified separately by letter. These manuals are obtainable from official outlets.

3.17 Occupational Safety and Health Bookshelf (CD-ROM)

This is an electronic database jointly produced by the Occupational Safety and Health Council and the Occupational Safety and Health Branch of the Labour Department. It contains safety and health booklets and safety posters produced.
4. Contractual Provisions on Safety

4.1 Introduction and Guidance Notes

(a) This Manual is applicable to all construction works commissioned by the Employers and underwritten by Contractors that voluntarily join the Safety Partnering Programme. Unless there are compelling reasons, the concerned contracts should normally incorporate all the contractual requirements recommended in another reference document: *Contractual Provisions for the Pay for Safety Scheme*. However, there may be contracts which, due to their small size and/or nature, will warrant changes to the contractual provisions as specified. Each participating member will be the best judge of its own situation and need.

(b) One of the major provisions specified is the need to provide a Site Safety Plan, which is a document detailing the safety management system and how the objectives and targets are to be achieved. A good Site Safety Plan should at least provide details on the contractor’s policy intent and commitment, followed by the organization and arrangements to attain the goals.

(c) Notwithstanding the statutory requirement under the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations (that a contractor shall employ one full time Safety Officer where the total number of persons employed at all of his construction sites is 100 or more), special contract provisions will require the employment of full time Safety Officers with the following thresholds:

<table>
<thead>
<tr>
<th>Total number of workers*</th>
<th>Minimum number of Safety Officers</th>
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<tbody>
<tr>
<td>50 to 200</td>
<td>1</td>
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<tr>
<td>201 to 700</td>
<td>2</td>
</tr>
<tr>
<td>701 to 1200</td>
<td>3</td>
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<tr>
<td>1200 and above</td>
<td>4</td>
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</tbody>
</table>

*The total number of workers in the above table includes all workers employed by the Contractor or his subcontractors to perform construction works on jobsites under the same Contract.*

(d) For contracts where a Specialist Contractor is employed, the Specialist Contractor shall provide a copy of his Site Safety Plan to the Contractor. The Contractor should take the lead to resolve any conflicts that may arise as a result of interface problems or compatibility issues. The senior management and safety officer, if any, of the
Specialist Contractor should also attend the Coordinating Meeting between the Employer and the Contractor.

(e) Guidance Notes on the Pay for Safety Scheme are given in Chapter 10 of this Manual.

(f) A checklist for the Site Safety Plan is at Appendix I for assisting the Employer’s Representative to assess the Site Safety Plan submitted by the Contractor.
5. Responsibilities of Various Parties

5.1 The developer as an Employer

(a) Background

A Employer must ensure that only competent persons are engaged to perform work as designers, contractors and nominated specialist contractors under the contract.

He must ensure that adequate financial provision is allocated and sufficient time is allowed for the project to be carried out in strict compliance with health and safety laws and other relevant legal requirements. Adequate financial provision is vital as the main health and safety costs of a project should be properly assessed and included in the tender. A thoroughly thought-out Site Safety Plan before tender stage can form the basis for assessing the necessary financial resources to cater for the safety and health aspects of the project.

It must be emphasized that the Employer’s commitment is not open-ended. The judgment of adequacy must be made before works proceeds, and will only be adjusted later if the original basis of that judgment changes.

(b) Responsibilities

Employers may wish to appoint an agent before the start of the project. Employers with limited knowledge of the procurement and construction processes may find that appointing an agent is a useful way of ensuring that his legal obligations and commitment to the Safety Partnering Programme are effectively discharged.

If there are a number of Employers involved in a project, as in the case of a joint venture, it may be useful to appoint one of them as the agent. This will allow a single entity to be responsible for ensuring the standard of safety and health in the construction site. It will help to avoid any confusion over responsibilities and communication in respect of safety and health. If however there is a joint management board in charge of the project, then the Board will be the most appropriate vehicle to give directions to the agent.

Before appointing an architect or structural engineer as a designer for the project, the Employer or his agent must be satisfied, as far as reasonably practicable, that the designer is competent and has been adequately resourced to discharge the Employer’s safety and health responsibilities.
The Employer has to provide the designer(s) and contractor(s) with information relevant to safety and health. It includes, but not limited to, information about the site, premises, work processes and activities.

If the information, including existing drawings and survey results, etc., is not in the possession of the Employer, he should ensure that the required data are made available to the designer(s). The information may also be required by other contractor(s) for the purpose of developing the Site Safety Plan.

It may be necessary for the agent or the designer(s) to search for relevant information (including results of surveys, bulk sampling or enquiries with the public utilities or authorities) on behalf of the Employer.

Construction work may take place on premises which the Employer occupies, partially occupies or controls. The Employers, in collaboration with the designer(s) and contractor(s), must consider the overlap of the construction work and on-going activities to ensure that the safety and health of construction workers, other users of the premises and the general public are not adversely affected. The nature of the construction work, associated hazards and control measures have to be accounted for in the pre-tender stage, including the adequacy or otherwise of the safety and health plan.

Before commencement of construction works, the Employer or his agent should ensure, so far as reasonably practicable, that the Contractor or any nominated specialist contractor has prepared a suitable Site Safety Plan. The authorized person or the registered structural engineer can help in this aspect as they have the obligation (by virtue of the “site safety supervision” arrangement under the Buildings Ordinance to oversee the implementation of a safety management system and take necessary precautions to avoid risks during the various construction phases.

For many projects, especially in the case of ‘design and build’ projects, not all the information necessary for developing a Site Safety Plan is available at the design stage of a project. Nonetheless, the plan should be sufficiently developed so that:

(1) the general framework for managing the key elements of a safety management system is established; and

(2) the safety issues relating to the early works have been fully addressed.
5.2 The Employer’s Representative

(a) Background

It is a fair business expectation for the Employer to ensure that the money paid for safety under this Safety Partnering Programme represents value for money. The money must be properly accounted for in discharging contractual obligations relating to safety. The Site Safety Plan must therefore be effectively implemented, with the final outcome of reducing accidents and incidents of ill-health.

The success of the scheme hinges on the capability to ensure that safety measures can be identified and properly documented in the contract. Any subsequent failure on the part of the Contactor to fulfill his contractual requirements (related to safety) should be identified and assigned a contract value. The final contract sum may then be appropriately adjusted to reflect such failures to perform. This process is designed to ensure that contractors do not “cut corners” on site safety.

In order to control the quality and progress of works, the Employer may consider appointing a suitably qualified agent or representatives to monitor the safety performance. The agent or representative should also be able to vet claims for Pay for Safety (PFS) implementation payments and milestone payments on behalf of the Employer.

(b) Who to appoint as representatives?

A simple way of achieving the intended objective is for the Employer’s resident staff to directly supervise the site. An alternative way is to appoint the “Authorized Person” or the registered structural engineer to be the representative of the Employer to perform this supervision role.

In accordance with the “Technical Memorandum For Supervision Plans” issued by the Secretary for Planning, Environment and Land under Section 39A of the Buildings Ordinance Cap.123, an authorized person (AP) or registered structural engineers (RSE) and the respective technically competent persons (TCP) shall each have specific roles to play in the management of site safety. The “detailed safety supervision plan” should include a plan for safety management.

The plan should also include details, among other things, of the method statement together with precautionary and protective measures related to the works.

An authorized person and a registered structural engineer have the opportunity to gather information at the Coordinating Meeting between the Employer and
Contractors (at which they act as the chairperson). They also have access to documentation and reports (including progress report in the implementation of the Site Safety Plan and the improvement plan made after a safe audit) as submitted by the Contractor. Without prejudice to the generosity of the above-mentioned means, they can access relevant documents and request reports in the format and coverage as they so direct. As such, an authorized person and a registered structural engineer should be fully aware of the safety scenario in the site. An authorized person or a registered structural engineer would be in the best position to perform this supervision role.

A further built-in safeguard is to engage the assistance of a safety auditor as specified in the Contractual Provisions for the Pay for Safety Scheme.

(c) Responsibilities

The extent of responsibilities of the representative depends on the contract and relationship between the Employer and his agent. Nonetheless, the normal duties of a Employer’s Representative, in the context of this Manual, are:

1. to monitor the safety performance of the Contractor;
2. to chair the Coordinating Meeting between the Employer and Contractor; and
3. to vet and certify claims for Pay For Safety (PFS) implementation payments and milestone payments submitted by the Contractor.

5.3 The designer

(a) Background

Designer(s) play a pivotal role in ensuring that issues related to the safety and health of those who are to construct, maintain or repair a structure are addressed properly during the design process. Failure to do so could delay the progress of the project, make it much more difficult for constructors to devise safe systems of work, and cause the Employer to make costly alternations so that the structure can be maintained and refurbished safely and efficiently later.

The need to tackle safety and health problem at the planning stage reaffirms the importance of the contribution of the designer(s) towards the safety and health performance during subsequent construction and maintenance work. The role of the designer should include playing an active part in accident prevention at the inception of a project.
(b) Responsibilities

(1) Design stage

During the design stage, including the concept development and feasibility study, the designer has to consider the potential effect of his design on the safety and health of those carrying out the actual work. Through hazard identification and risk assessment, he should carefully assess and address the risks that can reasonably be foreseen. The most critical moment for combating the risk is the concept development and feasibility study stage. During this stage, the chosen design option can be such that potential hazards can be hedged off early.

After moving into the detailed design and specification stage, the designer can further help to eliminate or minimize safety and health risk, particularly in the choice and specification of materials and substances.

It might be advantageous to bring in safety and construction expertise at an early stage. It helps to overcome any conflict between design consideration, construction method and risk control systems. The interaction between specialists should enable knowledge and understanding gaps to be bridged.

In the context of considering safety and health issues in the design work, the duty of a designer is not absolute. He can only achieve what is reasonably practicable based on particular circumstances or constraints at the time. For example, the necessary information may not be available at the design stage. Additionally, the risk to safety and health resulting from a specific feature of the design has to be weighed against the cost of adopting an alternative design feature.

Furthermore, the cost may not always be seen in financial terms. It may also be necessary to consider the fitness of purpose, the aesthetic aspect, the buildability or the environmental impact. The need to eliminate or minimize safety risks during the construction and maintenance phases should not overwhelm the overall design process as that may impair professional judgment and inhibit innovation in the design.

After exhaustive consideration of all the factors, there might still be risks that are not reasonably practical to avoid. Information in this area should then be clearly indicated in the design documents or in pre-tender specifications to alert other interested parties who cannot reasonably be expected to know of the
It is not unusual that subsequent users of the design are not aware of the basic assumptions (of the designer) that impact on safety and health. Therefore, adequate information, including a broad indication of the assumptions about the precautions for dealing with the specific risks, must be communicated in very clear terms to the builders. This can be achieved through a clear indication in the drawings, written specifications and method statements.

(2) Construction stage

If design work is carried out during the construction phase, the designer should exercise the same degree of diligence as highlighted earlier. Designers should address safety and health consideration and eliminate and minimize risks as far as reasonably practicable. He should also convey adequate information to all those who might not be aware of the original design assumptions when they are making decisions at the building or maintenance stages.

In line with the “Technical Memorandum For Supervision Plans”, designers, including an authorized person (AP) or registered structural engineers (RSE) and the technically competent persons (TCP), shall each have a role to play in the site safety management. In carrying out these site safety management functions, all persons shall adopt the current practices as set out in the Code of Practice. Where applicable and practicable, they shall also adopt the best practice developed from time to time by their respective professions.

The site safety management functions of the RSE stream are:

(i) to check and be satisfied, in accordance with the frequency set out in the Supervision Plan, that the contractor’s site safety management system complies with the Supervision Plan prepared by the contractor;

(ii) to verify that the conditions on site are consistent with assumptions made in the design of the permanent works and in the design of those method statements and temporary works, which are shown on the prescribed plans; and

(iii) to supervise, in accordance with the frequency set out in the Supervision Plan, and ensure that the method statements and temporary works shown on the prescribed plans are adhered to.

The site management functions of the AP and his stream are:

(i) to check and be satisfied, in accordance with the frequency set out in the Supervision Plan, that the contractor’s site safety management system
complies with the part of the Supervision Plan prepared by the contractor; and

(ii) to compile and prepare non-conformity reports for the Buildings Authority.

(3) Cooperation

In the real world, it is rare that all the design work will be done by a single designer. Therefore, the design team has to establish and agree upon a common format and arrangement for the exchange of information and drawings. There is a need for effective coordination to see how different aspects of design interact with each other on matters relating to workplace and affect safety and health.

5.4 The contractor

(a) Background

In the context of this Manual, the term “Contractor” refers to the Contractor entering into contract with the Employer for civil engineering, foundation, building construction, maintenance and demolition works. It also includes nominated specialist contractors who enter into works contracts with the Employers directly.

All construction works will, more often than not, create circumstances in which a generally accepted standard of safety and health may not be followed. This may result in potential hazards and unacceptable risks. Those who create the hazards and those who are responsible for the hazards should take steps to eliminate or control them. Morally and legally, it is the unenviable task of the contractors, being made responsible for establishing and implementing risk control systems to eliminate or minimize risks.

As a general principle, a contractor should manage his construction project in such a way as to avoid the appointment of incompetent subcontractors who are less capable of managing safety and health through effectively systems. There is a need to supervise workers and subcontractors to ensure that they follow properly designed work methods and most importantly, to vigorously enforce the rules and procedures against those who are non-compliant.

A Contractor must be made fully aware of his responsibilities, be it legal, contractual or moral. He must take all necessary steps to develop, implement and maintain a structured system to manage risks to protect workers from injuries and illnesses.
(b) Responsibilities

(1) Criminal liability

Other than the influence exerted by the Employer, criminal liability is an effective deterrent against slipshod or incompetent supervision, control or execution of construction works. To minimize such wanton behaviour, the Government introduced a control regime in the form of statutory obligation and responsibilities on contractors via the Construction Sites (Safety) Regulations 1973 and the subsequent amendments (the Regulations).

(2) Liability of the Contractor

The legislative intent is to impose liability for the failure to comply with the legal responsibility on the Contractor who has the greatest responsibility and control of the site. In most projects, this legal responsibility is on the main or head contractor. Regulation 2(2)(a) of the Regulations puts the liability on the Contractor which in most cases means the head or main contractor. The legislation is based on the principle that the Contractor shall have overall responsibility for safety on the site, even though some of the works may be done by a subcontractor.

Safety and health in a construction site requires the concerted efforts of all parties involved in the management of the project. As a construction site is a complex workplace with many parties and activities, the Contractor is in the best position (in terms of his authority) to assume the primary responsibilities for the coordination of the activities of all contractors and subcontractors on site.

(3) All other contractors

Other contractors and subcontractors have a statutory obligation by way of general duties and other responsibilities imposed under the Construction Sites (Safety) Regulations and other relevant regulations in respect of construction work over which they have direct control. “Direct control” means control over the way the construction work, process, excavation, operation, or erection, substantial addition, alteration or dismantling of scaffold are carried out.

All other contractors’ and subcontractors’ responsibilities are essentially in support of those placed upon the Contractor. Furthermore, they have to
cooperate with the Contractor by helping him discharge the legal obligation and following the Site Safety Plan and risk control measures implemented by the Contractor. As well as these duties, they still have the responsibility for the safety and health of their direct employees and others’ employees, who might be affected by their work activities.

(4) As the employer

In common law, the duty of care of an employer towards his employees is to ensure that employees are not subjected to any risk which can be reasonably foreseen. The employer must take action to minimize such foreseeable risk unless the convenience and expense of the action required are entirely disproportionate to the risk involved. Categorically, the duties include, but not limited to:

i) engaging competent staff
ii) providing adequate safe plant and equipment
iii) ensuring a safe place of work; and
iv) implementing a safe system of work.

The general duty provisions of an employer, either in the Factories and Industrial Undertakings Ordinance or the Occupational Safety and Health Ordinance, are a mirror image of his common law duties.

To discharge the common law duties, an employer needs to identify the hazards of the construction works under his direct control and to assess the risks involved. He should develop and implement appropriate measures and systems to control the identified risks. All employers should inform the Contractor of these risks and how they are to be managed. The information should be conveyed clearly via such means as a safe working method statement.

In instances where the Contractor has received information about a particular risk on site, he has the duty to amend the Site Safety Plan and inform all those who might be affected.

All other contractors and subcontractors should consult the Contractor about the risks arising from work activities under their direct control and whenever necessary, amend their own Site Safety Plan and work method statement accordingly.

Contractors and subcontractors should promptly inform the Contractor of any death, ill-health, injury and dangerous occurrence as defined in the relevant
legal instruments and contracts. Prompt information would allow time for the Contractor to manage the mishaps and take necessary remedial action after thorough investigation.

Any rules that have been incorporated in the Contractor’s Site Safety Plan should be communicated to all other contractors or subcontractors. The rules and arrangement should be followed by all, including subcontractors, self-employed and visitors.

Some of the information mentioned in the preceding paragraph might be communicated to all workers e.g. via induction training, briefing sessions during the safety work cycle and tool box talks.

In summary, all contractors and subcontractors should:
- comply with all statutory and contractual obligations in respect of the safety and health of all works within the construction sites and under their direct control;
- prepare, review and submit written statement of policy and Site Safety Plans for implementing the policy;
- conduct hazard identification and risk assessment for devising risk control measures before commencement of actual work;
- prepare comprehensive and detailed safety procedures and method statements for high risk processes and monitor their implementation;
- conduct effective safety inspections, promotion and safety audits;
- provide appropriate training to all those who work in the site;
- organize site safety committee and attend site safety management committee meetings; and
- report and investigate dangerous occurrences and accidents.

(5) As an occupier

The common law imposes duties on an occupier that is denoted as a person who has a sufficient degree of control over the premises. This person has a duty of care towards those who come into the premises, lawfully or otherwise. An owner in possession of the premises is no doubt an occupier. An owner who has parted with possession of the premises is however not an occupier. The test is occupational control over the premises, i.e. “control associated with and arising from presence in, and use of, the premises”.

The Occupier Liability Ordinance abolishes the common law rule in relation to the invitees and the licensee. For a lawful visitor, the duty is for the occupier to
take such care as it is reasonable to assume that in all circumstances, it will be reasonably safe for the visitor to use the premises for the purposes for which he is invited or permitted by the occupier. The legislation does not extend the same liability to a trespasser. Such liability only exists at common law. A trespasser enters at his own risk, takes the premises as he finds them, and the occupier’s own duty is that of not intentionally or recklessly inflicting damage on a trespasser he knows to be present.

The definition of occupier in the Occupational Safety and Health Ordinance is different from that contained in the Occupier Liability Ordinance. The occupier of premises under the former legal instrument means a person who has any degree of control over the premises where a workplace is located. If an employee’s workplace is located on premises that are not under the control of his employer, the occupier of the premises has the duties to ensure that the premises, the means of access to and egress from the premises and any plant or substances kept on that premises, insofar as is reasonably practicable, are safe and without risk to health.

(6) As a contractor under the Buildings Ordinance

In line with the “Technical Memorandum For Supervision Plans”, a contractor means either a registered general building contractor or a registered specialist contractor as the case may be, who is appointed to carry out building works or street works on a site. The site safety management functions of the contractor and his stream are:

(i) to exercise all reasonable skill, care and diligence in following the part of the Supervision Plan prepared by the contractor; and

(ii) to carry out site safety measures and actions during the course of the works in order to meet the objectives, including: adequate safety measures to be implemented to assure a safe physical working environment on site; adequate measures to be taken to check proper structural support for the plant and machinery being operated on site; and adequate control to be exercised on the sequence of construction works and temporary works; and to check that all intermediate stages of building works or street works are safe.

5.5 The employee and worker

An employee must, so far as is reasonably practicable, take care of the safety and health of himself and of other persons who are at the workplace. He must also cooperate with his employer or other persons so far as may be necessary, to enable safety and health requirements to be complied with.
An employee or a worker should:
- conduct work activities in strict compliance with legal requirements and in-house rules;
- provide feedback on the effectiveness of safety measures being implemented;
- contribute suggestions for improving safety;
- report hazards to supervisors and warn colleagues of the risks;
- report any injury, accident or incident;
- participate actively in tool box meetings and hazard identification sessions;
- use machinery, equipment and materials as authorized; and
- wear personal protective equipment as required.

5.6 The self-employed person

The term “self-employed” is understood as “an individual who works for gain or reward compared to someone who is under a contract of employment”. Due to the changes in our socio-economic situation, there is an increasing number of workers who claim to be self-employed persons.

However, there are a number of factors, established by previous court cases, which determine whether or not an individual is genuinely self-employed or whether he is an employee. These factors include the degree of control exercised over the specific work activities and the issue of who provides the tools and equipment. There are other factors that determine whether a person is an employee as a matter of economic reality, such as the degree of control, opportunities of profit or loss, investment in facilities, permanency of relation and skill required in the claimed independent operation etc.

In relation to safety and health issues, it is advisable for contractors to treat a “self-employed person” as one of his employees working on the site.

The genuinely self-employed persons are responsible for their personal safety and health and that of others affected by their work. The Occupational Safety and Health Ordinance does not have specific provisions for self-employed persons.

5.7 Departments or units within an organization

(a) Safety department

The safety department:
- serves as a resource centre and in-house consultant on safety issues;
- advises the company personnel of new legislative requirements, new safety management technique and new control measures that are applicable and beneficial to the company;
• advises the line management on enforcement standards, the adequacy of risk control measures and cost and benefits in managing accidents properly;
• assists counsels or in-house legal department to prepare for legal actions and court hearings;
• plans and coordinates the formulation and review of the safety policy and the Site Safety Plan;
• plans and prepares safety programmes;
• enforces the implementation of the Site Safety Plan, in-house rules and compliance with legislative provisions;
• provides technical advice and acts as a team member in the investigation of serious accidents and dangerous occurrences;
• implements management response after the occurrence of an accident or dangerous event (failure to properly manage accidents might attract negative publicity for the company);
• reviews remedial measures as recommended in an accident and dangerous occurrence report;
• identifies training needs and plans the continuous upgrading of staff competencies in relation to safety and health matters; and
• serves as an in-house safety trainer.

(b) Human resource/personnel department

The Human resource/personnel department’s role is to:
• match the work related physical and mental conditions of the workers with the corresponding capabilities of the individuals;
• assess prospective employees’ suitability and qualification relevant to safety and health performance;
• arrange briefing sessions and programmes to improve the understanding of the safety policy; and
• arrange and implement programmes for safety induction training, first aid training etc.

(c) Purchasing department

The role of the purchasing department is to:
• ensure that selected suppliers of services and goods meet the safety requirements of the company;
• obtain safety and health information including operation and maintenance manuals and material safety data sheets from the suppliers;
• ensure that all equipment and machinery purchased include all the necessary safe guarding devices and systems; and
• ensure that all items purchased, including personal protective equipment, meet the safety requirements and specifications put forward by the users

(d) **Maintenance department**

The role of the maintenance department is to:

• implement a structured and systematic mechanical integrity programme to ensure that all equipment and plant are maintained in good operating conditions;
• draw up reliable maintenance procedures and alert systems;
• specify the standard for accepting maintenance works; and
• plan and implement maintenance inspection cycles

5.8 **Key personnel within an organization**

(a) **Safety director**

A relevant and suitable person at the top management level should be appointed as the key person with ultimate responsibility and accountability for the safety performance of the whole organization. His overall responsibilities should include the coordination and implementation of the safety policy of the organization, monitor safety performance and review the safety policy and the Site Safety Plan whenever necessary. The safety director should have sufficient authority (including financial delegation) to implement the Site Safety Plan. With the necessary responsibility and authority, the person should then be held accountable for the safety performance of the company.

(b) **Project director**

The project director is responsible for the provision of support and resources required to maintain safe and healthy working conditions for site activities under his direct control. In particular, he should:

• approve individual site safety policy for the prevention of injury, damage and wastage and to set targets for safety performance (e.g. reducing accidents);
• provide for the necessary funding and facilities required to meet the policy commitment;
• provide and maintain a high standard of safe and healthy working conditions in all construction sites under his control;
• ensure that the Site Safety Plan is established, regularly reviewed, kept up-to-date and effectively implemented on all construction site under his control;
• ensure that all line management is conversant with the relevant requirements of current legislation and the Site Safety Plan and that all are assigned appropriate
duties and responsibilities in their implementation;

- assist to implement proper administrative procedures on reporting, investigation and costing of injury, damage and loss;
- establish and maintain arrangements and procedures to reprimand staff members and subcontractors failing to discharge their safety duties satisfactorily; and
- maintain contact with in-house safety advisors or safety officers and outside consultants.

(c) Site agent/contract manager/ project manager

The Site agent or contract manager is responsible for the provision and maintenance of safe and healthy working conditions of the construction site under his control. He is accountable to the respective project director. In particular, he should:

- ensure that company policy and business thinking are implemented in the site;
- ensure that the project safety policy that echoes with the company safety policy has been established;
- ensure that the project Site Safety Plan is regularly reviewed, kept up-to-date and implemented;
- establish a system to identify, assess and eliminate hazards and control risks at work;
- ensure that all supervisory staff appointed to carry out special tasks and duties are competent;
- hold line managers accountable for their respective safety performance;
- establish and maintain a direct line of communication between himself and the safety officer as well as any outside safety consultant so that he can promptly respond to safety initiative from them as well as to the advice or direction of the enforcement agencies;
- coordinate and consult with the safety officer on site safety;
- monitor the safety performance of the supervisory staff and the subcontractors;
- reprimand the supervisory staff and the subcontractors if they fail to discharge their safety obligations;
- ensure that safe working procedures/method statements for high risk work have been established before work commences;
- be familiar with the requirements of relevant health and safety legislation, the project Site Safety Plan and the safe working procedures for high risk work under their control;
- monitor all site activities so as to meet the statutory and contractual safety requirements; and take urgent and appropriate action to prevent unsafe working practices or other infringements of statutory or Site Safety Plan requirements;
- attend Coordinating Meetings between the Employer and the Contractor
- chair Site Safety Management Committee Meetings;
• chair site safety committee and management meetings with subcontractors, if any; and
• keep all records and reports in good order.

(d) Line managers, foremen and supervisors

They should assist in the implementation and monitoring of the Site Safety Plan and the risk control measures. In particular, they should:
• assist in the identification of hazards and the evaluation and control of risks
• supervise workers and implement team building work to ensure that safe and correct working procedures are followed;
• ensure effective and sufficient consultation with the workforce on safety matters;
• conduct safety inspections to check safety performance and take early corrective action;
• participate in induction and on-going safety training for workers;
• respond quickly to safety initiatives from safety officers, safety supervisors and the enforcement agencies;
• communicate effectively the hazards and risk control measures to the workers;
• keep abreast of current safety legislation and information; and
• submit regular statistics and reports concerning safety performance to the senior site management.

(e) Safety Officer(s) at site level

Safety Officer(s) should assist the senior management of the site to formulate site safety policy, the Site Safety Plan and strategies for providing a safe and healthy working environment for the workforce. He should also participate in the implementation, monitoring and review of all the safety initiatives and programmes for the site.

The Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations (hereafter called the ‘Safety Officers Regulations’) requires a contractor or specialist contractor to employ one registered safety officer on a full-time basis when the total number of persons employed by him in construction sites is 100 or more. The responsibility of a safety officer is to assist the contractor in promoting the safety and health of persons employed. The main duties as stipulated in the Safety Officers Regulations are as follows:

• advising the contractor as to measures to be taken in the interest of the safety and health of persons employed and, with the contractor’s approval, implementing such measures;
• advising the contractor on the implementation of a safety management system in
the construction site;

- inspecting the workplace to identify potential hazards and reporting the findings with recommendations to the contractor for improvement;
- investigating accidents (with or without person injury) and dangerous occurrences and reporting back with recommendations for their prevention;
- advising the contractor of any repair or maintenance that ought to be carried out in the interest of the safety and health of persons employed in relation to the use of the premises, plant and equipment;
- assisting in the supervision of safety supervisors;
- receiving, discussing and countersigning weekly reports (Form 3A or 3B) submitted by the safety supervisors; and
- preparing and submitting monthly reports to the contractor in the approved form (Form 2A or 2B)

(f) Safety Supervisor(s)

Safety supervisor(s) is to assist the senior management in implementing the Site Safety Plan and strategies. In particular, he should help supervise workers on compliance of in-house safety rules and safe working procedures.

The Safety Officers Regulations require a contractor or a specialist contractor to employ one safety supervisor in each site with 20 or more persons under his employment. Safety supervisors must not be required to carry out other work that would prevent them from carrying out their duties properly. The specific duties imposed by the Safety Officer Regulations are:

- assisting a safety officer in carrying out his duties;
- supervising the observance of safety standards by the workers;
- promoting safe practice in the construction site; and
- preparing and submitting weekly reports to the contractor or the safety officer in a specified form (Form 3A or 3B);
- wearing an armband or safety helmet with his identity whilst working on site.
6. Safety Training and Promotion

6.1 Training responsibilities of a contractor or employer

(a) General

It is of paramount importance that all workers engaged in construction works covered by the Safety Partnering Programme possess adequate knowledge to manage risks. Although it is acknowledged that the training needs may be different for different trades, they should all have high safety awareness so that they are able to:

- identify risky conditions and take immediate remedial actions (including alerting the safety personnel); and.
- help to eliminate unsafe conditions and acts.

(b) Legal obligations

(1) General Duties

Section 6A of the Factories and Industrial Undertakings Ordinance imposes general duties on the proprietor of industrial undertakings, including contractors of construction work. Section 6 of the Occupational Safety and Health Ordinance places a similar duty on employers.

Amongst other things, the duty holders are required to provide adequate information, instruction and training, in order to ensure safety and health in workplaces. In addition, there are a number of regulations dealing with particular hazards or industries. If those hazards are associated with the construction work, the duty holder concerned must provide information, instruction and training as specified in the relevant provisions.

The general duties provisions mentioned above require duty holders to provide safety and health training for people in the following circumstances:

(i) When they start work –

All new comers to a site need some form of induction training as they are faced with an unfamiliar working environment. It is necessary for them to know the company and/or site safety policy and procedures that are in place for managing safety and health matters. This can be more easily achieved through contractual requirements with the respectively
subcontractors. The Contractors should insist that all new workers (including those directly employed by subcontractors) attend site-specific training before commencement of work on site.

(ii) **When they are exposed to new or increased risks** – Whenever there is any change, including change in processes, machinery, material used etc., the duty holders should assess the new risks involved and consider whether additional training should be provided. If the changes make the work safer or do not increase the level of risks involved, there may not be a need to provide additional training.

(iii) **Refresher training** – The duty holders should arrange refresher training when there is a need to bring the workers’ skill levels up-to-date. This is especially necessary when the training is associated with work processes that are not frequently done, e.g. emergency procedures.

(2) **Specific duties**

Regulations made under the Factories and Industrial Undertaking Ordinance impose specific obligations on contractors in respect of the training of workers engaged in general construction work or some specified hazardous processes. The following are applicable:

(i) **Green Card (Mandatory Safety Training)** – Section 6BA of the Factories and Industrial Undertaking Ordinance imposes an obligation on contractors for ensuring all those who are engaged in construction work must have attended mandatory basic safety training before commencement of work on site. This training is to enhance the safety awareness of the workers and to equip them with the basic safety knowledge,

From 1 May 2001, a person shall receive safety training recognized by the Commissioner for Labour and hold a valid certificate (general known as the ‘green card’) before he can be employed to carry out construction work in construction sites. A “person” includes all construction workers, supervisors and professional staffs who are actually engaged in carrying out construction work.

The person shall carry the certificate with him while at work in the construction site and is required to produce it upon demand by the
proprietor or an occupational safety officer of the Labour Department. If he cannot produce his certificate upon demand by the proprietor or his authorized agent, the person shall make a statement in the register (FIUO-6BA-REGISTER-2). The person shall produce his certificate at a place and within a period specified by the occupational safety officer (from the Labour Department) when he cannot produce the certificate upon demand by the officer.

A proprietor, including any contractor, shall only employ persons who hold a valid green card to carry out construction work. Furthermore, the proprietor shall establish and maintain a register for persons who cannot produce their certificates upon demand in the form specified by the Commissioner (FIUO-6BA-REGISTER-1 and -2.).

A certificate issued upon attendance at a recognized safety training course shall have a valid period of one year to three years. Before expiry of the green card, the person shall attend a refresher course and pass the examination before he can obtain a renewed certificate. As at October 2004, safety training courses as listed in Appendix II are recognized by the Commissioner for Labour for running training courses and issuing green cards.

(ii) **Operator for Cartridge-operated Fixing Tools** –
To ensure that adequate safety precautions are taken in the use of the cartridge-operated fixing tools, the Factories and Industrial Undertakings (Cartridge-Operated Fixing Tools) Regulations lay down the legal obligations for contractors and operators of the tools. The two main requirements are:

- only tools approved by the Commissioner may be used; and
- a cartridge-operated fixing tool may only be used by a person holding a certificate of competency in a form approved by the Commissioner.

Any person using such tools is in effect using a firearm and should have been trained in its safe use. Manufacturers of approved tools should provide training to users of their products. A certificate of competency, specifying the make and model of the tool, and the use of which it has been successfully trained, should be issued to each trainee. A complete list of Cartridge-operated fixing tools approved by the Commissioner for Labour is at Appendix III.

(iii) **Crane (including mobile crane and tower crane)** –
The crane operator should ensure the safe operation of the crane at all times. The operator must ensure strict compliance with the manufacturer’s instruction and the safe system of work. Furthermore, the operator should:

- be at least 18 years old;
- be fit, with particular regard to eyesight, hearing and reflexes;
- have been trained in the general principles of slinging and be able to establish weights and judge distances, heights and clearance;
- be familiar with the signal code;
- understand fully radio/telecommunication signals between parties; and
- hold a valid certificate issued by the Construction Industry Training Authority or by any other person specified by the Commissioner for Labour. A list of specified persons is at Appendix IV.

(iv) Suspended Working Platform –
Every person operating a suspended working platform or working thereon should:

- be at least 18 years old;
- be fit, agile and not height phobic;
- have undergone training that is either recognized by the Commissioner for Labour or provided by the manufacturer of the suspended working platform or its local agent; and
- have obtained a certificate in respect of such training from the person who provides the training. A list of the training providers is at Appendix V.

(v) Confined Spaces Work

The Factories and Industrial Undertakings (Confined Spaces) Regulation applies to work that takes place in a confined space or within the immediate vicinity of, and is associated with work occurring within, a confined space. There are many examples of confined space work on a construction site.

When work is being carried out in a confined space, the contractor must ensure that a risk assessment has been conducted by a competent person and the precautionary measures recommended by the appointed competent person have been implemented. Amongst other things, only certified workers who have attained the age of 18 years and hold a certificate issued by a person whom the Commissioner for Labour has authorized to certify as being competent to work in a confined space,
should enter or work in the confined space. A list of course providers is at Appendix VI.

(vi) Loadshifting Machinery

The Factories and Industrial Undertakings (Loadshifting Machinery) Regulation ensures that loadshifting machine used in construction site is operated by a person who has attended a relevant training course and holds a valid certificate. Bulldozers, loaders, excavators, trucks and lorries used on construction sites have been included in the first phase of coverage. A list of organizations authorized to certify workers is at Appendix VII. The regulation does not apply to the operator of a truck or lorry who holds a valid license issued under the Road Traffic Ordinance (Cap. 374) of the class to which the truck or lorry belongs.

In the second phase (date to be fixed by the Administration), the regulation will be extended to cover compactors, dumpers, graders, locomotives and scrappers.

Responsible person (including a contractor) in relation to the operation of a loadshifting machine shall:

- ensure that the operator of a loadshifting machine:
  - has attained the age of 18 years; and
  - holds a valid certificate applicable to the type of loadshifting machine;
- provide training relevant to the machine (unless the employee already holds a valid certificate) to each of his employees who is required to operate a loadshifting machine, and
- provide his employee with additional training course if the employee fails to obtain a certificate after attending the training course for that type of loadshifting machine.

(vii) Gas Welding and Flame Cutting

The purpose of the Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulation is to ensure that gas welding and flame cutting work (hereafter called “the work”) in construction sites is being carried out by persons who are trained and certified competent for carrying out such work.
A contractor shall ensure that the work is only performed by a person who:
- has attended the age of 18 years and holds a valid certificate (issued by the organizer of a recognized training course) certifying that the holder is trained and competent to perform the work (A list of recognized courses is at Appendix VIII); or
- is undergoing training under the supervision of a person who has attained the age of 18 and holds a valid certificate.
- ensure that training is provided to each of his employees who is required to perform the work but is not holding a valid certificate; and
- ensure the provision of additional training course to his employees who fail to obtain a certificate after attending the training course.

(c) Contractual obligations

General requirements

(1) Contractors are required to ensure that all those involved in construction work, including engineering professionals, site management, foremen and their workers, shall have attended and successfully completed a general safety induction training course recognized by the Labour Department;

(2) All persons working on site shall receive site-specific induction training as stipulated in Part II of the “Practice Guide for Site Safety and Health Training” published by the Hong Kong Construction Association or any other equivalent courses approved by the Employer’s Representative.

(3) The Contractor should arrange their management staff, other than workers, working on the site to receive appropriate training commensurate with their normal duties;

(4) It is important that the Architect’s and the Structural Engineer’s site staff should familiarize themselves with safety requirements and safety working methods. They should therefore ensure that their staff working on site has received adequate safety training and continuing safety education through refresher courses. In addition, professional staff and technical staff should attend safety management training and site supervisory staff should receive training for site safety supervisors; and

(5) The Contractor should keep proper training records and make them available for inspection upon request.
Contractual requirements

(1) The Contractor is required to provide regular tool box talks to their workers. Such talks should at least be conducted fortnightly.

(2) The Contractor is required to ensure that site specific induction training and tool box talks are delivered by competent trainers, who have completed courses on safety training techniques organized by the Hong Kong Construction Association (HKCA), the Construction Industry Training Authority (CITA) or other approved training organizations.

(3) The topics and contents shall be proposed by the safety officer having regard to the activities of the site and the prevailing safety concerns at the time and approved by the Employer’s Representative. They shall be conducted based on training kits published by the HKCA.

(4) If the proposed topic is not amongst one of those published by the HKCA, the Contractor shall then procure from other sources and/or develop training kits of comparable standard for the approval of the Employer’s Representative.

6.2 Information provision responsibilities of a contractor or employer

Safety Information includes factual data about the risks and the control measures. In general, safety information should at least cover:

- safety and health hazards at the workplace and an assessment of the risks involved;
- control measures, including administration systems, for protecting workers;
- emergency and evacuation arrangements;
- responsibilities for employees and others to comply with in-house rules and the Site Safety Plan;
- the safe use of work equipment; and
- the proper use of personal protective equipment.

The information which the Contractor is required to provide to subcontractors are essentially those contained in the Site Safety Plan, in-house rules and detailed safe working method statements. The Site Safety Plan should preferably be made available to the subcontractors before they submit their tenders. This is to ensure that adequate resources are allowed for in the budget to manage their respective areas of work during the construction stage.

During the inception and construction stages, the Contractor needs to examine the Site Safety Plan and the assessment done by other contractors to ensure that the level of risks has been properly evaluated and sufficient resources allowed for in their Plans.
There is also a need to identify those areas where an overlap of responsibilities exists. In such situations, the Contractor must handle the risk in a coordinated and effective way. He may either assign the responsibility for risk control action to all contractors involved or only to one contractor to act on behalf of others.

It is of paramount importance that information about any hazard and associated risks identified by an individual contractor is conveyed to the Contractor. Information to be conveyed should include:
- the nature of the hazard;
- the level of risk as assessed; and
- any inter-relationship with other assessments.

6.3 **Information provision responsibilities of a developer or Employer**

The information to be provided by a Employer relates to information:
- for designers (including the architect and the structural engineer) for designing out unacceptable risks; and
- for contractors to enable him to prepare a Site Safety Plan and to manage safety during the inception and construction stages.

The information should be confined to those which the Employer has possession of or could reasonably be obtained by making enquiries.

The information required to be provided to the design team includes information about the site, premises, work processes or activities where the construction work is to be carried out. The information may be in hand (e.g. existing drawings and, plans showing the locations of services or in-house piping or previous surveys of the land and/or structure).

The developer may need to make further enquiries to obtain information, which will be important to the designers when they are considering safety and health during the construction phase. This might mean information relating to a survey of the site or premises and information obtainable from public utility companies or other authorities. Typically, the representative appointed by the Employer or one of the designers can discharge this obligation on behalf of the Employer.

6.4 **Organizing safety promotion programme by a contractor**

(a) Contractors are encouraged to organize initiatives to inculcate a positive safety culture in their workplaces. They should also enhance workers’ awareness of safety and health. This may be achieved via initiatives, including safety training, publicity, safe work cycles, award schemes and safety competitions.
(b) Contractors are required to display their safety policy statement, emergency procedures, rescue organization and up-to-date accident statistics prominently on site.

(c) Contractors are encouraged to circulate their in-house publications for strengthening internal communication on safety and health matters.
7. Safety Communication

7.1 General

Safety and health in the workplace is the shared responsibilities of all parties concerned. The key to success in managing risk and minimising losses from accidents and incidents of ill-health is to involve everyone on site, including the Employer, designers, the representatives of the Employer, senior management of the site, subcontractors and workers. The crucial indicator is the extent, effectiveness and efficiency of providing the interested parties with relevant information.

It is also important to take account of the views of various parties on site when making decisions relating to safety and health. When consultation is effective, they will become involved with the decision making process. This will help to enhance commitment to safety and health. Commitment will in turn lead to a positive safety culture.

To foster better understanding and efficiency, an effective forum for communication and problem solving on health and safety issues is essential.

On a construction site, involvement can be achieved through:
- Coordinating meetings between the Employer’s Representative and the Contractor;
- Site Safety Management Meeting; and
- Site Safety Committee

7.2 Coordinating Meetings between the Employer and the Contractor (Coordinating Meeting)

General

A forum should be available for the Employer or his representatives (including the architect or the structural engineer, the Technically Competent Persons, the representative of the Employer on site, the site engineer or the inspector of works to provide feedback on the safety performance of the Contractor).

This is to ensure full compliance with the contractual obligations, in particular in the context of considering Payment Claims for the Pay for Safety scheme items submitted by the Contractor. According to the contractual requirement, the Coordination Meeting can be:
- a stand-alone meeting;
- part of the Quality and Progress Meeting chaired by the Architect; or
- part of the coordinating meeting of different streams for discharging the obligations
imposed by the Site Supervision Plan under Section 39A of the Buildings Ordinance.

**Terms of Reference**

The terms of reference of the meeting may include:
- scrutinizing the safety performance report submitted by the Contractor with respect to the effectiveness of implementing the Site Safety Plan and the reliability of various milestone performance indicators;
- monitoring the trend of accident statistics and formulating strategy for improvement;
- examining inspection reports prepared by the different technically competent persons and safety officer of the Contractor; and
- monitoring the implementation of an improvement plan based on the findings of the safety audit report or recommendations of an accident investigation report arising from fatal and serious injuries.

**Membership**

*Chairman:*
- Project Architect,
- Structural engineer or
- On-site representative appointed by the Employer

*Members:*
- Site Agent and Project Manager
- Site safety officer of the Contractor
- Technically Competent Persons as appropriate
- Resident Representative of the Employer

**Frequency of meeting**

Monthly.

**Minutes of meeting**

Minutes of these site meetings should be distributed to all members and those who need to know within ten working days after the meeting

### 7.3 Site Safety Management Meeting

**General**

Consultation is an important mechanism whereby health and safety issues can be dealt with
in a manner that promotes ownership and prompt resolution of conflicts. A site safety management committee should be formed to discuss broad workplace safety and health issues and develop safety policies, procedures and programmes.

**Terms of Reference**

Site safety management meetings should have the following functions to improve safety performance:

- Assist in the development of site safety policies and strategies as well as monitoring the effectiveness of their implementation.
- Assess the adequacy of the Site Safety Plan and measuring its implementation.
- Review the effectiveness of the implementation of the Site Safety Plan by all other contractors.
- Review all contractors’ safety obligations as set out in the contracts and ensure their compliance.
- On-going evaluation of hazards and safe working method statements prepared by all contractors.
- Coordinate the risk control system and safety measures of subcontractors/ specialist contractors, in particular where interaction problem exists.
- Analyze accident and illness statistics, identify trends, formulate strategies for improvement and prepare reports for the Coordinating Meetings between the Employers, the principal contractor and its senior management.
- Examine safety audit reports, develop improvement plans and monitor their implementation.
- Review and monitor follow-up actions of unsafe practices and conditions identified during safety audits.
- Follow up the remedial action for Improvement Notice and Suspension Notice issued by the Labour Department as well as instructions related to hazardous conditions issued by other enforcement agencies.
- Develop strategies and implement programmes to enhance safety awareness of the workforce.
- Develop systems to integrate safety and health issues into the overall workplace management system.

**Membership**

- The Chairman is the site agent/project manager of the Contractor
- A representative from senior management level of the Contractor
- Safety Officer of the Contractor
- A representative from the Architect or the Structural Engineer
- Representatives from subcontractors or specialist contractors
Frequency of Meeting

Monthly

Minutes

Minutes of the site meetings should be distributed to all members (as well as others who need to know) and within ten working days after the meeting. A copy should also be sent to the Employer’s Representative.

7.4 Site Safety Committee

General

Managers have long recognized the advantage of active workforce involvement in decisions about work. Such involvement could come through quality circles or other committees. Similarly, there is value in the active involvement of workers, either directly or through their “representatives”, in the development of safety and health policies, strategies and programmes.

As specified in Part 1 or 3 of Schedule 3 of the Factories and Industrial Undertakings (Safety Management) Regulation, the contractor shall establish not less than one safety committee. The committee shall have the function of identifying, recommending and reviewing measures to improve the safety and health of workers.

The “Code of Practice on Safety Management” published by the Labour Department stipulates that:

“In general, it should be unnecessary for a proprietor or contractor of a relevant industrial undertaking to have two or more committees for the same workplace to represent, e.g., different levels of staff”

Safety committees are most likely to be more effective when their work is related to a single establishment rather than a collection of workplaces at different locations. Therefore, if the proprietor or contractor is running a business consisting of two or more establishments in separate places, he should have two or more safety committees. A typical example is a construction company operating construction sites at different locations. In such cases, there should be a safety committee in each location at the workplace level, as well as a central safety committee at the enterprise level.

For participating sites under the Partnering Programme, it is necessary to establish one site
safety committee to ensure that a high standard of safety and health is provided and maintained. This may be achieved by ensuring that effective consultation has been conducted with relevant specialists and the workforce before decisions made in committee meetings are implemented. Such a committee should hold meeting at least once a month. (See also Chapter 5 of the Code of Practice on Safety Management published by the Labour Department).

**Terms of Reference**

Within the agreed objectives, the functions of the safety committee should include the following:

- Monitoring the safety policy to determine whether it is adequate for the current activities with a view to continuous improvement.
- Ensuring the effectiveness and efficiency of implementing the Site Safety Plan and that the Contractor is fulfilling his contract obligations.
- On-going evaluation of hazards and risk control measures.
- Development and implementation of procedures to handle promptly and effectively, with continuously monitoring of, dangerous working conditions, including situations dealt with by Suspension Notice issued by the Labour Department.
- Assist in the development of safe working procedure and safe systems of work.
- Discuss, review and monitor the emergency and rescue procedures.
- Consider accident/ incident/ ill-health statistics to identify trends and establish strategies and programmes to enhance safety performance.
- Share information on accidents and dangerous occurrences that have occurred and make recommendations to prevent their recurrence.
- Examine safety audit reports and recommendations for improvements and monitor their implementation.
- Scrutinize performance reports and safety inspection reports and give directions for appropriate action.
- Monitor the adequacy and effectiveness of safety training.
- Monitor the adequacy of safety communication and publicity in the workplace and recommend improvements.
- Organize safety promotion activities and initiatives to enhance a positive safety culture in the site.

**Membership**

Chairman: Site Agent

Membership:
- A representative at senior management level from the Contractor’s head office
- Employees Representatives of the Contractor*
- Workers’ representatives of subcontractors*
- Management of the Contractor
- Management of subcontractors

Adviser: the Contractor’s safety officer

In attendance: Occupational Safety Officer of the Labour Department on an *at hoc* basis

* 50% of workers’ representation on this Committee is a mandatory requirement.

**Frequency of Meeting**

Monthly

**Minutes**

Minutes of the Site Safety Committee should be distributed to all members and those in attendance on an *ad hoc* basis within ten working days after the meeting. A copy should also be sent to the Employer’s Representative. At least one copy of the minutes in Chinese, and in English if necessary, should be posted on the notice board to keep the workforce informed.
8. Proactive Monitoring

8.1 Inspections

(a) Contractor’s inspections

(1) Safety Supervisors employed under the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations are required to carry out daily inspections and record their findings in prescribed Form 3A.

(2) A full-time safety officer employed under the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations is required to carry out site visits and prepare monthly reports in the prescribed form, Form 2A.

(3) Besides the legal obligation, Safety Officers and Safety Supervisors are required under contractual provisions to carry out inspections at weekly and daily intervals respectively. A comprehensive check-list, endorsed by the Site Safety Management Committee, should be used. Appendix IX is a sample inspection checklist for general guidance.

(4) Staff of the contractor shall also take part in safety inspections conducted by the Site Safety Management Committee.

(5) The Contractor’s safety supervisors and safety representatives should carry out safety inspections at least on a daily basis or, where appropriate, on a shift basis to identify, report and deal with unsafe conditions and unsafe acts promptly.

(6) For each contract, the Contractor shall prepare a comprehensive safety inspection check-list in accordance with the requirements of the contract. This check-list can then be used for inspection by:

- the contractor’s staff including Safety Officer(s) and Safety Supervisor(s);
- the Site Safety Management Committee; and
- the Employer’s Representative whenever appropriate.

(b) Inspections by members of the Coordinating Meeting

To achieve a better understanding of the issues to be deliberated and as a
demonstration of commitment of the Coordinating Meeting, an inspection should be carried out by all those who are going to attend the meeting. The parts of the site to be covered shall be decided by the Chairman of the Meeting but problematic areas must be included.

**Follow-up Actions**

(1) **No Immediate Danger**

When the Architect’s or the Engineer’s representative/resident staff of the Employer have identified an unsafe situation or believe any workers are using unsafe work methods or plant, the attention of the Site Agent or the Contractor’s Safety Officer should be drawn as soon as possible. If no remedial actions have been taken after repeated notification, the matter should then be discussed in the Coordinating Meeting between the Employer and the Contractor, and immediate appropriate follow-up action should be taken.

(2) **Immediate Danger**

If the unsafe conditions or unsafe acts are so acute e.g. imminent risk of serious injury or death, the Architect, the Engineer or the Employer (or their representatives) should instruct the Contractor to suspend the relevant portions of the work until the required safety measures have been satisfactorily implemented. Any such instruction shall be confirmed in writing. Any such instruction shall not relieve the Contractor of his contractual responsibilities.

### 8.2 Monitoring of Implementation of the Site Safety Plan

A site-specific Plan contains structured approaches to achieve the objectives of the safety policy statement. It is a document that:

- nominates the person who is responsible for:
  - the specific safety and health aspect of the work and
  - dealing with safety and health incidents;
- identifies the hazards associated with the work, the outcomes of risk assessment and details of the control measures

The Contractor should develop and implement effective mechanisms for monitoring the implementation of the Site Safety Plan.

**Monitoring Mechanism**

The monitoring mechanism should include the following:

(1) Either the project manager, site agent, contract manager or the senior site
management of the Contractor should be appointed to be responsible for monitoring, reviewing and updating the Site Safety Plan.

(2) The Safety Officer of the Contractor should advise the responsible person thus appointed and coordinate with him on the implementation of the Site Safety Plan.

(3) The top management of the site should ensure that internal audit or periodical status reviews are carried to monitor the effectiveness of implementing the Plan.

(4) Progress report of the improvement plan should be prepared and tabled at the site safety committees for scrutiny.

8.3 Safety Audit commissioned by the Employer’s Representative

(a) General

The Employer’s Representative is required to vet and endorse the Contractor’s claim for PFS implementation and milestone payments for satisfactory management of site safety during the specified contract period. In case of doubt, the Employer’s Representative should seek further evidence from the Contractor or seek professional advice and assistance from safety professionals. It may be necessary to commission a safety audit to ascertain the documentation adequacy and physical conditions.

(b) Commission of a safety audit and follow-up on the audit report

To gain further documentation or evidence to substantiate the claims, the Employer’s Representative can appoint a safety auditor in accordance with the contractual provisions.

The Contractor should address the shortfalls as identified in the audit report by drawing up and implementing an improvement plan as soon as possible. The Contractor may be required to submit monthly progress report on the implementation of the improvement plan until the Employer’s Representative is satisfied with the improvement. The latter may withhold PFS implementation payments subject to addressing the shortfalls.

8.4 Mandatory Safety Audit

(a) Mandatory Requirements

(1) The Contractor should establish and implement arrangements to evaluate the
effectiveness, efficiency and reliability of the safety management system for the site. The findings should be analyzed and used to identify areas of success and shortcomings for further improvement.

(2) A registered safety auditor should conduct a safety audit and a safety review officer should conduct the safety review at least once every 6 months. The officers should then submit a safety audit/review report not later than 28 days after completing the audit/review to the Contractor.

(3) After receiving the relevant report, the Contactor should:
   - read and countersign the report;
   - draw up a plan for necessary improvements within 14 days, should the report include such recommendations;
   - submit a copy of the report together with a copy of the plan for improvements to the Commissioner within 21 days after receiving the reports;
   - keep a copy of the report and the plan for at least five years.

(b) Contractual Obligations

(1) The scope of the audit plan should include an assessment of the effectiveness, efficiency and reliability of the arrangements for discharging the contractual obligations in respect of safety and health.

(2) Before finalizing the improvement plan as required by the Factories and Industrial Undertakings (Safety Management) Regulation, the Contractor should preferably consult the Site Safety Committee and the Site Safety Management Committee if time permits.

(3) After finalizing the improvement plan, the Contractor should submit a copy of the improvement plan and audit report to the Employer’s Representatives.

(4) The progress of the implementation of the improvement plan should be discussed during the Site Safety Committee meetings.
9. Reactive Monitoring

9.1 Reporting of accidents/ dangerous Occurrences

(a) Contractor’s Responsibility

Accidents involving death or serious injury

(1) When an accident (causing the death or serious bodily injury to a worker in the construction site) has occurred, the Contractor is required to notify the accident to an occupational safety officer of the Labour Department within 24 hours of its occurrence.

(2) Serious injury, in this context, includes any bodily injury that results in the injured person being admitted to a hospital or clinic for treatment or observation.

The Contractor should then submit a Form 2 (a prescribed form under the Employees’ Compensation Ordinance) within 7 days of the accident to the Employees’ Compensation Division of the Labour Department.

(3) Where the victim of an accident dies after the said accident has been notified or reported, the Contractor should report (within 24 hours after becoming aware of the death) either verbally or in writing to an occupational safety officer of the Labour Department as well as to the police officer in charge of the police station nearest to the workplace.

(4) The Contractor must report verbally or in writing all fatal accidents within 24 hours to the police station nearest to the place of the accident. The Contractor is considered to have discharged the obligation if he has dialed “999” to report the accident.

(5) Where an accident (other than an accident causing death or serious bodily injury to a worker) results in a worker being incapacitated from working for at least 3 days, the Contractor is required to report in writing, with the requisite particulars, to an occupational safety officer of the Labour Department within 7 days after the date of the accident.

In this context, incapacitated means the victim is permanently or temporarily incapacitated from working in any capacity. Nonetheless, the above report in
writing is not required if notice of the accident in Form 2 has been given in accordance with Section 15 of the Employees’ Compensation Ordinance, Chapter 282.

(6) The following particulars are required to be included in the report to the Labour Department:
- The name and principal address of the Contractor;
- The name, residential address, gender, identity card number, age, and occupation of the victim of the accident;
- The date, cause or circumstances of the accident;
- Details of the industrial activities carried on at the workplace; and
- The nature of the injury, stating whether the injury results in death or incapacity.

Dangerous occurrence

(1) Section 18 of the Factories and Industrial Undertakings Regulations, as well as Section 14 of the Occupational Safety and Health Ordinance, require that a dangerous occurrence (that occurs in a construction site) must be reported. This reporting is not required if the occurrence has already been notified or reported in relation to the reporting of the accident resulting from the said dangerous occurrence.

(2) The report in writing must include the following particulars:
- The date and time of the dangerous occurrence;
- Particulars of damage to, or the destruction of, property; and
- The circumstances of the dangerous occurrence.

(3) A dangerous occurrence is defined in the First Schedule of the Factories and Industrial Undertakings Regulations as follows:
- Bursting of a revolving vessel, wheel, and grindstone or grinding wheel moved by mechanical power.
- Collapse or failure of a crane, derrick, winch, hoist or other appliance (but not including a builder’s lift or tower working platform used in raising or lowering persons or goods or any part thereof (except the breakage of chain or rope slings), or the overturning of a crane.
- Explosion or fire causing damage to the structure of any room or place in which persons are employed, or to any machine or plant, resulting in the complete suspension of ordinary work.
- Electrical short circuit or failure of electrical machinery, plant or apparatus, attended by explosion or fire, causing structural damages involving its
stoppage or disuse.

- Explosion of a receiver or container used for the storage, at a pressure greater than atmospheric pressure, of any gas or gasses (including air) or any liquid or solid resulting from the compression of gas.
- Collapse (in whole or part from any cause whatsoever) of any roof, wall, floor, structure or foundation forming part of the premises of an industrial undertaking in which persons are employed.
- Total or partial collapse of any overburden, face, tip of embankment in a quarry.
- Overturning of, or collision with any object by any bulldozer, dumper, excavator, grader, lorry or shovel loader, or any mobile machine used for the handling of any substance in a quarry.

(4) The definition of dangerous occurrence in the Occupational Safety and Health Ordinance is slightly different from that under the Factories and Industrial Undertakings Regulations.

Reporting to the Employer’s Representatives

(i) The Contractor must verbally report dangerous occurrences and accidents involving death, serious injury or serious damage to the Employer’s Representative immediately.

(ii) The Contractor must deliver a written preliminary report within 24 hours of the dangerous occurrence/accident. The report should contain adequate information for the Employer’s Representative to prepare his preliminary report to the Employer.

(iii) The Contractor should then submit the final investigation report to the Employer’s Representative as soon as possible.

(iv) The Contractor shall complete any further report on incidents/accidents that occurred in the site as required by the Employer’s Representative.

9.2 Accident and dangerous occurrence investigation

(a) Reportable accident and dangerous occurrence must be investigated immediately by the Contractor to find out the cause(s), immediate or underlying, so that remedial measures can be formulated and implemented to prevent its recurrence.

(b) Near misses or accidents that result in the injured person being incapacitated for less than three days should also be investigated promptly as these are indications of
inadequacies in the safety management system.

(c) Investigation should be conducted with an open mind as the primary objective is to ascertain facts and establish the most probable cause(s) of the accident. Remedial action should be implemented to enhance the safety management system, thereby preventing its recurrence. Likewise, steps should be taken to encourage witnesses to speak up.

9.3 Remedial action

(a) The investigation work should be completed as soon as possible. In the meantime, the site management of the Contractor should respond to the most probable cause of the accident and take remedial action.

(b) A comprehensive report should be completed as soon as possible and submitted to the safety committees for scrutiny. The report should contain information on:
   • the most probable cause(s) (including the immediate cause and any underlying management system failure),
   • shortfalls of the management system,
   • breaches of statutory and contractual requirements, and
   • recommendations to prevent its recurrence.

(c) An action plan should be made up and implemented to enhance safety performance. Periodic progress report should be submitted to the site safety committees for monitoring.

(d) The findings of the accidents or dangerous occurrences and the remedial actions should be promulgated to the workforce. The lessons learnt can be used for discussion during morning briefings and tool box talks.

9.4 Accident Statistics

(a) Introduction

It is of paramount importance that the Contractor should collect and collate information and findings from investigation reports (for accidents/ incidents and dangerous occurrence reports) to generate the relevant statistics. The statistics should then be analyzed by site management and relevant site safety committees.

The analysis will enable the management and interested parties to identify common causes, features and trends that may not be apparent whilst examining the report of individual events. This in turn provides valuable insight for the management to
review the Site Safety Plan and implement action programmes for improving the safety management system.

(b) Preparation of Statistics

The statistics cover dangerous occurrences whether or not there had been an injury and reportable accident which result in the person being incapacitated for three days or more than three days. The Contractor is required to submit a monthly report with analysis of the cause, trend and salient features to the Coordinating Meeting.

Statistics used for comparison purposes should be expressed in standardized ways, such as frequency rate and incident rate, where:

Frequency rate = \[
\frac{\text{Number of injuries} \times 100,000}{\text{Total number of hours worked}}
\]

Incident rate = \[
\frac{\text{Number of injuries} \times 1,000}{\text{Average number of workers employed}}
\]

The reports of dangerous occurrences and reportable accidents should be categorized and statistics should be collated so that meaningful information on causes and trends can be obtained. Data items should include, but not limited to:
- number of injury and body part involved
- age group
- trade
- work location or work group
- type of equipment involved
- defects of agencies
- causations

(c) Follow-up Action

It is the responsibility of the Coordination Meeting to examine the accident statistics and identify trends in order to find out about shortfalls in the safety management system. The objective is to take appropriate actions to eliminate or reduce risks that might lead to accidents or dangerous occurrences.

The Employer’s Representative is obligated to take note of the levels and trends of accidents in contracts managed by them and take appropriate remedial actions.
10. Pay for Safety Scheme

10.1 Background

Work safety related to construction work is commonly perceived as the unenviable task for the Contractor. Similar to other expenses for construction work, the Contractor underwriting a contract is expected to include a budget to provide and maintain a safe working environment before submitting the tenders.

It is not uncommon to find that a construction contract is silent or unclear on the responsibility to manage safety and prevent injury and ill-health. The general obligation might consist of a combination of a reference to the requirements of the safety and health legislations and some all-embracing preliminary or preamble that expressly transfer (as long as it is lawful to do so) as many of the contractual obligations and financial risks to the Contractor. The Contractor is deemed to have allowed for the cost of discharging the safety obligations in the tender, but there may not be separate, clearly identifiable sum(s) in the tender rate and prices for such items.

This type of situation can give rise to several undesirable outcomes:

(a) There is no level playing field. Some contractors even do not make any provision for managing safety;

(b) When money is tight, a contractor might cut corners on safety and health and take unnecessary risks; and

(c) As the sum(s) payable for carrying out safety measures are not identifiable, the Employer is unable to identify specific areas where the Contractor has failed to fulfill the legal or contractual requirements.

These undesirable outcomes have a negative effect on the overall effort to provide and maintain a safe and healthy working environment.

To address the issue, the then Works Bureau (now the Environment, Transport and Works Bureau or ETWB) of the Hong Kong SAR Government first introduced the “Pay for Safety” Scheme. The Hong Kong Housing Authority (HA) then adopted the same approach. To ensure that public funds are well spent, the ETWB and the HA use the Independent Safety Audit Scheme, managed by the Occupational Safety and Health Council, to audit the safety management system as well as the physical conditions of the work sites under the control of their respective contractors.
To improve safety and health in the private sector, a similar Pay for Safety Scheme has been introduced.

As part of the scheme, a schedule of safety expenditure and milestones that are pre-priced in the Bills of Quantities (BQ) or Schedule of Rate (SOR) will be specified. Upon satisfactory performance or completion of activities related to the safety items and milestones, the contractor is entitled to submit the relevant claims for payment. These claims will be vetted and certified by the Employer’s Representative. Failure to satisfactorily perform the specified activities would result in no payment for the relevant PFS Implementation Payment or Milestone Payment items, or the payment may be withheld until the measurement criteria have been met.

10.2 Guidance Notes

(a) Application

The present stage of Pay for Safety Scheme applies to all new construction contracts drawn after the Employer and the Contractor have voluntarily joined the Safety Partnering Programme. The Employer may choose to apply the scheme to any existing contracts by modifying the contract terms with the agreement of the Contractor.

(b) Preparation of Contract Document

All tenders covered by the Pay for Safety Scheme shall include a “Bill of Quantities” or “Schedule of Rates” in the “site safety” section. Each item should be pre-priced. The maximum payable sum for PFS Implementation Payment and Milestone Payment shall be clearly stated in the tender document. This may be expressed as a percentage of the estimated contract sum. It is envisaged that the maximum amount of payments for the Implementation Payment items under this Scheme should be between about 0.5% and 2% of the total contract sum. Milestone Payments, being an optional item, should be about 0.3% of the contract value, which can be allowed in the Contingency sum in the project vote.

Without prejudice to the generosity that the total value of safety items should be capped at about 2% of the estimated Contract Sum,, the prices of individual items should be realistic even if the aggregate amount may exceed the ceiling. In low value contracts, this is likely to be the case. In very high value contracts or very simple ones, the total value of safety items might fall short of 2% because of the economy of scale and the nature of the works.

During the preparation of contract documents, the following salient points should be
noted:

(1) A warning to tenders should be attached on the outside cover of the Bills of Quantities (BQ) or Schedule of Rates (SOR) to the effect that

“This BQ/SOR includes a section, “Site Safety” that contains items either pre-priced or to be inserted by the Contactor. The sums will be paid if and only if the Contactor can demonstrate to the satisfaction of the Employer that the specifications for the items have been met. Tenderers are reminded to study carefully the contractual requirements related to the Pay for Safety Scheme and the safety measures stipulated in the Particular Specification.

(2) The item “safety walk” should be in addition to, but not in lieu of, the site inspections carried out in connection with the preparation of site inspection report each week by the Safety Officer or any statutory requirements.

(c) The Schedule of Rates for Site Safety

The Contractor shall be entitled to payment of the sums set out in Annex B1.0, SCC of the Contractual Provisions for the Pay for Safety Scheme for achieving or completing, as the case may be, the Site Safety Items as set out therein, subject to and in accordance with the Contract.


Unless expressly stated to the contrary, the quantities set against the items in Schedule of Rates for the Scheme (Annex B1.0) are estimated. The items, whether expressed as quantities or a lump sum, are remeasured as work proceeds. The rates and prices included in the Schedule of Rates are fixed, subject to the Contract. No payment shall be made before the item is completed. Items to be completed at stated intervals (e.g. weekly/monthly) and not completed, shall not be paid for the incomplete interval.

The Contractor shall include in his applications for payment under the Contract any sum to which he considers himself entitled under SCC7 of the Contractual Provisions for the Pay for Safety Scheme.

The rates shall not be reduced for any Sectional Completion of the Works.
(d) Administration and Payment

(1) The Employer’s Representative should comment on the adequacy of the Site Safety Plan within X days from the submission of the plan. Details of how a Site Safety Plan should be structured and what are the essential ingredients may be found in the Appendix I of this Manual.

The Employer’s Representative may request the Contractor to remedy any deficiencies in the draft that in his opinion does not meet the requirements of the Contract. The Employer’s Representative is entitled to commission an independent Registered Safety Auditor of his own choice to assist him in case of doubt. Thereafter, the Contractor shall review and update the Site Safety Plan regularly. Proposals for updating the Plan shall be tabled and endorsed at the Coordinating Meetings with the Employer’s Representative. Payment of the item on the “Updating of Site Safety Plan” should only be endorsed upon fulfilling all the obligations in the contract.

(2) For the item on “arrangement and attend weekly safety walk”, the Contractor shall be asked to use a comprehensive checklist during the walk. The content of the comprehensive checklist could be agreed upon with the Contractor before use. This can be subsequently modified to suit the environment changes of the site. The Contractor’s Safety Officer and Site Agent or his representative shall carry out the safety walk with the Employer’s Representative. A copy of the “follow-up action checklist” (see sample at Appendix X) shall be endorsed by the Employer’s Representatives and the Contractor. Payment will only be made after the Contractor has proved that rectification /improvement measures have been satisfactorily completed within the agreed completion dates, normally before the next weekly safety walk.

(3) For items on “provide safety training”, the Contractor must table a proposed training programme for the coming month for the approval of the Employer’s Representative. After approval, payment will be made against the certified records submitted by the Contractor. The measurement for “providing safety training” shall be paid on a per person per talk basis subject to verification of the certified monthly statement of workers who have completed the training.

(4) The Employer’s Representative shall keep a record of safety items that have been withheld payment. Repeated non-compliance shall be brought to the attention of the senior management of the Contractor.
Appendix I – Guidance on Preparing a Site Safety Plan

This checklist is intended to provide guidance for Employer’s Representatives to scrutinize the effectiveness, efficiency and reliability of the site safety management plan (Site Safety Plan) prepared by the contractors. It may be used for vetting the plan before certifying payment of this item.

A Site Safety Plan should at least deal with the nomination of key personnel responsible for safety and health. The plan should include:
- well-defined responsibilities to enhance the concept of “shared responsibility”;
- protocol and procedures for ensuring the full and effective implementation of the Site Safety Plan;
- documented procedures for the identification of hazards associated with the work;
- detailed risk control measures, including safe working method statement; and
- safety training arrangements, including induction, on-the-job and refresher training.

The list is by no means exhaustive and may be adjusted to suit the nature of the construction works.

Checklist for the Site Safety Plan

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<thead>
<tr>
<th>Section</th>
<th>Content Title</th>
<th>Yes/No</th>
<th>N/A</th>
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<tbody>
<tr>
<td>1</td>
<td>General Arrangement/Project details</td>
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<tr>
<td>1.1</td>
<td>List for distribution of full/part of the Site Safety Plan</td>
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<td>1.2</td>
<td>Appointment of responsible person(s) and arrangement for regular review of the Site Safety Plan</td>
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<td>1.3</td>
<td>Relevant reference including title of the project</td>
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<td>1.4</td>
<td>Site address/location</td>
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<td>1.5</td>
<td>Description of the construction works</td>
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<td>1.6</td>
<td>Timescale for completion of construction activities</td>
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<td>1.7</td>
<td>Signatory, including safety agent/project manager/Employer’s representative</td>
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<tr>
<td>2</td>
<td>Safety Policy</td>
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<td>2.1</td>
<td>A policy statement about the commitment and belief of the contractor with reference to the “business thinking” of the company and any special features of the site activities</td>
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<td>2.2</td>
<td>Safety and health are given prime concern and integrated into the daily management agenda</td>
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<td>2.3</td>
<td>Setting of safety and health targets and expected level of performance in respect of contractual and statutory requirements</td>
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<td>2.4</td>
<td>Provision of adequate resources to implement the policy</td>
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</tbody>
</table>
2.5 Arrangement for ensuring its publicity, understanding, implementation and maintenance.

2.6 Arrangement for consulting and involving employees so as to secure their commitment.

2.7 Monitoring and auditing of the policy and management system periodically.

2.8 Provision of training to enhance competency of all levels for managing safety.

2.9 Role and contribution of all other contractors.

2.10 Responsibilities and duties of employees and subcontractors.

2.11 Means for ensuring continuous and progressive improvement.

2.12 Identification of key senior personnel for overall coordination and implementation.

2.13 Endorsement of the policy statement by high level management.

3 Safety Organization

3.1 Safety organization chart indicating clearly the names and designation of key personnel with safety responsibilities and line of communication for managing safety.

3.2 Inclusion of the appropriate teams and subcontractors in the safety organization chart.

3.3 Clear job specification on safety responsibilities of all staff, including the project manager, construction manager, site agent, safety manager, safety officers, safety supervisors, safety representatives, first aid officers and workers.

3.4 The following safety responsibilities should be clearly assigned:
   - monitoring the implementation and compliance of the Site Safety Plan
   - arrangement for regular reporting and communication
   - preparation of method statement, hazard identification survey, risk assessment and establishment of risk control system and monitoring its effectiveness and progress
   - training and promotion
   - communicating with the enforcement agencies and outside advisory sources
   - reactive action to staff suggestion
   - subcontractors
   - first-aid officer, competent persons and examiners

3.5 Record keeping of all certificates, forms, etc. as required by statutes and contracts.

4 Training

4.1 Training needs identified and training plans prepared for:
   - senior site management
   - line management/supervisors
   - new entrants and transferees for new job
   - those with safety responsibilities, such as purchasing department, human resources department, etc.
   - members of the site safety committees
   - plant operators who need certification
   - subcontractors

4.2 Training courses include:
- safety management course for senior management
- mandatory safety training
- site-specific safety induction training
- site-specific on-the-job training
- tailor-made course for workers engaged in high risk operations
- tool-box talks and hazard identification workshops
- training on basic legal and employment requirements
- training on emergency procedures

4.3 System for monitoring and reviewing progress of implementation of the training plan

4.4 Arrangement to monitor and assess the effectiveness of safety training

4.5 Keeping proper records of safety training

5 **In-house Safety Rules**

5.1 Survey of all activities to identify the needs for written rules

5.2 Written general safety rules

5.3 Written safe method statement for specific risky activities

5.4 Permit-to-work, lock-out system, etc.

5.5 Arrangement for monitoring compliance

5.6 Disciplinary arrangement for ensuring compliance

5.7 Protection of authorized visitors and exclusion of trespassers

6 **Inspection of Hazardous Conditions**

6.1 Inspections are scheduled at regular intervals according to past performance and hazard profile

6.2 Different inspection procedures, profile (compliance and safety walk) and responsible personnel (including site senior management, safety officers and safety supervisors)

6.3 Appropriate arrangement (including use of comprehensive checklist) ensuring that site inspections check on compliance with standards set

6.4 Appropriate arrangement to scrutinize effectiveness and thoroughness

6.5 Collation and analysis of the findings, including preparation of inspection report

6.6 Monitoring system on follow-up

7 **Job Hazard Analysis**

7.1 Arrangement for hazard survey on all anticipated activities and information available

7.2 Risk assessment methodology and protocol

7.3 Arrangement for managing risk, including risk control measures and safe working method statement

7.4 System to ensure implementation of risk control measures

7.5 Arrangement for review and update

8 **Personal Protection Programme**

8.1 Procedure ensuring that the use of personal protective equipment (PPE) is the last resort after exhausting the hazard control

8.2 Steps for the selection and procurement of appropriate PPE

8.3 Instruction and training in the use, storage, and maintenance
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4</td>
<td>Procedures for issuing, encouraging and enforcing the use of PPE</td>
</tr>
<tr>
<td>8.5</td>
<td>Inventory management, storage arrangement and maintenance system for PPE</td>
</tr>
<tr>
<td><strong>9</strong></td>
<td>Accident/Incident Investigation</td>
</tr>
<tr>
<td>9.1</td>
<td>Detailed procedures for notification, recording and reporting promptly of all accidents and dangerous occurrences</td>
</tr>
<tr>
<td>9.2</td>
<td>Systematic arrangement for investigation and implementation of remedial measures to curb further recurrence</td>
</tr>
<tr>
<td>9.3</td>
<td>Steps for promulgation of the lessons learned</td>
</tr>
<tr>
<td>9.4</td>
<td>Structured approach for compiling and analyzing accident statistics</td>
</tr>
<tr>
<td>9.5</td>
<td>Arrangement for studying the trends of accidents and formulate strategies for enhancement of performance</td>
</tr>
<tr>
<td><strong>10</strong></td>
<td>Emergency Preparedness</td>
</tr>
<tr>
<td>10.1</td>
<td>Emergency plan includes arrangements such as means of fire escape, designation of a gathering point, emergency lighting and power, availability and locations of emergency plants/equipment, emergency coordinator, rescue equipment and liaison with relevant parties, etc.</td>
</tr>
<tr>
<td>10.2</td>
<td>Emergency plan for an effective and prompt response to adverse weather and conditions</td>
</tr>
<tr>
<td>10.3</td>
<td>Criteria for triggering and ending emergency procedures</td>
</tr>
<tr>
<td>10.4</td>
<td>Emergency manual should contain: - an emergency plan - floor plans and layout showing emergency exits, fire fighting equipment - diagrams and layout of dangerous goods stores - telephone numbers of key company personnel, the police, etc. - a list of outside bodies qualified to assist with special problems</td>
</tr>
<tr>
<td>10.5</td>
<td>Training arrangement for emergency team members</td>
</tr>
<tr>
<td>10.6</td>
<td>Regular drills and exercises and evaluation of the effectiveness of the arrangement</td>
</tr>
<tr>
<td><strong>11</strong></td>
<td>Safety Promotion</td>
</tr>
<tr>
<td>11.1</td>
<td>Arrangement to promote safety in meetings, briefing sessions and hazard identification sessions</td>
</tr>
<tr>
<td>11.2</td>
<td>Incentive scheme (e.g. award, competition, quiz etc.)</td>
</tr>
<tr>
<td>11.3</td>
<td>Planned approach for communication of safety information, including bulletins and posters, magazines, newsletters, accident statistics displays, video and film shows</td>
</tr>
<tr>
<td><strong>12.1</strong></td>
<td>Health Assurance Programme</td>
</tr>
<tr>
<td>12.1.1</td>
<td>Arrangement to identify all substances hazardous to health, assess the risks and implementation of risk control system to avoid exposing them to the workers</td>
</tr>
<tr>
<td>12.1.2</td>
<td>Appropriate measures to scrutinize and review the effectiveness of the programme</td>
</tr>
<tr>
<td>12.1.3</td>
<td>System such as pre-employment and medical examination programme for monitoring the exposure of workers</td>
</tr>
</tbody>
</table>
12.1.4 Arrangement for informing, instructing and training of workers about the health risks and the control measures.

12.1.5 Arrangement for the issue of suitable PPE when necessary and supervising the proper use.

12.1.6 Steps for identifying and arranging the handling and disposal of hazardous chemical waste such as asbestos and lubricants by specialist contractors.

### 12.2 Sprains, Strains and Pains

12.2.1 Arrangement to assess the risks for all manual operations and implement steps to eliminate or reduce the risk of injuries.

12.2.2 Proper selection of workers to perform the particular tasks.

12.2.3 Procedures for informing and training workers on sprain, strains and pains.

### 12.3 Noise

12.3.1 Arrangement for noise assessment for machinery and processes which emit noise that exceeds a level of 85dB(A).

12.3.2 System to reduce the emission of or exposure to noise level leading to the risk of deafness (by planning work, changing machinery or engineering method).

12.3.3 Provision of ear protectors whenever necessary.

12.3.4 Arrangement for marking out high noise level zones and noisy machinery.

### 12.4 Welfare

12.4.1 Arrangement to ensure provision of adequate toilet facilities, hand washing, drinking water, resting and eating place and facilities for storage of personal protective equipment.

12.4.2 Procedures for inspecting and maintaining welfare facilities.

### 13 Evaluation, Selection and Control of Subcontractor


13.2 Arrangement to ensure that subcontractors are aware of safety policy, the Site Safety Plan, in-house rules, etc.

13.3 Arrangement ensuring that subcontractors participate in risk assessment and recommending a safe system of work before commencement and during the early stages of the works.

13.4 Means of communication and coordination with subcontractors and their employees.

13.5 Control of subcontractors.

13.6 Arrangement to ensure that all tools, materials and substances used by the subcontractors comply with statutory requirements.

13.7 System for reviewing subcontractors’ performance.

### 14 Safety Committees

14.1 Arrangement for establishment of the Coordinating Meeting.

14.2 Arrangement for establishment of Site Safety Management Committee.

14.3 Arrangement for establishment of Site Safety Committee.

14.4 Objectives, term of reference, membership and frequency of meetings of the Meetings and Committee.

14.5 Power, function and duties of members of Committees.
<table>
<thead>
<tr>
<th>15</th>
<th>Process Control Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arrangement and procedures for ensuring that safety rules, and working sequence have been established and implemented for all safety and health aspects, and in particular a safe system of work, safe working method statement and permit-to-work system for highly risky operations, including but not limited to the following:</td>
</tr>
<tr>
<td>15.1</td>
<td>Management of the Place of Work (I)</td>
</tr>
<tr>
<td>15.1.1</td>
<td>Fire Arrangements including precautions and fire fighting equipment</td>
</tr>
<tr>
<td>15.1.2</td>
<td>Work in confined spaces</td>
</tr>
<tr>
<td>15.1.3</td>
<td>Working at height</td>
</tr>
<tr>
<td>15.1.4</td>
<td>House keeping</td>
</tr>
<tr>
<td>15.1.5</td>
<td>Protection against falling objects</td>
</tr>
<tr>
<td>15.1.6</td>
<td>Protection against lightning and thunderstorm</td>
</tr>
<tr>
<td>15.2</td>
<td>Management of the Place of Work (II)</td>
</tr>
<tr>
<td>15.2.1</td>
<td>Work over water or adjacent to water</td>
</tr>
<tr>
<td>15.2.2</td>
<td>Overhead and underground services</td>
</tr>
<tr>
<td>15.2.3</td>
<td>Inflammable liquid and gases</td>
</tr>
<tr>
<td>15.2.4</td>
<td>Roadwork</td>
</tr>
<tr>
<td>15.2.5</td>
<td>Occupational safety and health issues in the office</td>
</tr>
<tr>
<td>15.3</td>
<td>Management of Tasks and Operations (I)</td>
</tr>
<tr>
<td>15.3.1</td>
<td>Demolition work</td>
</tr>
<tr>
<td>15.3.2</td>
<td>Excavations</td>
</tr>
<tr>
<td>15.3.3</td>
<td>Lifting operations</td>
</tr>
<tr>
<td>15.3.4</td>
<td>Mechanical materials handling</td>
</tr>
<tr>
<td>15.3.5</td>
<td>Temporary works</td>
</tr>
<tr>
<td>15.3.6</td>
<td>Structural steel erection</td>
</tr>
<tr>
<td>15.3.7</td>
<td>Welding/cutting operations and equipment</td>
</tr>
<tr>
<td>15.3.8</td>
<td>Site traffic arrangement</td>
</tr>
<tr>
<td>15.3.9</td>
<td>Site transport</td>
</tr>
<tr>
<td>15.4</td>
<td>Management of Tasks and Operations (II)</td>
</tr>
<tr>
<td>15.4.1</td>
<td>Blasting (handling explosives)</td>
</tr>
<tr>
<td>15.4.2</td>
<td>Piling</td>
</tr>
<tr>
<td>15.4.3</td>
<td>Grit Blasting</td>
</tr>
<tr>
<td>15.4.4</td>
<td>Ground investigation</td>
</tr>
<tr>
<td>15.4.5</td>
<td>Sewage and drainage work</td>
</tr>
<tr>
<td>15.4.6</td>
<td>Pre-stressing</td>
</tr>
<tr>
<td>15.5</td>
<td>Management of Equipment, Plant, Materials and Services</td>
</tr>
<tr>
<td>15.5.1</td>
<td>Compressed air tools</td>
</tr>
<tr>
<td>15.5.2</td>
<td>Electricity supply system</td>
</tr>
<tr>
<td>15.5.3</td>
<td>Electrical works</td>
</tr>
<tr>
<td>15.5.4</td>
<td>Portable tools</td>
</tr>
<tr>
<td>15.5.5</td>
<td>Mechanical plant and equipment</td>
</tr>
<tr>
<td>15.5.6</td>
<td>Woodworking machines</td>
</tr>
<tr>
<td>15.5.7</td>
<td>Abrasive wheels</td>
</tr>
<tr>
<td>15.5.8</td>
<td>Building maintenance</td>
</tr>
<tr>
<td>15.5.9</td>
<td>Substances hazardous to health</td>
</tr>
<tr>
<td>15.5.10</td>
<td>Asbestos</td>
</tr>
</tbody>
</table>
Appendix II – Mandatory Basic Safety Training Courses

Mandatory Basic Safety Training Courses for persons employed in industrial undertakings carrying out construction works
1. Construction Industry Training Authority *(Enquiry Telephone no. 2903 0609)*
2. Hong Kong Construction Industry Employees General Union *(Enquiry Telephone no. 2332 6866)*
3. B + B Construction Co. Ltd.
4. The Hong Kong and China Gas Company Limited *
5. Nishimatsu Construction Co., Ltd.
6. Gammon Skanska Limited *(Gammon Construction Ltd.)*
7. Bilfinger Berger AG *(Bilfinger Berger AG Auslandsbereich)* (Bilfinger + Berger - Bauaktiengesellschaft)
8. Securicor Hong Kong Holdings Limited *(Jardine Securicor Limited)*
9. SGB Asia Pacific Ltd.
11. The Hongkong Electric Co. Ltd. *
12. Kowloon-Canton Railway Corporation *
13. The Hong Kong Polytechnic University *(Enquiry Telephone no. 2766 7602)*
14. MTR Corporation*
15. Mak Hang Kei (HK) Construction Limited *
16. Occupational Safety and Health Council* *(Enquiry Telephone no. 2739 9377)*
17. Construction Site Workers General Union *(Enquiry Telephone no. 2770 8668)*
18. Anderson Asia (Holdings) Limited
19. Schindler Lifts (Hong Kong) Limited *
20. Balfour Beatty Zen Pacific Joint Venture
21. Hong Kong and Kowloon Electrical Engineering and Appliances Trade Workers Union *
   *(Enquiry Telephone no. 2393 9955)*
22. ATAL Engineering Ltd.
23. Dickson Construction Co. Ltd.
24. Industrial Technology Consultants Limited *(Enquiry Telephone no. 2722 1801)*
25. Furgo Technical Services Limited *(Materialab Limited)*
26. Hsin Chong Construction Co. Ltd.
27. Safety Specialist Services Ltd. *(Enquiry Telephone no. 2409 8722)*
28. Origin Production Limited *(Enquiry Telephone no. 8202 1515 and 8202 1383)*
29. Costain-China Harbour Joint Venture
30. China State Construction Engineering (Hong Kong) Limited *
31. Chun Wo Construction & Engineering Co. Ltd. *
33. Armed Forces Training Institute Limited*
34. Hong Kong Workers' Health Centre *(Enquiry Telephone no. 2725 3996)*
35. Sanfield (Management) Limited *
36. Occupational Safety & Health Management Institute *
   (Enquiry Telephone no. 2786 9009)
37. James Safety Consultants Limited and Hong Kong Productivity Council *
   (Enquiry Telephone no. 2788 5805 & 2788 6053)
38. Ryoden (Holdings) Ltd.
39. CLP Power Hong Kong Limited *
40. Green Island Cement (Holdings) Ltd.
41. EnviroSafe Professional Consultancy Ltd. * (Enquiry Telephone no. 2407 7113)
42. Hong Kong College of Technology * (Enquiry Telephone no. 2711 9820 & 2711 9296)
43. Turboseen Consultants Ltd. * (Enquiry Telephone no. 2527 0608)
44. KONE Elevator (HK) Ltd.
45. Topida Limited (Enquiry Telephone no. 2127 7162)
46. Hitachi Elevator Engineering Co. (HK) Ltd. *
47. Construction Machinery Technical Training Centre *
   (Enquiry Telephone no. 2477 2333)
48. Hong Kong Human Resources Ltd.* (Enquiry Telephone no. 2301 1197)
49. Saiton Engineering Limited *
50. CityU SCOPE OSH Alumni Association
51. Bachy Soletanche Group Limited
52. Advanced Safety Consultants Limited (Enquiry Telephone no. 2326 7933)
53. Hong Kong Youth Interactive Education Centre Limited *
   (Enquiry Telephone no. 2368 3671)
54. The University of Hong Kong (Enquiry Telephone no. 2859 1979)
55. Lion Security Limited * (Enquiry Telephone no. 2793 5335)
56. Hong Kong General Building Contractors Association Limited *(Enquiry Telephone no. 2507 5088)
57. Electrical and Mechanical Services Department (Enquiry Telephone no. 2197 0700)
58. Kwong Ming Industrial Training Limited* (Enquiry Telephone no. 2490 0211)
59. Safety Management Consultants Ltd.* (Enquiry Telephone no. 2994 6834)
60. Christian Action (Enquiry Telephone no. 2716 8810)
61. Social Resources Development Centre Limited* (Enquiry Telephone no. 2398 3885)
62. Double Security Limited* (Enquiry Telephone no. 2728 8130)
63. KC2 Int'l Safety Consultants Limited * (Enquiry Telephone no. 2199 7332)
64. Hong Kong Institute of Vocational Education (Haking Wong)* *(Enquiry Telephone no. 2708 5324)
65. Rotter International Limited * (Enquiry Telephone no. 2751 7770)
66. Sun Fook Kong Construction Management Limited *
67. HSE Training Centre * (Enquiry Telephone no. 8111 3312)
68. UtilityINFO Institute (Enquiry Telephone no. 2690 9999)
69. Otis Elevator Company (HK) Limited

Note: The course providers marked with "**" also conduct revalidation training courses.
Appendix III – Cartridge-operated Fixing Tools

Cartridge-operated fixing tools approved by the Commissioner for Labour pursuant to Regulation 19 of the Factories and Industrial Undertakings (Cartridge-Operated Fixing Tools) Regulations.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>Ramset Model J-10</td>
<td>2.</td>
</tr>
<tr>
<td>5.</td>
<td>Ramset Model 4180</td>
<td>6.</td>
</tr>
<tr>
<td>11.</td>
<td>Hilti Model DX 650</td>
<td>12.</td>
</tr>
<tr>
<td>21.</td>
<td>Red Head Model 330 BPE-8</td>
<td>22.</td>
</tr>
<tr>
<td>23.</td>
<td>Ramset Model D-60</td>
<td>24.</td>
</tr>
<tr>
<td>27.</td>
<td>Hilti Model DX 350P</td>
<td>28.</td>
</tr>
<tr>
<td>29.</td>
<td>Hilti Model DX 36M</td>
<td>30.</td>
</tr>
<tr>
<td>31.</td>
<td>SPIT Model S38</td>
<td>32.</td>
</tr>
<tr>
<td>33.</td>
<td>Hsinho Model 660/B4/B8</td>
<td>34.</td>
</tr>
<tr>
<td>35.</td>
<td>Ramset Model S75A</td>
<td>36.</td>
</tr>
<tr>
<td>37.</td>
<td>Hilti Model DX A40</td>
<td>38.</td>
</tr>
<tr>
<td>39.</td>
<td>SPIT Model P45</td>
<td>40.</td>
</tr>
<tr>
<td>41.</td>
<td>Ramset Model J20S</td>
<td>42.</td>
</tr>
<tr>
<td>43.</td>
<td>Ramset Model TS60P</td>
<td>44.</td>
</tr>
<tr>
<td>45.</td>
<td>Hilti Model DX 750</td>
<td></td>
</tr>
</tbody>
</table>
Appendix IV – Crane Operator Certificates

Organisations authorized by the Commissioner for Labour to issue crane operator certificates pursuant to Regulation 15A of the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations are:

1. Construction Industry Training Authority
   *(Enquiry Telephone no. 2652 7282)*
2. Kowloon Truck Merchants Association Ltd.
   *(Enquiry Telephone no. 2393 7063)*
3. Harbour Transportation Workers General Union
   *(Enquiry Telephone no. 2780 0381)*
4. Modern Terminals Ltd.
5. Kowloon-Canton Railway Corporation
6. Yiu Lian Dockyards Ltd.
7. COSCO-HIT Terminals (HK) Ltd.
8. Hongkong International Terminals Ltd.
9. CSX World Terminals Hong Kong Limited
   (Sea-Land Orient Terminals Ltd.)
10. The Hongkong Electric Co. Ltd.
11. CLP Power Hong Kong Ltd.
12. Hong Kong Container Depot & Repairer Association Ltd.
    *(Enquiry Telephone no. 2487 6287)*
13. Hoi Kong Container Services Co. Ltd.
14. Hongkong United Dockyards Ltd.
15. Mass Transit Railway Corporation
16. The Kowloon Motor Bus Co. (1933) Ltd.
17. Far East Cement Co. Ltd.
18. B + B Asia Limited
19. Yuen Fat Wharf & Godown Co. Ltd.
20. Mid-Stream Holdings (HK) Ltd.
21. Fat Kee Stevedores Limited
22. Shiu Wing Steel Ltd.
23. River Trade Terminal Co. Ltd.
24. Green Island Cement (Holdings) Limited
25. Lok Ma Chau China-Hong Kong Freight Association
    *(Enquiry Telephone no. 2482 9163)*
26. China Resources Petrochems (G) Co. Ltd. CRC Oil Terminal
27. Shun Tak-China Travel Ship Management Ltd.
28. The Hong Kong and China Gas Co., Ltd.
29. Hong Kong Aero Engine Services Limited
30. Construction Machinery Technical Training Centre
    *(Enquiry Telephone no. 2477 2333)*
31. Maritime Services Training Institute (Vocational Training Council)
    *(Enquiry Telephone no. 2458 3833)*
Appendix V – Suspended Working Platforms

Organizations recognized by the Commissioner for Labour to offer training and certification schemes for persons working on suspended working platforms pursuant to Section 17 of the Factories and Industrial Undertakings (Suspended Working Platforms) Regulation

1. Construction Industry Training Authority *
   *(Enquiry Telephone no. 2870 0183)*

2. Environmental Contractors Management Association *
   *(Enquiry Telephone no. 2563 0661)*

3. The Hongkong Electric Co., Ltd

4. Industrial Safety Professionals Limited
   *(Enquiry Telephone no. 2797 9381)*

5. HSBC Property (Asia) Limited *
   (Wayfoong Property Limited)

Note: The organizations marked with "*" also conduct revalidation training courses
Appendix VI – Confined Spaces

Relevant Safety Courses for Certified Worker recognized by the Commissioner for Labour pursuant to Section 4 of the Factories and Industrial Undertakings (Confined Spaces) Regulation

1. Construction Industry Training Authority * (Enquiry Telephone no. 2870 0183)
2. Occupational Safety and Health Council * (Enquiry Telephone no. 2739 9377)
3. CLP Power Hong Kong Limited *
4. MTR Corporation Limited *
5. Modern Terminals Limited *
6. The Hongkong Electric Company Limited *
7. The Hong Kong & China Gas Company Limited *
8. Hongkong International Terminals Limited *
9. Kowloon-Canton Railway Corporation *
10. Yu Lian Dockyards Ltd. *
11. Drages et Travaux Publics (HK) Ltd.
12. The Hong Kong University of Science and Technology *(Enquiry Telephone no. 2358 7229)
13. The Hong Kong Polytechnic University *(Enquiry Telephone no. 2766 7579)
14. Hong Kong Construction Industry Employees General Union *(Enquiry Telephone no. 2388 6887)
15. Origin Production Limited *(Enquiry Telephone no. 8202 1515 and 8202 1383)
16. Safety Specialist Services Ltd. *(Enquiry Telephone no. 2409 8722)
17. Construction Site Workers General Union *(Enquiry Telephone no. 2770 8668)
18. Hongkong United Dockyards Ltd.
19. Dickson Construction Co. Ltd.
20. Mak Hang Kei (HK) Construction Limited *
21. Industrial Technology Consultants Ltd. *(Enquiry Telephone no. 2722 1801)
22. Bilfinger Berger AG (Bilfinger Berger AG Auslandsbereich) (Bilfinger + Berger - Bauaktiengesellschaft)
23. James Safety Consultants Limited and Hong Kong Productivity Council *(Enquiry Telephone no. 2788 5805 and 2788 6053)
24. H.K. & Kowloon Electrical Engineering & Appliances Trade Workers Union *(Enquiry Telephone no. 2393 9955)
25. Gammon Skanska Limited (Gammon Construction Ltd.)
26. Hong Kong Workers' Health Centre *(Enquiry Telephone no. 2725 3996)
27. Occupational Safety & Health Management Institute *(Enquiry Telephone no. 2786 9009)
28. Enviropace Limited *
29. EnviroSafe Professional Consultancy Limited *(Enquiry Telephone no. 2407 7113)
30. Saiton Engineering Limited *(Enquiry Telephone no. 2700 8388)
31. Armed Forces Training Institute Limited
32. Hong Kong Youth Interactive Education Centre Limited *(Enquiry Telephone no. 2368 3617)
33. Construction Machinery Technical Training Centre *(Enquiry Telephone no. 2477 2333)
34. Hong Kong Human Resources Limited* (Enquiry Telephone no. 2301 1197)
35. Safety Management Consultants Ltd.* (Enquiry Telephone no. 2994 6834 and 2994 6844)
36. Turboseen Consultants Limited * (Enquiry Telephone no. 2527 0608)
37. Rotter International Limited * (Enquiry Telephone no. 2751 7770)
38. Social Resources Development Centre Limited *
    (Enquiry Telephone no. 2735 1633 and 2398 3885)
39. Hong Kong Institute of Vocational Education (Haking Wong) *
    (Enquiry Telephone no. 2361 5161)
40. Lion Security Limited (Enquiry Telephone no. 2793 5335)

Note: The course providers marked with "*" also conduct revalidation training courses
Appendix VII – Safety Courses for Excavators, Loaders & Bulldozers

Relevant Safety Courses for Excavator, Loader & Bulldozer recognized by the Commissioner for Labour pursuant to the Factories and Industrial Undertakings (Loadshifting Machinery) Regulation

1. Construction Industry Training Authority *
   *(Enquiry Telephone no. 2870 0183)*

2. Construction Machinery Technical Training Centre
   *(Enquiry Telephone no. 2477 2333)*

3. Green Island Cement (Holdings) Limited

Note: The course providers marked with "*" also conduct revalidation training courses.
Appendix VIII – Gas Welding and Flame Cutting

Relevant Safety Courses recognized by the Commissioner for Labour pursuant to the Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulation

1. Construction Machinery Technical Training Centre  (Enquiry Telephone no. 2477 2333)
2. A.E.S Destructive & Non-destructive Testing Ltd.  (Enquiry Telephone no. 2422 6898)
3. Vocational Training Council  (Enquiry Telephone no. 2494 4223)
4. Occupational Safety & Health Council  (Enquiry Telephone no. 2739 9377)
5. The Hong Kong Polytechnic University  (Enquiry Telephone no. 2766 5388)
6. Origin Production Limited  (Enquiry Telephone no. 8202 1515 & 8202 1383)
7. Hong Kong Oxygen & Acetylene Co., Ltd.  (Enquiry Telephone no.2372 2288)
8. Shiu Wing Steel Limited
9. Construction Industry Training Authority  (Enquiry Telephone no. 2870 0183)
10. Construction Site Workers General Union  (Enquiry Telephone no. 2770 8668)
11. Green Island Cement (Holdings) Ltd.
12. MTR Corporation Ltd
13. Hong Kong Shipbuilding, Machinery Manufacturing and Steel Industries Employees General Union  (Enquiry Telephone no.2770 3822)
14. Social Resources Development Centre Limited  (Enquiry Telephone no.2735 1633)
15. Yiu Lian Dockyards Ltd.
16. H.K. & Kowloon Electrical Engineering & Appliances Trade Workers Union  (Enquiry Telephone no.2393 9955)
17. The Hongkong Electric Co. Ltd.
18. Hongkong International Terminals Limited
19. Hong Kong Human Resources Limited  (Enquiry Telephone no. 2301 1197)
20. Industrial Technology Consultants Limited  (Enquiry Telephone no. 2722 1801)
Appendix IX – Sample Inspection Checklist

Explanatory Notes

This checklist is only a sample for reference and is by no means exhaustive. It contains a collection of major safety issues that should be addressed. They should be followed flexibly by adapting to suit individual needs and particular construction activities.

The inspection report arising from using the checklist should at least identify the following information pertaining to the contractor and site:

- Name of contractor
- Site Address
- Location covered
- Date of inspection
- Time of inspection
- Name and designation of person(s) making the inspection
- The report is to be signed by the person conducting the inspection

The report should also contain a summary of the hazards identified during the inspection, risk of injuries assessed and the control measures recommended.

A. Site planning and layout

1. Safety considerations are included appropriately in the site planning and layout.
2. Effective communication of site safety policy to all workers.
3. Provide hoarding at least 2 metres high around the boundary of the site.
4. Where item (3) is not practicable, cover or fence off all excavations and openings at the end of the working day.
5. Remove ladders from position or board their rungs at the end of the working day.
6. Implement effective traffic arrangement to control the movement of vehicles on site to avoid danger.
7. Ensure that everyone can reach their place of work safely: that there are safe roadways, walkways, gangways, staircases, ladders and scaffolds.
8. In a civil engineering site, provide separate passenger walkway
9. Provide edge protection at all open sides of gangways, floors, staircases and landings where there is a drop of 2 metres or more.
10. Ensure all floor openings are securely covered up or adequately fenced.
11. Ensure that there are no timber pieces or other materials with projecting nails or other sharp objects that endanger workers.
12. Provide adequate and suitable lighting in the site to the extent necessary to secure
workers safety.
13. Keep the site tidy and store materials safely in an orderly manner
14. Make proper arrangements for collecting and disposing of waste and scrap.

B. Scaffolds, working platforms and ladders etc.

1. Identify hazardous conditions of persons working at height
2. Rectify hazardous conditions of persons working at height
3. Safeguard all persons working at height against all hazardous conditions.
4. Provide suitable and adequate safe access and egress from the place of work
5. Stop persons from gaining access to places where hazardous conditions exist
6. Take adequate steps to prevent any person falling from height of 2 metres or more

C. Scaffolding (other than suspended scaffold)

1. Ensure that the scaffold is erected by experienced workmen under the supervision of a competent person.
2. Ensure that the scaffold is altered or dismantled under the supervision of a competent person.
3. Ensure the inspection of the scaffold by a competent person before use.
4. Ensure that the scaffold is inspected by a competent person in the proceeding 14 days.
5. Mount all the uprights of the scaffold on proper base of plates.
6. Ensure that no parts of the scaffold are removed after it is erected.
7. Secure the scaffold to the building in enough places to prevent scaffold collapse.
8. Make the uprights of the scaffold vertical and securely braced to prevent swaying or displacement.
9. Closely board the working platforms with scaffold boards or planks of sufficient thickness and proper grade timber.
10. Arrange the boards so as to avoid tipping or tripping risks.
11. Erect guard-rails and toe-boards to a safe height at the open sides and ends of scaffold platforms from which there is a drop of 2 metres or more.
12. Evenly distribute materials over the scaffold and make sure it is not over-loaded.
13. Construct tower scaffolds with a safe height to base area ratio.
14. Properly secure the wheels of mobile scaffolds and make these wheels fitted with brakes.
15. Provide access ladders for tower scaffolds internally and not externally.
16. Prohibit the use of boatswain chairs and similar equipment.
D. Suspended working platform (platform)

1. Ensure that workers on suspended working platform are using safety harness anchored overhead to a suitable anchorage including an independent lifeline.
2. Display required notices on the platform
3. Ensure that the platform is erected, dismantled or altered under the supervision of a competent person
4. Ensure that the person working on a platform should at least 18 years’ old and hold a valid certificate
5. Thoroughly examine the platform by a competent examiner in the immediately preceding six months
6. Inspect the platform by a competent Person in the immediately preceding seven days
7. Stop using the platform during inclement weather
8. Load test and thoroughly examine the platform by a competent examiner after exposure to weather conditions likely to have affected the scaffolds.
9. Results of scaffold inspection to be reported in a prescribed form by the person who carried out the inspection.
10. Mark clearly and eligibly the safe working load on the platform

E. Ladders

1. Ensure that ladders are not used for jobs which require a scaffold.
2. Ensure that metal ladders are not used near power lines.
3. Use only ladders that are in good condition.
4. Secure all ladders at the top
5. Where ladders cannot be secured at the top for technical reasons, ensure that they are secured near the bottom or footed.
6. Let ladders rise at least 1 metre above their landing places.
7. Inspect ladders regularly for signs of damage or corrosion.
8. Mark all ladders for identification.

F. Steel erection

1. Ensure that steel erectors work from proper access platform whenever possible
2. Ensure that where provisions of platform is not reasonably practicable, the steel erectors should be protected by safety net and safety harness properly anchored

G. Excavations

1. Provide adequate strong material to shore the sides of excavations.
2. A competent person to make daily inspections of excavations to determine the
possibility of a cave-in, and make weekly recorded inspections.
3. Ensure that the sides of excavations are sufficiently shored or they are sloped back to 45° and no fall or dislodgement of earth, rock or other materials is liable to occur.
4. Use a safe system of work for installing shoring to protect the shorer.
5. Provide suitable ladder or other safe means of getting in and out of the excavations.
6. Provide suitable barriers or coverings to prevent persons from falling into the excavations.
7. Make sure that there are no structures whose stability may be affected by the excavations.
8. Ensure that there is no material, equipment or plant close to the edge of the excavations thereby endangering any person working therein.
9. Make arrangements necessary to prevent vehicles from driving into the excavations.
10. Provide adequate means for persons to escape in case of dangers of eruption of water or material.

H. Confined spaces

1. Carry out a risk assessment by a competent person, implement the measures and certify them to be safe before work begins.
2. Wear breathing apparatus if so recommended by the competent person or working in spaces for underground pipe work.
3. Wear safety harness connected to a suitable lifeline if so recommended or working in space for underground pipe work.
4. Formulate and implement procedures to deal with serious and imminent dangers to workers.
5. Provide and keep readily available for use a sufficient supply of breathing apparatus.
6. Provide and keep readily available for use a sufficient supply of riving apparatus.
7. Provide a sufficient supply of audio and visual alarms.
8. Ensure that only certified workers are allowed to work in confined spaces.
9. Station a person outside a confined space to communicate with workers inside.

I. Demolition

1. Obtain the construction characteristics of the structure to be demolished before work begins.
2. Ensure that demolition operations are directly supervised by a competent person who draws up a demolition plan.
3. Provide safe working platforms from which workers are operating.
4. Make arrangements so that debris is not collected on floors to create a danger of collapse.
J. Transport

1. Ensure that all site vehicles are properly repaired.
2. Provide roll-over protection for vehicles that are liable to overturn.
3. Check before use that the steering wheel, brakes, etc. of the vehicles work properly.
4. Allow only workers who have received proper training and held the recognized driving licences or training certificates are allowed to drive vehicles.
5. No person under 18 years’ old should be allowed to operate or give signal to the operator of any mechanical equipment.
6. Securely retain the loads carried by site vehicles.
7. Ensure that only authorized passengers are riding in safe position on site vehicles.
8. Equip vehicles with reversing signals.
9. Ensure that when vehicles reverse with a load, they are controlled by a trained worker.

K. Cranes

1. Ensure that there is a valid test certificate for each crane.
2. Ensure that every crane is inspected weekly by a competent person and that a record is kept.
3. Ensure that every crane is thoroughly examined every six monthly by a competent examiner.
4. Maintain every crane properly.
5. Ensure that the crane operator is over 18 years’ old and hold a valid certificate.
6. Ensure that the safe working loads for varying radii of the jib are displayed and are clearly visible to the operator.
7. Train crane operators and signalers in the proper use of hand signals.
8. Install an accurate safe load indicator that is visible to the operator.
9. Provide a safe means of access to those parts that are within the cabin and require periodical inspection or maintenance.

L. Gin or pulley wheel

1. Ensure that is has been tested and thoroughly examined by a competent examiner.
2. Ensure that every gin or pulley wheel is inspected weekly by a competent person.
3. Ensure that every gin or pulley wheel is thoroughly examined by a competent examiner every 14 months.
4. Ensure that the safe working load is clearly and legibly marked on every gin or pulley wheel.
5. Adequate secure to the supporting beam that is of adequate strength to prevent undue movement.
M. Lifting gears

1. Post in a prominent position the safe working loads of each kind and size of lifting gears in use.
2. Post in a prominent position the safe working loads at different angles of the legs of a multiple sling.
3. Ensure not to load the lifting gears beyond its safe working load.
4. Confirm that every lifting gear has been tested and examined by a competent examiner.
5. Inspect every lifting gear by a competent person before use.
6. Chain slings should not be shortened by tying knots.

N. Goods or platform hoist

1. Ensure that it has been tested and thoroughly examined by a competent examiner since manufacturing and after any substantial repair or alteration.
2. Ensure that it has been inspected by a competent person weekly and a record kept.
3. Ensure that it has been thoroughly examined by a competent examiner every six months and a record kept.
4. Enclose it by a substantial enclosure to prevent workers from being struck by the hoist or falling down the hoistway.
5. Provide secured gate at all access points to the platform.
6. Keep the gate shut when the platform is not at the landing.
7. Attach a load rating plate to the platform.
8. Post a notice prohibiting workers from riding on the platform.
9. Securely support every part of the load on it.
10. Take precautions to prevent materials or goods from falling off the platform of the hoist.
11. Provide overhead protection for the operator.
12. Provide the platform with brakes or devices which hold it and the load in position in case of breakage of hoisting rope or failure of the mechanism.
13. Provide an automatic over-running device.
14. Use a proper and reliable signaling system.

O. Cartridge fixing tools

1. Ensure that the operator holds a certificate of competency.
2. Leave it unloaded, lock in a strong box and stored in a securely place when not in use.
3. Clear bolt gun regularly and inspect each day before use.
4. Ensure that safety helmets, safety goggles and safety shoes are worn by operators and others nearby.
5. Ensure that ear protectors are used.

P. Woodworking machinery

1. Maintain clear and unobstructed space at a machine whilst in motion.
2. Maintain the floor around a machine in a good, non-slippery and level condition free from chips and other materials.
3. Provide adequate lighting for a machine.
4. No person under 16 should be employed to operate.
5. Protect the part of circular saw below the bench by proper fencing.
6. Fit a riving in direct line behind a circular saw.
7. Cover the top of a circular saw by a strong and adjustable crown guard.
8. Keep available for use a suitable push stick for a circular saw.
9. Suitably guard a swing saw.
10. Provide a bridge guard for the cutting slot of the bench of an overhand planning machine.
11. Provide an efficient guard for the cutter of a vertical spindle moulding machine.

Q. Concrete formwork

1. Ensure that the design and supports of formwork and shoring are sufficient to support all imposed loads.
2. Ensure that the formwork and supports for formwork have been inspected before concreting.
3. Cover all projecting reinforcing bars when work is being carried out overhead.
4. Wear gloves and eye protectors when stripping formwork.
5. Remove or bend over nails from stripped formwork immediately.

R. Electricity

1. Ensure that the electricity supply for equipment comes from low voltage supply if possible.
2. Inspect electrical equipment and wiring for signs of damage daily or before use.
3. Connect to the power supply by proper connectors or plugs.
4. Properly ground or earth all electrical equipment.
5. Insulate the supply to all overhead or underground power lines whenever possible whenever the danger of contact is identified.
6. Where the supply to power lines has not been turned off, ensure that other precautions have been taken to prevent contact with them.
S. Fire precautions

1. Provide adequate and suitable fire extinguishers and maintain them in good condition.
2. Provide adequate and suitable fire hydrants, pumps and hose reels.
3. Provide and maintain adequate and suitable means of escape and escape routes.
4. Keep minimum quantities of flammable substance and within exempted quantities unless a dangerous goods store is available.
5. Properly label containers with inflammable liquids.
6. Prohibit smoking and naked flame while using inflammable liquids.
7. Store and transport LPG and compressed air cylinders properly.
8. Ensure that no LPG cylinders are stored inside huts or insufficiently ventilated areas.
9. Collect site wastes and remove them regularly.

T. Noise

1. Assess the risk from noisy machinery and implement measures to reduce damage to hearing.
2. Fit all pneumatic drills/concrete breakers with silencer mufffs.
3. Fit exhaust systems of other machinery with silencer.
4. Keep machinery cover closed while machine is in motion.
5. Attached a suitable sign on machinery requiring the wearing of ear protectors by those working within the specified distance.
6. Wear hearing protectors when engaged or working near noisy processes.
7. Correctly fit hearing protectors and maintain them in a clean and sanitary condition.

U. Hazardous substances

1. Keep hazardous chemicals in use within the exempted quantities and label all containers.
3. Ensure that the safety measures given in the data sheet are implemented.
4. Ensure that workers are aware of and take action on the risks and precautions of the substances being handled.
5. Provide personal protective equipment to ensure that it is properly used.

V. Miscellaneous safety requirements

1. Provide adequate ventilation to prevent workers from inhaling dust or fumes likely to
be harmful.
2. Provide suitable respirators if proper ventilation cannot protect the workers.
3. Provide suitable goggles or effective screens for workman engaged in processes
giving out particles injurious to the eyes.
4. Effectively guard every flywheel and moving parts of transmission machinery and
every dangerous parts of machinery.
5. Prohibit persons under 18 years’ old to clean the dangerous parts of machinery in
motion.
6. Provide and ensure that workers wear safety helmets.
7. Take necessary measures to prevent workers from being struck by falling objects.
8. Take measures to prevent injury by objects being thrown from height.
9. Take precautions to protect workers from falling or flying debris.
10. Provide suitable and sufficient lighting.
11. Properly stacked all materials.

W. Health provisions

1. Provide adequate first aid boxes with appropriate contents.
2. Provide suitable and sufficient first aiders.
3. Provide suitable and sufficient stretchers.

X. Welfare facilities

1. Provide sufficient and suitable toilets, if practicable, water closets, including urinals.
2. Provide suitable and sufficient washing facilities.
3. Provide suitable and sufficient accommodation for the storage of work clothings and
personal effects.
4. Provide suitable and sufficient facilities for preparing food.
5. Train all staff and workers about action to be taken in emergency situations.
Appendix X – Sample of Summary of Follow-up Actions

**Summary of Follow-up Actions**

**Part I:**
Contract No. _________________________________________________________________
Contract Title _________________________________________________________________
Date of Inspection _____________________________________________________________
Time ________________________________________________________________________

Person(s) making the inspection:
Name in Block Letters | Designation | Organization | Signature
--- | --- | --- | ---
1. | Site Agent | | |
2. | Safety Officer | | |
3. | | | |
4. | | | |

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<th>Item No.</th>
<th>Location</th>
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<th>Agreed Due Date for Completion</th>
<th>Date Completed</th>
<th>Remarks</th>
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To be signed at the end of inspection
Employer’s Representative ______________________________________________________
Safety Officer ________________________________________________________________

**Part II:** (To be countersigned after ALL actions have been completed)
Safety Officer ________________________________________________________________
Date ________________________________________________________________________
Employer’s Representative ______________________________________________________
Date ________________________________________________________________________

(Note: No payment will be made for the “Weekly Safety Walk” item under PFSS contracts if any one of the follow-up actions is completed after the “Agreed Due Date for Completion”.)
Appendix XI – List of Publications, Posters Published by the Labour Department

**PUBLICATION OF OCCUPATIONAL SAFETY SERVICE**

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## Glossary

### Definitions

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<tr>
<td>Authorized Signatory</td>
<td>means the person authorized by the Contractor in accordance with Section 5.12 of the Technical Memorandum for Supervision Plans to carry out the functions described in the said Technical Memorandum. He shall be the leader of the Technically Competent Persons employed by the Contractor.</td>
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<tr>
<td>Employer’s Representative</td>
<td>means agent appointed by the Employer to help him discharge legal obligation and commitments of the Safety Partnering Programme.</td>
</tr>
<tr>
<td>The Contractor</td>
<td>refers to the Principal Contractor entering into a contract with the Employer for civil engineering, foundation, building construction, maintenance, and demolition work. It also includes nominated contractors who enter into work contracts with the Employers directly.</td>
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<tr>
<td>Contractor’s Representative</td>
<td>means the person authorized by the Contractor in accordance with Section 5.12 of the Technical Memorandum to carry out the prescribed functions. He shall be the second in command of the Technically Competent Persons employed by the Contractor.</td>
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<tr>
<td>Coordinating Meeting</td>
<td>means the monthly meetings chaired by the Employer’s Representatives and attended by the senior management of the Contactor of the site to scrutinize, among other things, the safety performance of the construction site and the implementation of the Site Safety Plan.</td>
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<td>Implementation Payment</td>
<td>The ongoing payments to reimburse items of expenditure according to a Schedule of Rate subject to a certification process.</td>
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<td>Milestone Payment</td>
<td>means the payment by the Employer as an incentive to the contractor upon meeting the Programme target.</td>
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<td>Monthly Safety Performance Report</td>
<td>means the report issued each month by the Authorized Signatory to the Coordinating Meeting with the Employer.</td>
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<td>Safety Inspection Checklist</td>
<td>means the checklists, updated from time to time, to be used for the purposes of prompting checks of site safety.</td>
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<td>Registered Safety Auditor</td>
<td>means a person who conducts or proposes to conduct safety audits and shall be registered as a safety auditor with the Commissioner of Labour.</td>
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<td>Safety Audit</td>
<td>means an arrangement for collecting, assessing and verifying information on the efficiency, effectiveness and reliability of the Site Safety Plan against the prevailing physical conditions and documentation available on the site.</td>
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<td>Safety Audit Report</td>
<td>means a report compiled by a registered safety auditor after the completion of a safety audit.</td>
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<tr>
<td>Safety Officer</td>
<td>shall be the person appointed by the Contractor as the Authorized Signatory under the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulation.</td>
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<tr>
<td>Safety Supervisors</td>
<td>shall be the persons appointed by the Contractor under the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations as Technically Competent Persons other than the Authorized Signatory.</td>
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<tr>
<td>Site Safety Committee</td>
<td>means the committee established to regularly review safety and health matters on the site.</td>
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<tr>
<td>Site Safety Management</td>
<td>means the committee established to regularly review the safety management issues on the site.</td>
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<tr>
<td>Site Safety Plan</td>
<td>means the descriptive procedures, including any revisions thereto, to be prepared stating how the Contractor is to promote, control and manage the implementation of safety policy on the site.</td>
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