CODE OF PRACTICE --

Shipboard Container Handling on Vessels

(Issued under Section 44A of the Shipping and Port Control Ordinance, Cap. 313)

Marine Industrial Safety Section
Marine Department, HKSAR

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Record on Updating and Amendments

This Code of Practice is issued under Section 44A of the Shipping and Port Control Ordinance (Cap. 313). This Code was first notified in the Gazette on 2nd February 2007 to take effect immediately. Subsequent updating and amendments would be notified to the industry through further notice in the Gazette from time to time. This record sheet is intended for good record keeping of the amendment history of Code of Practice.

Amendment No.	Gazette No.	Gazette Date	Effect Date	Topic Areas / pages
01(a)	G.N.4822	16.08.2013	01.09.2013	Paragraphs amended: CONTENT pages, 2.2, 4.2.5, 4.3.2, 4.3.3, 4.4.3, 5.1.2, 5.1.4, 5.1.6, 5.1.11, 5.1.15, 5.4.8, 5.5.4, 6.10, 6.11, 6.13, 7.3 and APPENDIX V
01(b)	G.N.4822	16.08.2013	01.09.2013	Paragraphs added: 3.2.10, 3.2.18, 3.4.2, 4.3.5, 4.3.6, 4.4.5, 5.1.5, 5.1.23, 5.1.24, 5.2.8, 5.2.9, 5.7 and 6.12

CONTENT

FOREWORD

This is an approved Code of Practice (the "Code") issued by the Director of Marine (the "Director") under section 44A(1) of the Shipping and Port Control Ordinance (the "Ordinance"), Cap. 313. Section 44A(1) of the Ordinance empowers the Director to issue code of practice for the purpose of providing guidance in respect of any one or more of the requirements of Part V of the Ordinance or of regulations made under the Ordinance. It is important to note that compliance with this Code does not, of itself, confer immunity from the legal obligations in Hong Kong. Persons in charge of works, employers, persons employed, owners and masters of vessels, are reminded to observe other legal requirements during works.

Section 44A(4) of the Ordinance stipulates that a failure by any person to observe a provision of an approved code shall not of itself cause him to incur any criminal liability, but where –

(a) in any criminal proceedings the defendant is alleged to have committed an offence either –

  (i) by reason of a contravention of or a failure to comply with, whether by act or omission, this Ordinance or regulations under this Ordinance; or

  (ii) by reason of a failure to discharge or perform a duty imposed by this Ordinance or such regulations; and

(b) the matter to which the alleged contravention or failure relates is one to which, in the opinion of the court, an approval code relates,

then section 44A(5) shall apply as regards to the proceedings.

Section 44A(5) of the Ordinance stipulates that in any criminal proceedings to which the section applies, the following, namely –

(a) compliance with a provision of an approved code found by the court to be relevant to a matter to which a contravention or failure alleged in the proceedings relates;

(c) a contravention of or failure to comply with, whether by act or omission, any such provision so found,

may be relied on by any party to the proceedings as tending to establish or to negative any liability which is in question in the proceedings.

1. INTRODUCTION

1.1 Purpose

1.1.1 This Code provides practical guidance and gives recommendations on the safety practices at work for freight container handling carried out on board vessels within the ambit of the Ordinance. It is intended to be read by industry, but not limited to, owners and master of a vessel, persons in charge of works, stevedoring contractors, supervisors, safety personnel, employers, persons employed, other persons involved in shipboard container handling.

1.1.2 Readers should read legal requirements in respect of the safety of shipboard container handling in Part V of the Ordinance as well as the Shipping and Port Control (Works) Regulation (the "Regulation") for details.

SAPCO S. 44A

1.1.3 This Code is approved and issued by the Director under section 44A of the Ordinance. It empowers the Director to issue code of practice for the purpose of providing practical guidance in respect of any one or more of the requirements of Part V of the Ordinance or of the regulations made under the Ordinance. The guidance or recommendations contained in this Code should not be regarded as exhausting those matters that need to be covered by the relevant safety legislation. Compliance with the Code does not confer immunity from relevant legal requirements.

1.1.4 Although failure to observe any guidelines given in this Code is not itself an offence, but such failure may be taken by the court in criminal proceedings as a relevant factor in determining whether a person has breached the relevant safety legislation under the Ordinance or its subsidiary legislation. It will then be open to that person to satisfy the court that he has complied with the legislation in some other ways.

1.1.5 This Code may be revised or amended from time to time, or revoked by the Director, and the notice of such revision, amendment or revocation will be published in the Gazette.

1.1.6 In this Code, reference may be made to the relevant safety standards of the British Standards Institution. However, other national, international standards or provisions that are equivalent to the British Standards, may,

in appropriate circumstances, be acceptable as alternatives.

1.2 Scope

1.2.1 This Code provides practical guidance in respect of the safe practices for shipboard container handling work carried out on, to or by means of a vessel within the ambit of the Ordinance.

1.2.2 This Code does not apply to land-based container handling work. However, where accident happens on land but is caused by the operation of lifting appliances or lifting gears installed on vessel afloat, Marine Department will investigate the accident and this Code will apply to the container handling equipment and activities carried out on, to or by means of a vessel.

2. INTERPRETATION AND ABBREVIATION

Unless otherwise defined in this Code, the terms used in this Code have the same meaning as those in the Ordinance and the Regulation.

2.1 Interpretation

"container" (貨櫃) means a freight container.

"employer" in relation to a person employed, means that person's employer.

"land-based container handling work" (陸上貨櫃處理工作) means any container handling work carried out at a place on land or any container handling work carried out by means of lifting appliances situated in a place on land.

"shipboard container handling work" (船上貨櫃處理工作) means any container handling work carried out on, to or by means of a vessel or any container handling work carried out by means of lifting appliance situated on a vessel.

SAPCO S. 2

"person in charge of works" (工程負責人) means –

(a) the owner, or master of, or other person having control over, a vessel on, to or by means of which any works are to be, or are being, carried out;

(b) a principal contractor or sub-contractor, if any, who contracts to carry out, or who carries out, any works, or

(c) any other person having for the time being in command or charge of works being carried out on, to or by means of a vessel.

MS(LV)O S. 2

"local vessel" (本地船隻) means

(a) any vessel used solely within the waters of Hong Kong, whether registered under the Merchant Shipping (Registration) Ordinance (Cap 415) or in a place outside Hong Kong;

(b) any vessel regularly employed in trading to or from Hong Kong unless registered in a place outside Hong Kong;

(c) any vessel possessed or used for pleasure purposes in the waters of Hong Kong;

(d) any vessel employed in sea fishing plying regularly in the waters of Hong Kong, or using the waters of Hong Kong as a base; or

(e) any vessel-

(i) registered in the Mainland of China or Macau;

(ii) employed in trading to or from Hong Kong; and

(iii) issued with any certificate by a government authority of the Mainland of China or Macau permitting its trading to Hong Kong other than any accepted convention certificate.

SAPCO S. 2

"vessel" (船隻) includes

(a) any ship, junk, boat, dynamically supported craft, seaplane, or any other description of vessel used in navigation; and

(b) any other description of vessel in Hong Kong or in the waters of Hong Kong not used in navigation or not constructed or adapted for use in navigation.

2.2 Abbreviation

"HKSAR" is the abbreviation for Hong Kong Special Administration Region.

"IMDG Code" is the abbreviation for the International Maritime Dangerous Goods Code.

"MS(LV)O" is the abbreviation for the Merchant Shipping (Local Vessels) Ordinance, Cap. 548.

"MS(LV)(W)R" is the abbreviation for the Merchant Shipping (Local Vessels) (Works) Regulation, Cap. 548I.

"SAPCO" is the abbreviation for the Shipping and Port Control Ordinance, Cap. 313.

"SAPC(W)R" is the abbreviation for the Shipping and Port Control (Works) Regulations, Cap. 313X.

3. GENERAL DUTIES

3.1 General

3.1.1 It is the duty of any person, including person in charge of works and employer, to ensure that the work is, so far as is reasonably practicable, safe and is carried out in a safe manner.

3.1.2 Securing safety at work requires full commitment and cooperation of all parties concerned. The following summarizes the duties of various parties directly involved in shipboard container handling operations, namely persons in charge of works, employers, works supervisors and persons employed who are required to comply with the duty imposed under the SAPCO, and the SAPC(W)R.

3.1.3 It must be pointed out that every employer, person in charge of works, works supervisor or employee engaged in shipboard container operations is required to comply with the requirements imposed under the SAPCO and the SAPC(W)R and will be liable to be prosecuted for any breach of the law.

3.2 Duties of person in charge of works

SAPCO S. 43

3.2.1 The person in charge of works shall not provide or use, or cause to be provided or used any machinery, equipment or appliance for carrying out of the works in such a condition or so constructed that it cannot be used without unnecessary risk of accident or bodily injury.

SAPCO S. 44

3.2.2 The person in charge of works shall ensure any works to be carrying out in a condition or manner that does not provide unnecessary risk of accident or bodily injury.

SAPC(W)R S. 4 & 6

3.2.3 If a vessel is lying at a wharf, quay or mid-stream for the purposes of any works or if a person employed has to pass from a vessel to another vessel (whether that vessel is a local vessel or not), the person in charge shall provide safe means of access for use by a person employed. Please refer to the “Code of Practice on Safe Means of Access to Vessels" issued under SAPCO, Cap. 313.

SAPC(W)R S. 5(1)

3.2.4 The person in charge of works shall provide safe means of access to any workplace on the vessel. “Workplace” means any place on a vessel in which a person employed carries out works.

SAPC(W)R S. 5(2)

3.2.5 The person in charge of works shall ensure that all breaks, dangerous corners and other dangerous parts of a workplace are securely fenced, and the fence is maintained in good condition ready for use and in no place less than 1 m in height.

SAPC(W)R S. 9

3.2.6 The person in charge of works shall ensure that, where any works are being carried out on, to or by means of a vessel, every workplace of the vessel, every means of access provided under s. 4, 5, 6 and 7 of the SAPC(W)R, and every other part of the vessel to which a person employed may be required to proceed in the course of his employment, shall be efficiently lighted.

SAPC(W)R S. 10

3.2.7 The person in charge of works shall make effective and suitable arrangements to adequately ventilate every workplace and every other part of a vessel to which a person employed is permitted or required to proceed in the course of employment.

SAPC(W)R S. 18(1)

3.2.8 The person in charge of works shall ensure that works carried out on, to or by means of a vessel shall be supervised by at least one works supervisor.

SAPC(W)R S.19

3.2.9 The person in charge of works, for the purposes of supervising works carried out on, to or by means of a vessel, shall appoint in writing a works supervisor who has attained an age of 18 years and has at least 2 years practical experience and is holding a valid certificate in respect of the ‘Works Supervisor Safety Training (Shipboard Cargo Handling) course’.

3.2.10 The person in charge of works should provide adequate safety instructions and delegate the authority to the appointed works supervisor to carry out the supervision of works safety effectively. The safety instructions should be in writing and relevant to the works to be carried out.

SAPC(W)R S. 21

3.2.11 The person in charge of works shall provide the person employed with an appropriate safety helmet and, so far as reasonably practicable, other protective clothing and equipment that are appropriate to prevent bodily

injury to that person. In addition, he shall take reasonable measures to ensure that the persons employed do no remain on the vessel when works are being carried out unless they are wearing the provided safety helmet and using other protective clothing and equipment, if provided.

SAPC(W)R S. 23(1)&(5)

3.2.12 It is also the duty of a person in charge of works to ensure that any machinery, equipment or appliance provided for use by a person employed in relation to works shall be in safe working condition. In the case of cargo handling, machinery, equipment or appliance generally means any lifting appliance or lifting gear provided or used for that purpose.

SAPC(W)R S. 23(2)

3.2.13 It is the duty of the person in charge of works to take measures, in so far as reasonably practicable, to ensure the safety of a person employed at work.

SAPC(W)R S. 23(3)

3.2.14 It is the duty of the person in charge of works to provide such information, instruction, training or supervision, as may be necessary to ensure the safety of a person employed at work.

SAPC(W)R S. 53

3.2.15 The person in charge of works shall ensure that no shipboard container handling work shall be carried out by a person unless that person holds a valid certificate of the mandatory shipboard cargo handling basic safety training recognized by the Director.

SAPC(W)R S. 68

3.2.16 The person in charge of works shall ensure that there is maintained a record that contains

(a) the name and address of every person employed;

(b) the number of the identity card of each such person, or, where a person employed does not hold an identity card, the number of any other proof of identity of the person;

(c) if the proof of identity held by the person employed is issued in a place outside Hong Kong, the name of the issuing country; and

(d) the particulars of the certificate held by the person employed in respect of the relevant safety training course.

3.2.17 When containers carrying dangerous goods are being handled, the person in charge of works shall inform the persons employed about the

type of dangerous goods, the potential hazards and the safety and emergency measures needed to be observed when handling the containers.

3.2.18 The person in charge of works should ensure the effective co-ordination and communication among all parties involved before and throughout the cargo handling operation.

3.3 Duties of employer

SAPC(W)R S. 4 & 6

3.3.1 If a vessel is lying at a wharf, quay or mid-stream for the purposes of any works or if a person employed has to pass from a vessel to another vessel (whether that vessel is a local vessel or not), not only the persons in charge of works as described in paragraph 3.2.3, the employer is required to ensure that safe means of access has been provided for the persons employed. If the person in charge of works contravenes such requirement, the employer shall provide the same as soon as reasonably practicable after the contravention occurs. Otherwise, no works should be allowed on board the vessel.

SAPC(W)R S. 5(1)

3.3.2 Not only the persons in charge of works as described in paragraph 3.2.9 above, but also the employer is required to ensure that the persons employed are provided with safe means of access to a workplace. "Workplace" means any place on a vessel in which a person employed carries out works. If the person in charge of works contravenes such requirement, the employer shall provide the same as soon as reasonably practicably after the contravention occurs. Otherwise, no works should be allowed in that workplace.

SAPC(W)R S. 5(2)

3.3.3 Not only the persons in charge of works as described in paragraph 3.2.5 above, but also the employer is required to ensure that all breaks, dangerous corners and other dangerous parts of a workplace are securely fenced, and the fence is maintained in good condition ready for use and in no place less than 1 m in height. If the person in charge of works contravenes such requirement, the employer shall take the required measures as soon as reasonably practicable after the contravention occurs. Otherwise, no works should be allowed in or near that area.

SAPC(W)R S. 9

3.3.4 Not only the persons in charge of works as described in paragraph 3.2.6

above, but also the employer is required to ensure that, when any works are being carried out on, to or by means of a vessel, every workplace, every means of access provided under s. 4, 5, 6 and 7 of SAPC(W)R, and every other parts of the vessel to which a person employed may be required to proceed in the course of his employment, shall be efficiently lighted. If the person in charge of works contravenes such requirement, the employer shall take the required measures as soon as reasonably practicable after the contravention occurs. Otherwise, no works should be allowed on the vessel or any areas where insufficient lighting is provided.

SAPC(W)R S. 10

3.3.5 Not only the person in charge of works as described in paragraph 3.2.7 above, but also the employer is required to ensure that there shall be effective and suitable arrangements to adequately ventilate every workplace and every other part of a vessel to which a person employed is permitted or required to proceed in the course of employment. If the person in charge of works contravenes such requirement, the employer shall take the required measures as soon as reasonably practicable after the contravention. Otherwise, no works should be allowed on that workplace and areas.

SAPC(W)R S. 21

3.3.6 Apart from the person in charge of works, it is also the duty of the employer to provide the person employed with an appropriate safety helmet and, so far as reasonably practicable, other protective clothing and equipment that are appropriate to prevent bodily injury to that person. In addition, he shall take reasonable measures to ensure that the persons employed do not remain on the vessel when works are being carried out unless they are wearing the provided safety helmet and using other protective clothing and equipment, if provided.

SAPC(W)R S. 23(1)

3.3.7 Apart from the person in charge of works, it is also the duty of the employer to ensure that any machinery, equipment or appliance provided for use by a person employed in relation to works shall be in safe working condition. In the case of cargo handling, machinery, equipment or appliance generally means any lifting appliance or lifting gear provided or used for that purpose.

SAPC(W)R S. 23(2)

3.3.8 Apart from the person in charge of works, it is also the duty of the employer to take measures, in so far as reasonably practicable, to ensure the safety of a person employed at work.

SAPC(W)R S. 23(3)

3.3.9 Apart from the person in charge of works, it is the duty of the employer to provide such information, instruction, training or supervision, as may be necessary to ensure the safety of a person employed at work.

SAPC(W)R S. 53

3.3.10 Apart from the person in charge of works, it is also the duty of the employer to ensure that no shipboard container handling work shall be carried out by a person unless that person holds a valid certificate of mandatory basic safety training.

SAPC(W)R S. 68

3.3.11 Apart from the person in charge of works, it is also the duty of an employer to ensure that there is maintained a record that contains-

(a) the name and address of every person employed;

(b) the number of the identity card of each such person, or, where a person employed does not hold an identity card, the number of any other proof of identity of the person;

(c) if the proof of identity held by the person employed is issued in a place outside Hong Kong, the name of the issuing country; and

(d) the particulars of the certificate held by the person employed in respect of the relevant safety training course.

3.4 Duties of works supervisor

SAPC(W)R S. 20

3.4.1 The duties of a works supervisor include:

(i) supervising works carried out on, to or by means of a vessel in accordance with the safety instructions given by the person in charge of works;

(ii) assisting a person in charge of works in performing any duties imposed on that person under SAPC(W)R; and

(iii) carrying with him while at work the certificate of mandatory works supervisor safety training or a certificate referred to in s. 19(2)(b)(iii) of the SAPC(W)R.

3.4.2 Anyone, before accepting appointment as a works supervisor, should have a good understanding of the role, authority and legal responsibility of a works supervisor in a works operation. Once accepted the appointment as a works supervisor, he should put to use his knowledge, experience and authority to take prompt and effective actions, including dismissal of non-competent or uncooperative persons from the

operation to prevent the presence of any unnecessary risk and the occurrence of accidents.

3.5 Duties of person employed

SAPC(W)R S. 24

3.5.1 A person employed in any works shall:

(i) take reasonable care for the safety of himself and of other persons who may be affected by his acts or omissions;

(ii) wear an appropriate safety helmet and use other appropriate protective clothing and equipment provided to him by an employer or person in charge of works; and

(iii) cooperate with or assist a works supervisor to the extent necessary for enabling the works supervisor to perform the duty imposed on him under paragraph 3.4.1(i)(ii).

4. MANAGING SAFETY AT WORK

It is the duty of a person in charge of works and an employer to provide a safe system of work for the safety at work of the persons employed. To achieve this, it calls for a good safety management system. Among other things, the following actions should be taken.

4.1 Work Planning

4.1.1 Shipboard container handling operation should be planned with safety in mind. It is possible to eliminate or minimize work hazards by proper planning of the equipment and manpower requirement, stowage and stacking orders of containers, allocation of duties, co-ordination, etc.

4.1.2 Potentially hazardous or unfavourable working conditions that will likely affect the safety of container handling operation should be eliminated or minimized in the work planning. These may include the following:

(i) vessel in a berth with strong winds, swells or waves;

(ii) inclement weather;

(iii) narrow or cramped cargo hold;

(iv) non-standard container;

(v) dangerous goods container;

(vi) listing of vessel during heavy lifting;

(vii) other operations on the same vessel; and

(viii) adjacent maritime activities.

4.2 Risk assessment

4.2.1 Risk assessment is the overall process of estimating the magnitude of risk and deciding whether or not the risk is tolerable or acceptable. Its main purpose is to determine whether the as-planned or existing controls are adequate so that risks are controlled and harm can be avoided.

4.2.2 Person in charge of works and employer should conduct risk assessments for each type of operations, such as operations between a vessel and another vessel (no matter whether it is a local vessel) or between a vessel and the shore. Before each shipboard container handling operation starts, assessment should be made to identify any unusual working condition or environment that may require additional risk assessments to be made. Person in charge of works and employer should continually review the need for fresh risk assessments to be conducted should there be any changes in the operating environments or modes of operation in the industry. The process of risk assessment should be carried out by suitably experienced personnel, using specialist advice if appropriate.

4.2.3 Risk assessment can be divided into five basic steps as follows:

Step1 - Identify hazards in the workplace.

Step 2 - Identify who or what may be harmed, and how such harm may occur.

Step 3 - Assess the risks arising from the hazards based on the probability and the possible consequences of the hazardous event, and assess whether the existing safety precautions are adequate and what more should be done.

Step 4 - Record the findings of the assessment.

Step 5 - Review the working environments from time to time; conduct fresh risk assessment if necessary.

Further guidance on how each step may be accomplished is in Appendix I.

4.2.4 Common hazards of shipboard container handling include:

(i) making access to or egress from tops of container stacks;

(ii) working on tops of container stacks;

(iii) uncontrolled movement of lifting sling ropes or containers;

(iv) handling heavy and bulky containers; or

(v) use of derrick cranes of lighters to lift containers at mid-stream.

4.2.5 Past accident statistics indicate that the followings are the major causes of shipboard cargo handling accidents:

(i) struck by swinging lifting slings or container;

(ii) slip, trip or fall on same level;

(iii) fall of person from height; and

(iv) manual handling.

Items (i) and (iii) in particular are the major causes of fatal accidents. In many occasions, the above happenings are attributed to inadequate supervision and poor communication at work.

4.3 Safe working procedures

4.3.1 Persons in charge of works should draw up safe working procedures for shipboard container handling works and related activities in order to reduce the risk of accident or bodily injury.

4.3.2 The safe working procedures should contain written instructions regarding how works can be carried out safely. It should be well documented to ensure that everybody involved in the works is aware of what to do. It should also cover any work process carried out by sub-contractors. The safe working procedures should be distributed to all parties concerned in the language understood by them when they are first employed. Persons in charge of works should provide training to the persons employed to ensure their full understanding of the safe working procedures before being engaged in works. If necessary, copy of the safe working procedures should be kept at the workplace for easy access by the persons employed.

4.3.3 Safe working procedures should, where appropriate, include:

(i) assigning co-ordination and responsibilities, and apportioning supervisory and managerial authorities during progress of the work;

(ii) use of suitable plant and equipment;

(iii) sequence of work;

(iv) provisions for prevention of fall from heights and into water;

(v) provisions for safe means of access to vessels and shipboard workplaces, and upholding a safe working environment;

(vi) prevention of fall of materials, cargoes and tools;

(vii) use of suitable personal protective clothing and equipment;

(viii) correct stacking orders to facilitate safe access to tops of container stacks;

(ix) guidelines for more hazardous work such as "tackling operations" (a term used by local shipboard cargo handling operators, referring to the cargo transfer operation carried out between vessels moored abreast at mid-stream); and

(x) contingency plan in case of adverse weather or emergency including rescue arrangement.

4.3.4 Safe working procedures should be reviewed and updated by the person in charge of works from time to time to suit any change to the working practices and environment. Such updated version should be distributed to all parties concerned as soon as practicable.

4.3.5 In order to protect the safety of the persons employed against unforeseen hazards, the safe working procedures should as a rule include a pre-work inspection of the workplace to identify all existing hazards or that may arise during work. This can be effectively done with the help of a well thought checklist.

4.3.6 Any hazard identified in a pre-work inspection should be eliminated before commencement of work. If it is not reasonably practicable, measures should be taken to minimize the risk of accident to an acceptable level prior to the engagement of personnel to the workplace. Should the hazard be beyond manageable, the person in charge of works or employer should take effective steps to prevent the works from being carried out.

4.4 Co-ordination, communication and supervision

4.4.1 There should be effective liaison among all parties concerned including person in charge of works, master of a vessel, stevedoring contractor and sub-contractor, works supervisor, signaller, and the persons employed. Only competent personnel for co-ordination and supervision

should be selected to ensure effective communication in the work process.

4.4.2 Adequate stowage plans, manifests, and related documents for container handling work should be made available to the management personnel responsible for work planning in good times. On the basis of the documents, the person responsible for managing or controlling the work can then assess the risk involved and ensure the competence of his workforce.

4.4.3 The person in charge of works and employer should ensure that all his supervisory personnel including foremen, works supervisors, and gang leaders possess the necessary information about the work before the work starts. This information includes the number of containers to be handled and their sizes, special containers (such as those carrying dangerous goods, heavy machineries or of special sizes), and container stowage instructions. Based on the information, the person in charge of works and employer should plan and ensure adequate manpower is assigned to carry out the work in a safe manner.

4.4.4 Sufficient number of supervisory staff should be arranged to be present at the workplace to exercise effective control over the activities. The supervisory staff should be suitably trained and experienced in the activities.

4.4.5 Some shipboard container handling operations, such as loading and unloading at container terminals or in tackling operations, etc., might involve the persons in charge of other related parties, effective co-ordination and communication among all the concerned persons in charge should be maintained.

4.5 Contingency plan for adverse weather conditions

4.5.1 The person in charge of works and employer must develop guidelines stating when work is to be stopped due to adverse weather such as heavy swell, heavy rain, strong wind, fog, etc.

4.5.2 The person in charge of works should monitor the weather and sea conditions that could be changed and have an adverse effect on the persons employed. Sea and weather conditions needed to ~~be~~

monitored include rain, strong wind or typhoon, heavy swell or wave, and those causing poor visibility, such as fog, mist or glare.

4.5.3 If a decision is made to stop work, then measures should be taken to maintain the stability of equipment and containers on the vessel. All personnel should be kept safely on board or, if necessary, be safely and efficiently evacuated. Before resuming work, all equipment should be checked whether they are in safe order.

4.6 Training

SAPC(W)R S. 19, 45, 50 & 53

4.6.1 The SAPC(W)R requires all relevant persons engaged in shipboard cargo handling works, including works supervisors appointed to supervise any works and crane operators to receive mandatory safety training. They are also required to hold valid certificates in respect of the relevant safety training courses. The relevant safety training courses include:

(i) "Shipboard cargo handling basic safety training course";

(ii) "Works supervisor safety training course"; and

(iii) "Shipboard crane operator safety training course".

Requirements for Approval of Safety Training Centres and Safety Training Courses

4.6.2 Detailed guidance on the content of the curricula, the process and requirement for the approved safety training centres are provided in "Requirements for Approval of Safety Training Centres and Safety Training Courses".

4.6.3 The mandatory safety training courses are designed to provide persons engaged in shipboard cargo handling works with basic safety knowledge and to raise their safety awareness at work with an aim to reduce work related accidents. These courses are not intended to replace any skills training or other safety training specifically for the persons employed to carry out their works safely and effectively.

4.6.4 The person in charge of works and employer should assess the training needs of the persons employed and provide adequate training to all persons employed before they are assigned to work. The training may include general induction on working procedures and more specific job related training, and may be met by a mixture of on-the-job and

off-the-job training.

4.6.5 All personnel should also be trained to be familiar with the emergency procedures laid down by the employer and person in charge of works. They should be provided with the necessary information to enable them to act effectively and efficiently in an emergency situation. They should also know where to get the emergency equipment and how to use the equipment.

5. SAFE PRACTICES

5.1 General

5.1.1 It is the duty of every person engaged in shipboard container handling to follow these safe practices. Basically, the person in charge of works and employer are responsible for taking all necessary steps to protect the safety of persons employed. Persons employed, for their part, are required to take all reasonable and necessary precautions to ensure their own safety as well as that of their fellow persons employed.

SAPC(W)R S. 62

5.1.2 The person in charge of works should ensure that unless the crane operator has an unrestricted view of the load at all times during loading or unloading by a fall at a hatchway, the loading or unloading should only be carried out when:

(i) a signaller is assigned for each crane used in the loading or unloading; and

(ii) the identity and appearance of the assigned signaller is known to the operator of the concerned crane; and

(iii) the assigned signaller is in a conspicuous location clearly visible to the operator of the crane. If necessary, the assigned signaller should wear an identification marker such as armband or hand glove in an eye-catching colour to facilitate communication; and

(iv) in a complicated situation, the assigned signaller is assisted by signals from the other engaged workers.

Even when the crane operator has an unrestricted view of the load to be handled by the crane, it is advisable to assign a designated signaller to ensure the effective co-ordination and communication between the stevedoring workers attending the fall and the crane operator.

5.1.3 The crane operator should have a clear view of the assigned signaller at all times during loading or unloading and should obey signals only from the signaller and from no other person, except that every stop signal should be obeyed regardless of who gives it.

5.1.4 The crane operator should not lift or lower containers unless signalled by the assigned signaller. The signaller should only signals the crane

operator to lift or lower a container when he is satisfied that the operation would not put any person at risk. To avoid confusion, persons other than the signaller should not issue signals to the crane operator, except cautionary stop signals.

5.1.5 A signaller should be positioned close to the load and focus on the signalling work. A crane operator, who is at a control station usually high up on the crane tower, should operate the crane in response to the movement of the load or signals delivered from the signaller. As a signaller could capture every small movement of the load and directly communicate with the cargo operation team, his signals should prevail over the judgement of the crane operator. The signals from an assigned signaller should always be given the priority to be followed. The crane operator should communicate with the loading and unloading teams to ascertain that a signaller is assigned to assist the teams prior to the commencement of the cargo operation.

5.1.6 When a signaller has not been assigned because the crane operator has an unrestricted view of the load, the crane operator must ensure that all slingers have vacated the top of the container being lifted and have vacated to a safe place before the container is lifted. Likewise, the crane operator must not lower a container unless all persons employed attending to the cargo fall are in safe position. When the view of the load is restricted, the crane operator should request the person in charge of works to arrange the assistance of a signaller to guide his operation of the crane.

5.1.7 The person supervising a container handling operation on board a vessel should make suitable arrangements to ensure that before the crane operator lifts up a container, the container is not locked to another container or other deck fittings, and power cords, if any connected to the container, have been unplugged.

5.1.8 A container should not be hoisted hastily; instead, the crane operator should take up the strain of the cargo fall and lifting gear in a gradual manner. After the lifting gear has taken up the load, the container should be inched up a few centimetres and be temperately held in position. Only after it is ascertained that no abnormal conditions that would jeopardize the safe hoisting of the container are present, the hoisting operation could be continued at normal speed.

5.1.9 After a container is lowered into position, the crane operator must ensure that all hooks or devices are detached from the container before raising the lifting gear. The container should only be locked to another container or other deck fittings after the lifting gear have been completely detached and moved away from the container.

5.1.10 The person in charge of a container handling operation should ascertain the weight of containers being handled and that the lifting appliances and lifting gear to be used have the adequate safe working load before cargo handling operation is commenced.

5.1.11 A container should not be lifted whenever the weight is beyond its maximum operating gross capacity or exceeding the safe working limit of the lifting appliance or lifting gear being used. A container should not be lifted if its weight is unknown or in question.

5.1.12 In handling containers, care should be taken against the possibility of uneven loading and poorly distributed or incorrectly declared weight of contents.

5.1.13 Care should be taken when lifting a container the centre of gravity of which is mobile or eccentric, e.g. a tank container, a bulk container, a container with a liquid bulk bag, a container with hanging cargo or a thermal container with a refrigerating unit, to minimize any unsteady condition.

5.1.14 If a container is found damaged, persons employed should stop handling the container and report the defects to the person in charge of works at once, and obtain instructions on the appropriate way to handle the container safely.

5.1.15 Container lashing gears and stacking cones and the handling tools for these equipment should be handled with care; and should not be thrown from height. They should be properly placed and stored to avoid causing hazards of falling object, obstruction of access, tripping-persons or causing damage to reefer container power cables or other shipboard equipment.

5.1.16 Any persons employed observing an oil or grease spill at a workplace must immediately clean it up or report it to the person in charge of works who must arrange for it to be cleaned up.

5.1.17 All lifting appliances and lifting gear used for handling containers must be properly inspected and maintained in good working conditions.

5.1.18 Containers carried on deck should be properly secured in such a manner as to take account of the appropriate strength features of the container and the stress caused by the stacking of one or more upon the other.

5.1.19 Heavy items of machinery or plant and bagged bulk products that are stored on flat rack containers may need to be further secured by additional lashings.

5.1.20 Persons employed in shipboard container handling should be given adequate breaks for rest, including, but not limited to those for meal, to reduce the risk of accident due to fatigue.

5.1.21 Excessive drinking of alcohol or misuse of drugs affects a person's fitness for duty and harms his health. It may also increase the risk of accident. Persons employed engaged in shipboard container handling should not work under the influences of alcohol or drugs.

5.1.22 Regardless of whether an empty or a loaded container is being handled, the person in charge of works should ensure that the handling method and equipment used would not give rise to any detrimental effects to the structural integrity and strength of the container.

5.1.23 Loading and unloading of containers should only be carried out after a vessel is properly moored.

5.1.24 Prior to any container handling operation, the stowage, the loading and unloading sequence of containers have to be agreed and accepted by the master (or the person in charge of works, in the absence of the master) of each vessel concerned. The master (or the person in charge of works) of each vessel has a duty of care for the safety of their own vessel and the persons on board at all times. The master (or the person in charge of works) of a vessel holds the final authority on matters relating to the safe handling of cargoes on the vessel.

5.2 Handling container by top lift slings

5.2.1 Lifting containers by four legged slings hooked to the four top corner fittings has been widely used in shipboard container handling operations in Hong Kong. This is especially true for shipboard container handling at mid-stream where the special working environment renders the use of conventional container handling equipment not feasible.

5.2.2 A container should normally be lifted with a suitable lifting equipment that applies a vertical force to all its four corner fittings. Applying out-of-vertical force will apply stresses to the containers that they are not designed to withstand, and horizontal compression stresses will be imposed on the container structure. The danger of this practice is that certain weight bearing parts of a container could be so over stressed that it fails – not necessarily at the time but perhaps at a later date. In addition, in this mode of operation slingers have to work along unguarded edges on container tops where a fall hazard exists.

5.2.3 Because of the unique local situation, until automatic container handling equipment that can eliminate slingers working on tops of containers is developed for mid-stream operations, containers may be handled by top lift slings provided the following guidelines are strictly observed.

SAPC(W)R S. 27 & 28
BS 6166: Part 3

5.2.4 The lifting slings and hooks used must be of adequate design strength. British Standard, BS 6166: Part 3: 1988 (Lifting slings, Part 3. Guide to selection and safe use of lifting slings for multi-purposes), gives guidance to the person in charge of works in selecting the appropriate lifting slings for use. The lifting hooks should comply with British Standard, BS 4654: 1970 (Specification for hooks for lifting freight containers of up to 30 tonnes).

BS 4654

5.2.5 It is important to note that when a container is loaded with cargo the centre of gravity is seldom at the centre of the container, so the stresses acting upon each sling would be different. Furthermore, when a multi-legged sling is used with the sling legs at an angle, the load in the legs increases as the angle between the legs increases. To ensure safe operation, the safe working load of a four-legged slings is to be determined in accordance with British Standard, BS 6166: Part 1: 1986 (Lifting slings, Part 1. Methods of rating).

BS 6166: Part 1

SAPC(W)R S. 30 & 31

5.2.6 When first put into use, any lifting equipment must have been tested and examined in good order by a competent examiner; and thereafter

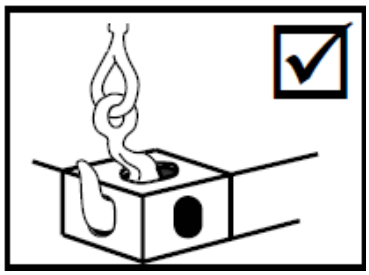
the equipment must be periodically examined or inspected in accordance with the SAPC(W)R.

5.2.7 When slings are used, a loaded container must be lifted by slings engaged to all its four top corner fittings and only one loaded container is to be lifted in each lifting operation.

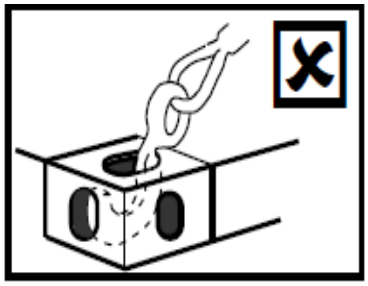
5.2.8 When handling empty containers, a maximum of two containers may be lifted each time. Any lifting of more than two containers together can impose unnecessary risk of danger and is not recommended. The increased volume of the load, the extended restriction of crane operator's visibility and the increased susceptibility to the influences of environmental factors (e.g. wind, wave, stability of vessel) are able to affect the safe lifting of the empty containers.

5.2.9 When lifting two empty containers together, the containers have to be physically identical and they should be unloaded from and loaded to their stowed location at the same time. In a single lift operation, never unload or load containers at different levels or separated apart on the same level. Move the containers in a slow and steady pace. Employ a signaller in the operation as an enhanced precautionary measure.

5.2.10 To ensure proper load bearing of the sling hook and to reduce the risk of the hook detaching from the corner fitting when any sling is momentarily slacken, lifting slings must be properly engaged to the corner fittings with hooks placed in an inward to outward direction as shown in the figure on the right.



5.2.11 If there is any possibility of jamming containers in cell guides, hook slings should not be used to lift or lower containers through cell guides. Suitable equipment such as spreaders or slings with special lifting keys should be used. Never attempt to lift containers improperly by wedging hooks into their corner fittings.



5.2.12 To prevent folding, an aluminium container or an extraordinary heavy

container should be lifted with a suitable lifting equipment that applies only a vertical force to all four corner fittings of the container.

5.3 Working on container top

SAPC(W)R S. 60

5.3.1 Shipboard container handling, especially when top lift slings are used, requires persons employed to work on tops of containers. It is essential that safe systems of work are developed and used in order to protect persons employed from severe hazards, including that of falling.

5.3.2 The person in charge of works should make necessary arrangements to ensure the safety of persons employed when gaining access to the tops of container stacks.

5.3.3 When persons employed cannot effect an access to or egress from the top of a container stack that is two or more tiers high by a series of single tier ascend or descend, then a suitable access platform or cage should be provided to transfer persons employed to and from the top of the container stack. An access platform or cage should comply with the following:

(i) It should be of good construction with sound material and adequate strength and is properly maintained. The maximum carrying capacity and loading of the platform or cage and its own weight should be permanently marked on each side;

(ii) except to the extent necessary for drainage, the floor should be either closely boarded, planked or plated with sound material;

(iii) it should be enclosed on all sides by fencing and a gate or gates. Top guard-rail of the fencing should not be less than one metre above the surface of the interior floor. At the floor level, toe boards at least 200mm high should be provided on all sides. Intermediate guard-rail should be provided so that the clearance between guard-rails or between the lowest guard-rail and the top of the toe board is not more than 500mm;

(iv) it should be attached to a fall, or lifting frame at four points, by shackles, safety hooks or twist locks with a secondary means of attachment, in a manner that will prevent accidental disconnection. Suitable measures should be taken to prevent

spinning or tipping in a manner dangerous to any occupant; and

(v) it should have handholds and anchor points for lifelines inside the platform or cage fencing.

5.3.4 A personnel carrying platform or cage should be used to carry only personnel, their tools and necessary materials and equipment to perform the work and not for other purposes.

5.3.5 Platforms, cages, or devices used to carry personnel should be inspected for defects before each day's use and should be removed from service if found defective. Arrangement should be made to prevent them from being used accidentally before the defects are rectified.

5.3.6 Person employed being carried by an access platform or cage should remain in continuous sight of and communication with the crane operator or signaller.

5.3.7 Crane operators must remain at the crane controls when persons employed are carried by access platforms or cages. When the crane is not equipped with automatic braking mechanism, an additional operator is required to standby at the crane controls when the crane is being used to carry personnel.

5.3.8 No one should ride on top of containers or on slings hooks while the containers or slings are being hoisted or lowered.

5.3.9 To minimize risks to persons employed working on tops of container stacks, the stacking height of containers on board vessels should preferably be not more than seven tiers high. If the person in charge of works decided to stow a stack higher than seven tiers, he shall ensure that adequate measures are taken to prevent persons employed falling from the tops of containers. Furthermore, to reduce the risk of falling injury to persons employed, the containers above the seventh tier should be stowed in a staircase fashion.

5.3.10 It must be emphasized that when planning the stowage of containers on a vessel, its loading capacity and stability must be carefully considered. To prevent containers from collapse, stacked containers should be adequately secured by stacking cones and lashing equipment.

5.3.11 To minimize hazards to persons employed working on tops of containers, loading and unloading operations should be carried out in such a manner that no container is stacked more than one level high immediately adjacent to the next containers. To accomplish this, containers should be loaded or unloaded in consecutive tiers; and single stacks or canyons between containers must be avoided. This should be achieved by careful planning of the loading or unloading operations by the person in charge of works.

5.3.12 When containers are being lifted from or lowered to container stacks, slingers should not be allowed to stay on tops of adjacent containers at the same level unless there is an adequate area on the container tops for the slingers to work safely. If the working area is not adequate, slingers should ascend or descend to a next level prior to the containers being lifted or lowered. The minimum area on which persons employed could safely remain on the top of a container when an adjacent container at the same level is being lifted or lowered is a size equivalent to the floorage of three containers the same size as the container being lifted or lowered. The figures in Appendix II illustrate this requirement.

5.3.13 Persons employed should use a suitable ladder to gain access to or egress from tops of single tier containers or when ascending or descending to the next tier level on container stacks. Portable ladders should not be used for accessing container stacks more than one tier high on board vessels.

5.3.14 Whenever practicable, portable ladders should be secured to prevent them from slipping. When it is not practicable, they should be steadied by a second person. Ways to help prevent portable ladders slipping include the use of safety feet, rubber lined feet or stabilizing legs. Securing an angle piece to the ladder will also increase its sideways stability as well as helping to ensure it is used at the correct angle.

5.3.15 Slingers working on tops of containers should keep a safe distance from approaching slings. The slings should be lowered and rested on the deck or container top before slingers approach to avoid being hit by swinging hooks.

5.3.16 Once the lifting gear is attached or detached, all slingers must immediately vacate the container top and move well clear of the container. The slingers must ensure that there is a safe means of escape

before the container is lifted.

5.3.17 The persons in charge of works and employers should establish and implement procedures to retrieve personnel safely in case of a fall.

5.4 Mid-stream container operation

5.4.1 During mid-stream container handling operations, vessels, lighters in particular, would always be in motion due to actions of the sea on the vessels and due to movement of containers by the cranes of the vessels. Utmost care should be exercised by observing proper working procedures and taking adequate safety measures while working under such circumstances. Never act in a hurry as that would easily lead to an accident.

5.4.2 When carrying out mid-stream container handling operations, cranes fitted on board ocean-going vessels should be used as far as practicable, as such equipment are more stable than derrick cranes of lighters.

5.4.3 When containers are loaded onto lighters, stacking cones should be placed properly between stacked containers. To prevent the collapse of containers carried on lighters, stacked containers should be adequately secured with suitable lashing arrangements.

5.4.4 Care must be taken when lifting or lowering containers through cell guides in cargo holds to avoid containers being jammed due to deformation or severe tilting of containers.

5.4.5 Persons employed should always stay alert while engaged at works. Never stand in a "dead spot" where there is no safe means of escape or the means of escape is difficult to gain access to. Examples of dead spots are the narrow space between a container in suspension and a stationary container, another object or the hatch boundaries.

5.4.6 Persons employed should keep a safe distance from the travelling path of a container and should not stay underneath a hoisted container.

5.4.7 When working containers on small vessels such as lighters, river-trade or coastal-going vessels, persons employed should avoid staying in the narrow cargo holds while containers are being lifted or lowered.

Whenever practicable, containers should be guided into position with tag lines or other suitable means instead of by persons employed pushing the containers directly with their hands.

5.4.8 When hoisted containers have to be guided manually to position, persons employed should take care to prevent their hands from being crushed. When it is necessary to handle devices, such as stacking cones, at bottom of containers in suspension, ample clearance should be maintained below and around the containers; and persons employed must not go underneath the containers to handle the devices.

5.5 Working inside container

5.5.1 Care must be taken when opening doors of containers. Do not stand in the path of an opening door. Open one door at a time to minimize injury hazard should cargoes in the container suddenly collapse.

5.5.2 Working in a container could only be carried out safely on land. If for practical reasons, it is necessary to open up a container on board a lighter for handling cargoes inside, proper preventive measures to secure cargoes firmly for avoidance of accident must be provided. However, cargo work inside a container should be stopped in the event of bad weather.

5.5.3 When someone is working inside a container on board a lighter, the lifting of containers or other heavy cargoes by the lighter's crane should be suspended. This is because excessive movement of the lighter due to the crane actions could cause inadvertent movement of the container or the cargo inside that would endanger the person working inside.

5.5.4 When a forklift truck is required to enter a container, ensure a ramp of appropriate slope is positively secured to the entrance of the container. Battery operated forklift truck is preferably to be used.

5.5.5 Do not enter into a container that has been posted with dangerous goods labels without checking for evidence of leakage or damage to the dangerous goods. The atmosphere in the container could be hazardous.

5.5.6 If a container has a label or placard on the door indicating that it has been under fumigation during the voyage, open the doors, allow the

container to be adequately ventilated and check the air quality before entering.

5.6 Handling dangerous goods container

5.6.1 Vessels conveying dangerous goods containers in the waters of Hong Kong should comply with the requirements imposed under the Dangerous Goods (Shipping) Regulations, Cap. 295 sub. leg. C and the Merchant Shipping (Safety) (Dangerous Goods and Marine Pollutants) Regulation, Cap. 413 sub. leg. H.

5.6.2 Containers, including tank containers, carrying dangerous goods should not be loaded onto a vessel without the correct documentation and placard complying with IMDG Code.

5.6.3 Containers containing incompatible dangerous goods should be stowed in separation in accordance with the IMDG Code.

IMDG Code

5.6.4 Containers contaminated with chemicals should only be cleaned by trained personnel in a segregated area ashore. Even in an exceptional circumstance when a contaminated container has to be cleaned on board a vessel, no attempt to clean the container should be made until the person in charge of works has identified the type of contaminant present and the appropriate method of treatment is determined.

5.6.5 Chemicals should always be handled with utmost care. Eyes, skin and respiratory system should be protected from accidental exposure or contact. Cleaning work should always be carried out under close supervision.

5.6.6 No approach should be made to any container containing or suspected of containing dangerous goods that is leaking or smelling of fumes. Such situations should be referred to the officer in charge of the vessel immediately.

5.6.7 While awaiting any instruction from the officer in charge of the vessel, the person in charge of works should take the following immediate steps:

(i) evacuate persons from the area;

(ii) ensure no smoking;

(iii) ensure that all engines operating in the close vicinity are stopped; and

(v) ensure that any naked lights are extinguished.

5.6.8 When it becomes necessary to summon assistance from the emergency services after a spill or leakage of dangerous goods from a container, the correct location of the vessel, the container number and its location on board, and, if available, the United Nations Number of the substance, the IMDG Code hazard class, types of packages and the quantity of the substance in the container should be conveyed clearly.

5.7 Handling reefer container

5.7.1 When carried on vessels, the refrigeration units of reefer containers are powered by electricity via power cables connected to the electric power supply circuit of the carrying vessel. These power cables must be connected or disconnected manually by either crewmembers or stevedore workers. The person in charge of works or the stevedoring contractor responsible for handling reefer containers should provide adequate guidance in the safe working procedures for the workers to carry out the power cable handling works safely.

5.7.2 During loading or unloading of a reefer container, its electric power supply is interrupted. To avoid the goods carried inside a laden reefer container from being affected, the interrupted electric power supply must be restored as quickly as possible. When handling the power cabling work, care should be taken on safety of the surrounding environment as other container handling process might be taking place.

5.7.3 To prevent injuries to persons engaged in handling power cables or works on reefer containers caused by other container handling operations on vessels (such as when securing, loading or unloading containers, there could be object falling from height), the person in charge of works should plan work schedules and coordinate works carefully. Numerous works carried out at the same time and in close proximities should be avoided as far as possible. When this is not reasonably practicable, the workers handling reefer containers must be kept at a safe distance from the other operations. As a general guidance,

a minimum separation distance equivalent to two container widths should be maintained between workplaces of different work processes. Workers and supervisors should remain vigilant and pay attention to the operations in close proximities to ensure that the safety of workers is not at risk.

SAPC(W)R S. 5

5.7.4 Before dispatching any worker (such as cable connection workers, refrigeration serviceman, etc.) to work on reefer containers, the person in charge of works and employer should ensure the workplace and its access are free of hazards (e.g. tripping, fall of objects or fall from height) and the safe conditions are maintained throughout the entire operation. For reefer containers not readily accessible, appropriate access means should be established. Proper staging is to be erected and precautionary measures against fall should be arranged if deem necessary.

SAPC(W)R S. 9 & 10

5.7.5 The person in charge of works and employer should ensure the workplace and its access are adequately lighted and ventilated particularly when attendance to the reefer containers stowed inside cargo holds is required.

5.7.6 Avoid working alone inside the cargo hold particularly in places not conspicuous to people. If such attendance is needed, the person in charge of works should engage dual attendants to the work and maintain frequent and effective communication with the attendants during the entire duration of the deployment.

5.7.7 Before connecting the electric power supply to a reefer container, the worker should check the integrity of the insulation of the electricity supply circuit including the connection cable, isolation and junction box of the vessel they would handle. Any fault found should be reported to the person in charge of works immediately and the work should be suspended. The electricity supply must be isolated by switching off the electric supply switch and disconnecting the power cable from the electric supply before commencement of any work on the electric circuit of a reefer container.

SAPC(W)R S. 21(2)b

5.7.8 When servicing the refrigeration unit of reefer containers, only qualified personnel is engaged. Insulated tools and appropriate personal protective equipment are used to prevent electric shock. Special attention has to be made when working in humid or rainy weathers.

5.7.9 When connected, the reefer container power cable should be run orderly not to obstruct the walkways and impose risk of tripping to persons. After disconnection, the power cable should be retrieved and stored properly to prevent entanglement with objects during moving of the container.

6. PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

Many occupational injuries can be avoided or their seriousness mitigated if proper personal protective clothing and equipment are used by persons employed. However, protective clothing and equipment should be used only to supplement safe systems of work, and should not be used as a substitute for any essential and necessary elements required by the systems of work.

6.1 The person in charge of works and employer should provide every person employed with suitable and well-maintained personal protective clothing and equipment for his use. The person employed provided with protective clothing and equipment should be given adequate instructions on the functions and limitations of each piece of equipment, and be trained on how to use it properly. When provided with any protective clothing and equipment, the person employed should use them all the time during a shipboard container handling operation.

SAPC(W)R S. 21(1)

6.2 The SAPC(W)R requires the persons in charge of works and employers to ensure that each person employed is provided with a suitable safety helmet and, so far as is reasonably practicable, other protective clothing and equipment that are appropriate to prevent bodily injury to that person.

SAPC(W)R S. 21(2)

6.3 The persons in charge of works and employers are required to take all reasonable measures to ensure that a person employed does not remain on a vessel when works are being carried out unless the person employed is wearing an appropriate safety helmet and, if any other appropriate protective clothing and equipment are provided to him, using those other clothing and equipment.

6.4 The persons in charge of works and employers should carry out hazards assessment on the work processes and identify the need to provide the appropriate protective clothing and equipment to the persons employed at work.

6.5 Personal protective clothing and equipment can be classified as follows: head and hair protection (safety helmets); hearing protection (ear-muffs, earplugs); face and eye protection (face shields, goggles and spectacles); respiratory protective equipment (dust masks, respirators, breathing

apparatus); hand and foot protection (gloves, safety boots and shoes); body protection (safety suits, safety belts and harnesses, aprons); protection against drowning (lifejackets, buoyancy aids, life buoys), and protection through high visibility wear (high visibility gloves, reflective safety vests, reflective body straps).

6.6 Signallers should wear high visibility gloves or similar items to facilitate crane operators to locate them and their hand positions.

6.7 Persons employed should wear high visibility vest or body straps to ensure that they are visible to the signallers and crane operators.

6.8 Persons employed carrying out lashing works on the tops of containers should whenever practicable be suitably protected against the danger of falling.

6.9 When container handling operations are carried out in wet weathers, under strong winds or on vessels in choppy waters, every person employed having a foreseeable risk of falling into the sea should wear a lifejacket. Whenever practicable, lifejackets which inflate automatically on immersion in the sea should be used to allow persons falling into the sea to be more easily rescued and those unconscious to remain readily afloat.

6.10 To protect persons employed against blows to the head, safety helmets should be used which should be short peaked or no peaked to avoid impaired visibility and should have strap.

6.11 The person in charge of works should ensure that persons employed wear safety shoes or suitable protective shoes while handling containers on board vessels. In the selection of safety or protective footwear, protection against the prime risk should be the primary consideration. For example, since persons employed in shipboard container lashing operations are often subjected to foot injury due to object fallen from height, they should wear safety shoes with steel toe caps in the front and a flexible upper sole to allow for easy movement should be used. Suitable safety shoes would provide adequate grip to avoid slipping and the steel caps would avoid injury to the foot in the case of relatively minor accidents.

6.12 Slingers engaged in mid-stream container handling operations are

required to go on and off containers and work on container tops frequently, so the primary consideration in the selection of their working footwear should be of good anti-slip protection and flexibleness rather than protection against impact. Slingers working in a working environment where the risk of foot injury due to fallen object from height is low, might select to wear protective shoes with good anti-slip protection instead of safety shoes.

Code of Practice on Using Protective Clothing and Equipment at Works on Vessels

6.13 Acceptable standards and more specific recommendations for the use of personal protective clothing (including safety shoes and protective shoes) and equipment will be found in the Code of Practice on Using Protective Clothing and Equipment at Works on Vessels issued by the Director.

7. SELECTION AND SUPERVISION OF STAFF

7.1 Not all persons are suitable to carry out work on the tops of containers. Person employed to work on container top should be carefully selected. They should be able to demonstrate an aptitude to work at heights in a safe manner. The work is arduous and those who carry it out need to be physically fit.

7.2 Employers should provide proper induction training for new persons employed. The provision of appropriate equipment, whether it is provided in accordance with a legal requirement or not, should be adequate to ensure the implementation of safe working procedures. After such working procedures have been developed, it is essential that adequate training be given to the persons employed to ensure that it is fully understood.

7.3 Person in charge of works and employers should ensure that persons employed are briefed at the beginning of each working day by their supervisors. This pre-work briefing may take the form of a briefing on the safety aspect related to the task for the day and any additional personal protective clothing and equipment that may be necessary. The supervisors should ensure that all persons employed are aware of the hazards they will face particularly from unusual cargo or working conditions, such as dangerous goods or tackling operations.

7.4 On-going education, from time to time, is also necessary to ensure that unsatisfactory and unauthorized practices do not creep in and to deal with problems that arise but have not been anticipated. The use of posters, pocket leaflets and handbooks to highlight particular matters or remind those concerned of correct procedures can also be useful.

8. EMERGENCY

8.1 Emergency procedures

8.1.1 Accidents and emergencies require a quick response if they are to be prevented from becoming more serious. Before any shipboard container handling operation starts, the person in charge of works should make detailed planning and assessment for possible emergencies and the availability of emergency services.

8.1.2 Persons in charge of works should formulate emergency procedures to deal with emergency situations. The procedures should be expressed clearly in writing and should at least include the following:

(i) raising the alarm for emergency including calling the police by dialing telephone number '999';

(ii) activating rescue effort;

(iii) dealing with emergency situations including evacuation in case of fire or spillage of dangerous goods;

(iv) providing and using emergency and first aid facilities;

(v) stating routes for rescue operation if necessary; and

(vi) sending rescued persons to hospital for medical treatment.

8.1.3 The responsibility for co-coordinating and supervising emergency operations should be assigned to identified persons who are trained and competent to discharge it.

8.1.4 The emergency procedures and the name and location of the person responsible for co-coordinating emergency procedures on the vessel should be posted in prominent positions using words that will be understood by the persons employed.

8.1.5 All persons employed should be trained on the emergency procedures. Drills and practices should be held regularly so as to ensure that all persons employed are familiar with the emergency procedures. Persons in charge of works and employers should arrange such drills to be held at least once a year, and within a reasonable time for newly recruited employees.

8.1.6 The emergency procedures should be reviewed regularly to identify the areas of weakness for improvement or to match changes.

8.2 First aid equipment

SAPC(W)R S. 22

8.2.1 Where works are to be, or are being, carried out on, to or by means of a vessel, a person in charge of works and the employer are required to provide and maintain a first aid box. The first aid box shall be kept in such place and maintained in such a way as to be readily accessible.

SAPC(W)R S. 22

8.2.2 The person in charge of works and the employer shall ensure that when works are to be, or are being carried out on or to a vessel, there shall be a first aid box that is of adequate capacity and the items therein must be maintained in good condition at all times.

8.2.3 The items needed to be contained in the first aid box is detailed in Schedule 2 to the SAPC(W)R.

Code of Practice on Provision of First Aid Box for Works on Vessels

8.2.4 Detail guidance on the provision and maintenance of a first aid box is given in the Code of Practice on Provision of First Aid Box for Works on Vessels issued by the Director.

APPENDIX I

Guidance on main elements of risk assessment

A1.1 Step 1 - Identify hazards in the workplace; and

Step 2 - Identify who or what may be harmed, and how such harm may occur

A1.1.1 A useful preliminary to risk assessment is to identify separate work activities, to group them in a rational and manageable way, and to gather necessary information (or collate existing information) about them. Infrequent maintenance tasks, as well as day-to-day operations, should be included.

Possible ways of classifying work activities include:

(i) location on the vessel;

(ii) stages of an operation or work routine;

(iii) planned and unscheduled maintenance;

(iv) defined tasks (e.g. loading/unloading cargo at mid-stream).

Information required for each work activity might include:

(i) tasks being carried out: their duration and frequency;

(ii) location(s) where the work is carried out;

(iii) who normally/occasionally carries out the tasks;

(iv) others who may be affected by the works (e.g. repair works, crew);

(v) training that personnel have received for the task.

A1.1.2 Asking these three questions should help to identify where there is a hazard:

- Is there a source of harm?
- Who (or what) could be harmed?
- How could harm occur?

A1.1.3 Hazards that clearly possess negligible potential for harm should generally not be given further consideration, provided that appropriate control measures remain in place. However, it should be documented for later review when the need arises.

A1.1.4 To help with the process of identifying hazards it may be useful to categorise hazards in different ways, for example by topic, e.g.:

(i) mechanical;

(ii) electrical;

(iii) physical (e.g. gravitational force, temperature, noise, vibration, manual handling, etc.);

(iv) substances (e.g. harmful or dangerous substances);

(v) fire and explosion.

A1.1.5 A complementary approach may be to develop a 'prompt list', such as,

during work activities, would the following hazards exist?

(i) slips/falls on the level;

(ii) falls of persons from a height;

(iii) falls of tools, materials, etc., from a height;

(iv) struck by swinging object;

(v) inadequate ventilation;

(vi) hazards from plant and machinery associated with assembly, commissioning, operation, maintenance, modification, repair and dismantling;

(vii) hazards from manual handling; or

(viii) hazards from embarking or disembarking vessels.

The above list is not exhaustive. Employers and persons in charge of works should develop their own 'prompt list' taking into account the particular circumstances.

A1.2 Step 3 - Assess the risks arising from the hazards based on the probability and the possible consequences of the hazardous event, and assess whether the existing safety precautions are adequate and what more should be done

A1.2.1 The risk from the hazard may be determined by estimating:

- the potential severity of harm; and
- the likelihood that harm will occur.

These two components should be judged independently.

A1.2.2 When seeking to establish potential severity of harm, the following should be considered:

(i) part of the body likely to be affected;

(ii) nature of the harm, ranging from slightly to extremely harmful;

(a) slightly harmful, e.g.:

- superficial injuries; minor cuts and bruises; eye irritation from dust; or
- nuisance and irritation (e.g. headaches); ill-health leading to temporary discomfort;

(b) harmful, e.g.:

- lacerations; burns; concussion; serious sprains; minor fractures; musculo-skeletal disorders; or
- deafness; dermatitis; asthma; work related upper limb disorders; ill-health leading to permanent minor disability; or

(c) extremely harmful, e.g.:

- amputations; major fractures; poisonings; multiple injuries; fatal injuries; or
- occupational cancer; other severely life shortening diseases; acute fatal diseases.

A1.2.3 In order to establish the likelihood of harm the adequacy of control measures already in place should be considered. Legal requirements and guidance in this Code and other safety publications are good guides to adequate control of specific hazards. The following typical issues should then be assessed:

(i) number of personnel exposed;

(ii) frequency and duration of exposure to the hazard;

(iii) effects of failure of electric power or other sources of power;

(iv) effects of failure of plant and machinery component and its limitations;

(v) possibility of unsafe acts by persons, for example, who:

(a) may not know what the hazards are;

(b) may not have the knowledge, physical capacity, or skills to do the work;

(c) underestimate risks to which they are exposed; or

(d) underestimate the practicality and utility of safe working methods.

A1.2.4 The likelihood of harm can be assessed as highly unlikely, unlikely, or likely based on the scale below.

Highly unlikely	There is no likelihood of an accident occurring. Only under unusual conditions could there be a possibility of an accident. All reasonable precautions have been taken so far as is reasonably practicable.
Unlikely	When certain factors are present, accidents might occur, but the probability is low (e.g. lashing gears on deck, failure of derrick crane topping wire, folding of laden container, etc.)
Likely	If the work continues as it is, it is almost certain that an accident will happen (e.g. broken ladder, storm, unstable stowed cargo, etc.) Additional factors due to nature or human carelessness might precipitate the occurrence of an accident, but that is unlikely to happen without these additional factors (e.g. spilled oil or grease on walkway, ladder not secured, sudden swells or waves, etc.)

A1.2.5 Any hazard is considered as more serious if it is likely to affect a greater number of people. But some of the more serious hazards may be associated with an occasional task carried out by just one person, for example maintenance of inaccessible parts of lifting equipment.

A1.2.6 Decide if risk is tolerable

A1.2.6.1 Table 1 below shows one simple method for estimating risk levels and deciding whether risks are tolerable. Risks are classified according to their estimated likelihood and potential severity of harm. However, employers may wish to develop other approaches according to the nature of their operations.

Table 1

Severity / Risk Level / Likelihood	**Slightly harmful**	**Harmful**	**Extremely harmful**
Highly unlikely	TRIVIAL RISK	TOLERABLE RISK	MODERATE RISK
Unlikely	TOLERABLE RISK	MODERATE RISK	SUBSTANTIAL RISK
Likely	MODERATE RISK	SUBSTANTIAL RISK	INTOLERABLE RISK

Note: In this Table, "tolerable" means that the risk has been reduced to the lowest level that is reasonably practicable

A1.2.7 Prepare risk control action plan

A1.2.7.1 Having determined the significant risks, the next step is to decide what action should be taken to improve safety, taking account of precautions and controls already in place.

A1.2.7.2 Risk categories form the basis for deciding whether improved controls are required and the timescale for action. Table 2 suggests a possible simple approach. This shows that the effort made to control risk should reflect the seriousness of that risk.

Table 2

RISK LEVEL	ACTION AND TIMESCALE
TRIVIAL	Only apply the stipulated preventive measures; additional measures are not necessary
TOLERABLE	No additional action is required provided that appropriate control measures remain in place.
MODERATE	No additional controls are required. Consideration may be given to a more cost effective solution or improvement that imposes no additional cost burden. Monitoring is required to ensure that the controls are maintained.

SUBSTANTIAL	Efforts should be made to reduce the risk, but the costs of prevention should be carefully measured and limited. Risk reduction measures should be implemented within a defined time period. Where the moderate risk is associated with extremely harmful consequences, further assessment may be necessary to establish more precisely the likelihood of harm as a basis for determining the need for improved control measures.
INTOLERABLE	Work should not be *started or continued* until the risk has been reduced. If it is not possible to reduce the risk even with unlimited resources, work has to remain prohibited.

Note: "Tolerable" here means that the risk has been reduced to the lowest level that is reasonably practicable

A1.2.8 The outcome of a risk assessment should be an inventory of actions, in priority order, to devise, maintain or improve controls.

A1.2.9 Controls should be chosen taking into account the following, which are in order of effectiveness:

(i) if possible, eliminate hazards altogether, or combat risks at source, e.g. use a safe substance instead of a dangerous one;

(ii) if elimination is not possible, try to reduce the risk, e.g. where risk is of electrocution, by using a low voltage electrical appliance;

(iii) where possible adapt work to the individual, e.g. to take account of individual experiences and physical capabilities;

(iv) take advantage of technical progress to improve controls;

(v) give precedence to measures that protect everyone;

(vi) if necessary, use a combination of technical and procedural controls;

(vii) introduce or ensure the continuation of planned maintenance, for example, of lifting appliances and lifting gear;

(viii) ensure emergency arrangements are in place; and

(ix) adopt personal protective equipment only as a last resort, after all other control options have been considered.

A1.2.10 In addition to emergency and evacuation plans, it may be necessary to provide emergency equipment relevant to the specific hazards.

A1.3 Step 4 - Record the findings of the assessment

Step 5 - Review the working environments from time to time; conduct fresh risk assessment if necessary

A1.3.1 Any action plan should be reviewed before implementation, typically by asking:

(i) will the revised controls lead to tolerable risk levels?

(ii) are new hazards created?

(iii) what do people affected think about the need for, and practicality of, the revised preventive measures?

(iv) will the revised controls be used in practice, and not ignored in the face of, for example, pressures to get the job done?

A1.3.2 Before each shipboard container handling operation starts, assessment should be made to identify any unusual working condition or environment that may require addition risk assessments to be made. Employer and person in charge of works should continually review the need for fresh risk assessments to be conducted should there be any changes in the operating environments or modes of operation in the industry.

A1.3.3 Safe working procedures should be reviewed and updated from time to time to suit any change to the working practices and environment. Such updated version should be distributed to all parties concerned as soon as practicable.

A1.4 Risk assessment pro-forma

A1.4.1 Employers and persons in charge of works might wish to use a simple pro-forma to record the findings of an assessment, covering, for example:

(i) work activity;

(ii) hazards;

(iii) controls in place;

(iv) personnel at risk;

(v) likelihood of harm;

(vi) severity of harm;

(vii) risk levels (sometimes called "risk factor");

(viii) action to be taken following the assessment; and

(ix) administrative details, e.g. name of assessor, date, etc.

The examples at Annex A1.1 and Annex A1.2 illustrate a two-stage approach, the first stage being to identify those risks that require further consideration and the second stage recording the assessment of those significant risks. This is a suggestion only, and is not intended to be prescriptive. A demonstration of the two-stage assessment is in Annex A1.3 and Annex A1.4.

Annex A1.1

INITIAL RISK ASSESSMENT

Name of company/vessel: _____

Work or activities assessed: _____

Record no.: _____

Task ID number	Work process / action undertaken on vessel	Hazards associated with activity	Controls already in place	Significant risks identified	Further assessment required (Yes/No)

Declaration:

Where no significant risk has been listed, I, _____, as the assessor, hold the opinion that the risks identified were of an inconsequential nature and therefore do not require a more detailed assessment.

Full Name & Signed: **Position:** _____

_____ **Date:** _____

Annex A1.2 (Page 1)

DETAILED RISK ASSESSMENT

Name of company/vessel: _____

Record no.: _____

Current assessment date	**Last assessment date**

Work activity being assessed

Hazards	
Hazard No.	Description of identified hazards

People at risk:

Existing control measures	
Hazard No.	Control measures

Annex A1.2 (Page 2)

Assessment of Risk

To assesses the risk arising from the hazard:

1. *Select the expression for degree of harm which most applies to the hazard. (e.g. slightly harmful, harmful)*
2. *Select the expression for likelihood which most applies to the hazard.*
3. *Cross reference using the above table to determine the level of risk.*

Likeli-hood / Severity (Risk Level)	**Slightly harmful**	**Harmful**	**Extremely harmful**
Highly unlikely	Trivial risk	Tolerable risk	Moderate risk
Unlikely	Tolerable risk	Moderate risk	Substantial risk
Likely	Moderate risk	Substantial risk	Intolerable risk

Hazard no.	**Severity of harm[1]**	**Likelihood of occurrence[2]**	**Risk level[3]**

Additional control measures

Hazard no.	**Further action necessary to control risk**	**Remedial action date**	**Date completed**

Additional comments:

Full Name & Signed: _____ **Position:** _____

Date: _____ **Next review date:** _____

Annex A1.3

INITIAL RISK ASSESSMENT

Name of company/vessel: ABC Container Stevedoring Company

Work or activities assessed: Mid-stream container handling by derrick lighter

Record no.: ABC0001

Task ID number	Work process / action undertaken on vessel	Hazards associated with activity	Controls already in place	Significant risks identified	Further assessment required (Yes/No)
A001	Transferring persons employed to the top of a container stack with two or more tiers high using a personnel carrying cage	Fall of person from height	Each person employed carried by the cage must wear a safety harness with the lifeline tethered to an anchor point on the cage; when the lighter's derrick crane is used to carry personnel, an additional operator is required to standby at the crane controls; the cage and its lifting slings should be inspected by the competent person before their use	Persons employed are subjected to a hazard of falling when leaving the cage to assess the container top or when entering the cage from the container top	Yes
A002	Crane operator accessing the crane control platform	Fall of person from height; crane operator slips and falls on stairway	No.1 lighterman should periodically inspect the handrails on the stairway to ensure in order, and maintain the steps clean and free from oily stain; crane operator should wear non-slippery safety shoes; adequate lightings should be provided at the stairway during night work		No

Declaration:

Where no significant risk has been listed, I, Chan Tai-man**, as the assessor, hold the opinion that the risks identified were of an inconsequential nature and therefore do not require a more detailed assessment.**

Full Name & Signed: D.M. Chan

Position: Stevedoring Foreman

Date: XX/XX/2000

Annex A1.4 (Page 1)

DETAILED RISK ASSESSMENT (DEMONSTRATION)

Name of company/vessel: ABC Container Stevedoring Company

Record no.: ABC0001 -2

Current assessment date XX/XX/2000 **Last assessment date**

Work activity being assessed

A001 – Transferring persons employed to the top of a container stack with two or more tiers high using a personnel carrying cage

Hazards

Hazard No.	Description of identified hazards
1	When the personnel carrying cage is being hoisted and laid alongside a container for the access or egress of persons employed, persons employed might risk falling from height if, while they are entering or leaving the cage, there were inadvertent movements of the cage.
2	When the personnel carrying cage is placed on top of a container for the access or egress of persons employed, persons employed might risk being stricken by the cage if while they are entering or leaving the cage there were inadvertent movements of the cage.

People at risk: slingers, lightermen

Existing control measures

Hazard No.	Control measures
1	Rely on the safe operation of the crane operator
2	Rely on the safe operation of the crane operator

Annex A1.4 (Page 2)

Assessment of Risk

To assesses the risk arising from the hazard:

1. *Select the expression for degree of harm which most applies to the hazard. (e.g. slightly harmful, harmful)*
2. *Select the expression for likelihood which most applies to the hazard.*
3. *Cross reference using the above table to determine the level of risk.*

Likeli-hood \ Severity (Risk Level)	Slightly harmful	Harmful	Extremely harmful
Highly unlikely	Trivial risk	Tolerable risk	Moderate risk
Unlikely	Tolerable risk	Moderate risk	Substantial risk
Likely	Moderate risk	Substantial risk	Intolerable risk

Hazard no.	Severity of harm[1]	Likelihood of occurrence[2]	Risk level[3]
1	Extremely harmful	Unlikely	Substantial risk
2	Harmful	Unlikely	Moderate risk

Additional control measures

Hazard no.	Further action necessary to control risk	Remedial action date	Date completed
1	When persons employed are making access to or egress from the lifting cage, the signalman must keep a good watch of the sea condition; he must stop the persons employed when there are large wave approaching that would cause inadvertent movements of the cage.	The control measure is added to the working procedures on XX/XX/2000.	The updated working procedures are distributed to all relevant persons on XX/XX/2000.
2	Persons employed should avoid approaching the lifting cage while the lighter is swaying heavily; persons employed should ensure that the cage has been rested properly on the container top before making access to or egress from the cage.	The control measure is added to the working procedures on XX/XX/2000.	The updated working procedures are distributed to all relevant person on XX/XX/2000.

Additional comments:

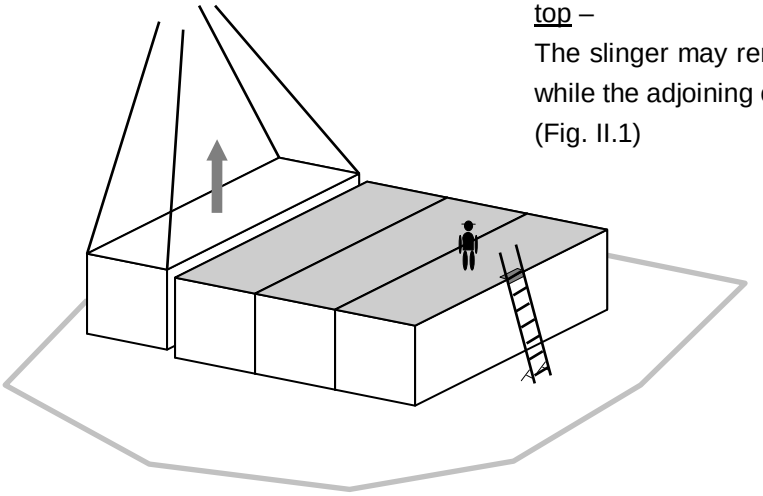
To combat Hazard No.1, the company should inspect all lifting cages to ensure that there is a strong handhold of at least 1 metre high at the top most step of all ladders inside the cage.

Full Name & Signed: K.H. Lee (Lee Kin-hong) **Position:** Safety Officer

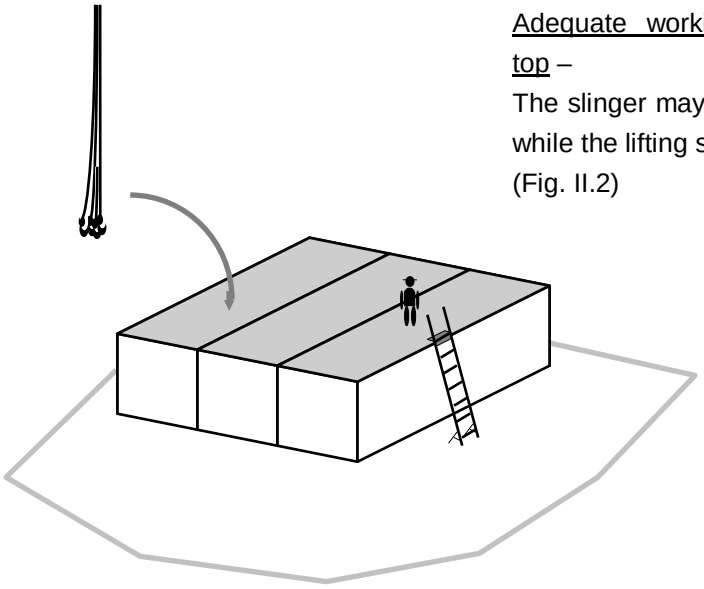
Date: XX/XX/20000 **Next review date:** XX/XX/2001

APPENDIX II

Minimum working area on tops of containers



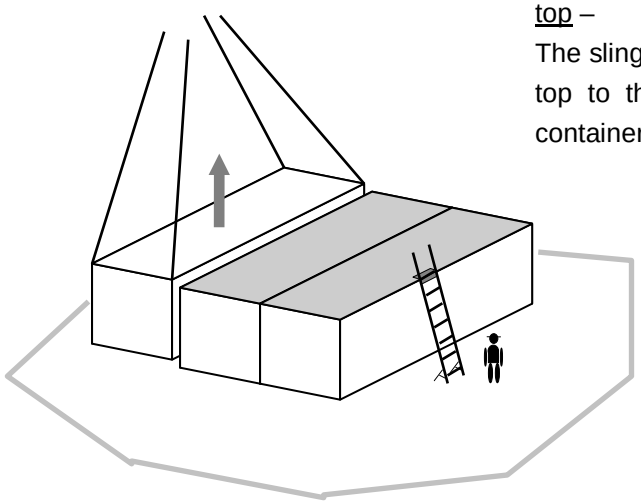
Adequate working area on the container top –
The slinger may remain on the container top while the adjoining container is being hoisted.
(Fig. II.1)



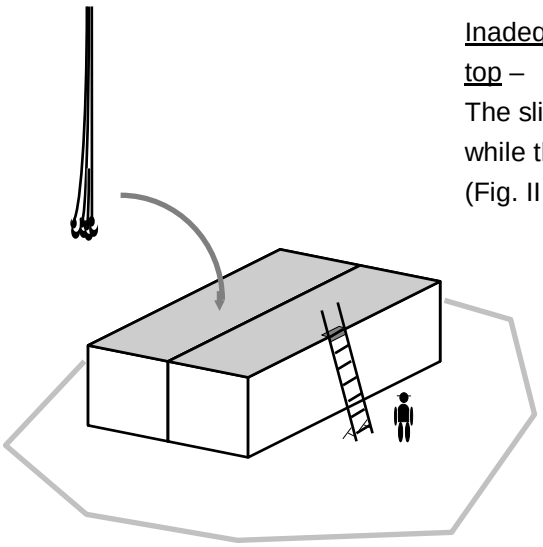
Adequate working area on the container top –
The slinger may remain on the container top while the lifting slings are approaching.
(Fig. II.2)

Unloading Containers

Minimum working area on tops of containers



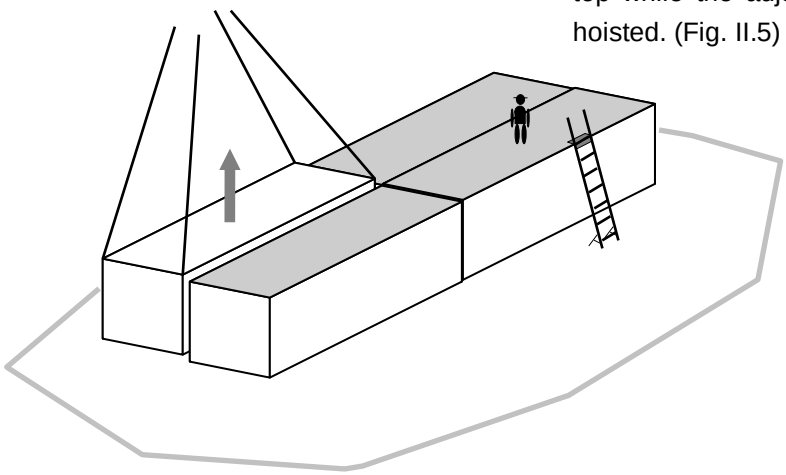
Inadequate working area on the container top –
The slinger should vacate from the container top to the next level before the adjoining container is being hoisted. (Fig. II.3)



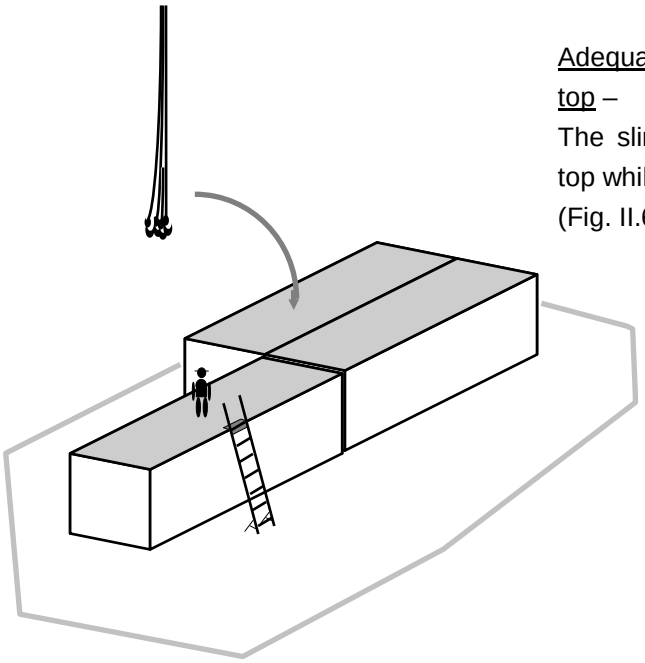
Inadequate working area on the container top –
The slinger should remain at the next level while the lifting slings are approaching.
(Fig. II.4)

Unloading Containers

Minimum working area on tops of containers



Adequate working area on the container top –
The slinger may remain on the container top while the adjoining container is being hoisted. (Fig. II.5)

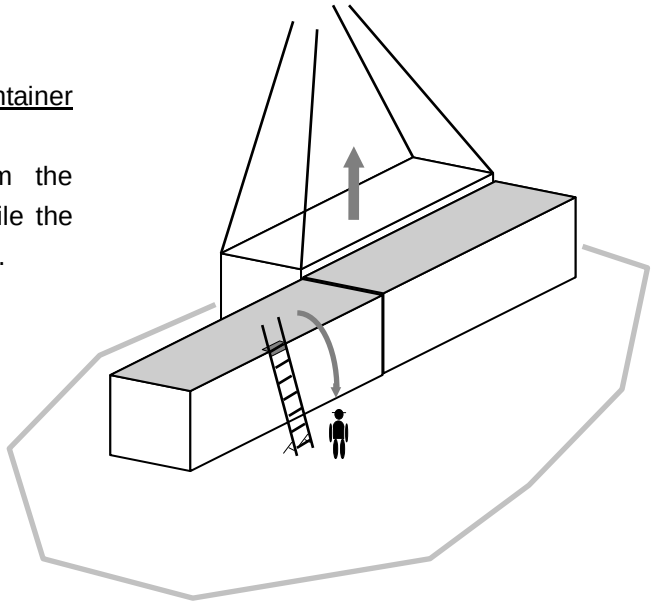


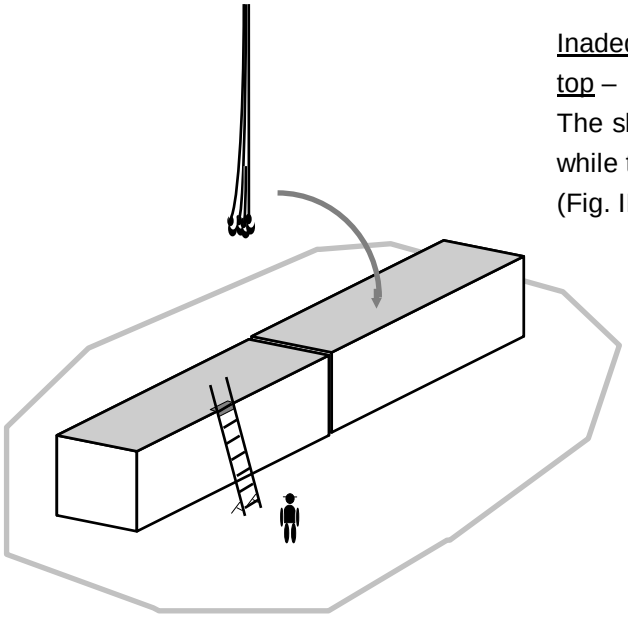
Adequate working area on the container top –
The slinger may remain on the container top while the lifting slings are approaching. (Fig. II.6)

Unloading Containers

Minimum working area on tops of containers

Inadequate working area on the container top –
The slinger should vacate from the container top to the next level while the adjoining container is being hoisted.
(Fig. II.7)

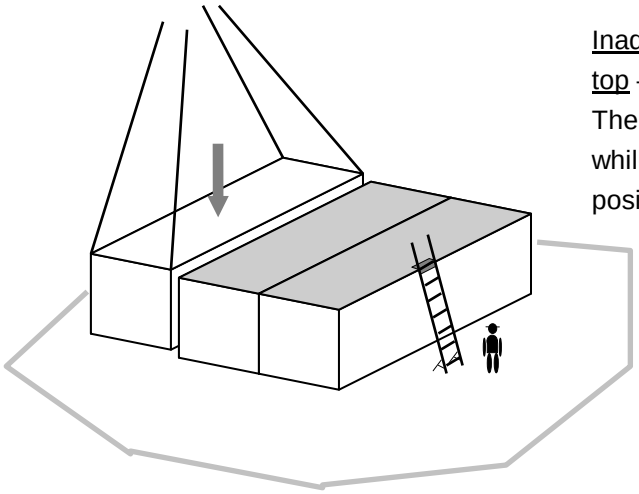




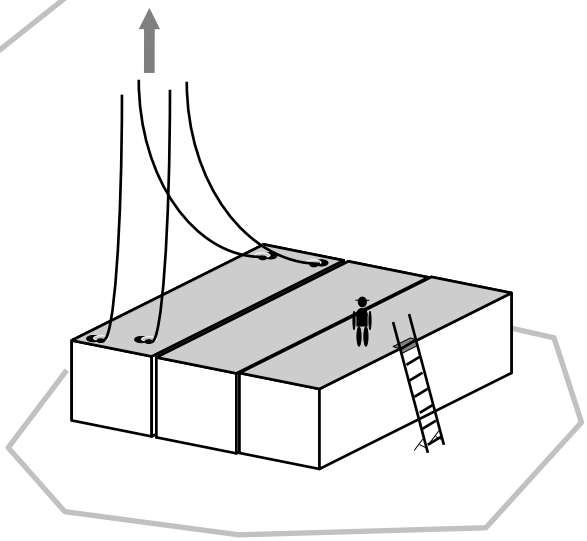
Inadequate working area on the container top –
The slinger should remain at the next level while the lifting slings are approaching.
(Fig. II.8)

Unloading Containers

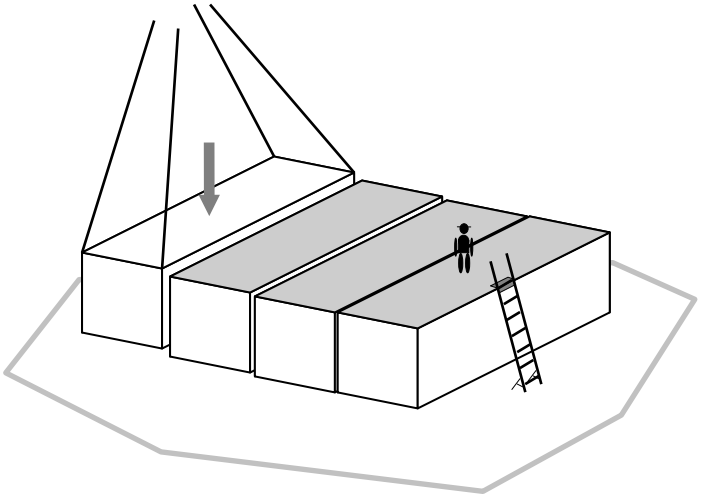
Minimum working area on tops of containers



Inadequate working area on the container top –
The slinger should remain at the next level while the container is being lowered into position. (Fig. II.9)



Adequate working area on the container top –
The slinger may remain on the container top after disengaging the lifting slings from the lowered container and while the lifting slings are being hoisted. (Fig. II.10)

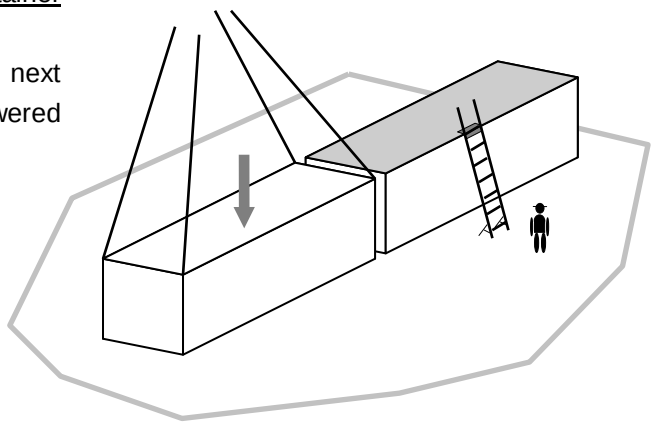


Adequate working area on the container top –
The slinger may remain on the container top while the container is being lowered to an adjacent position. (Fig. II.11)

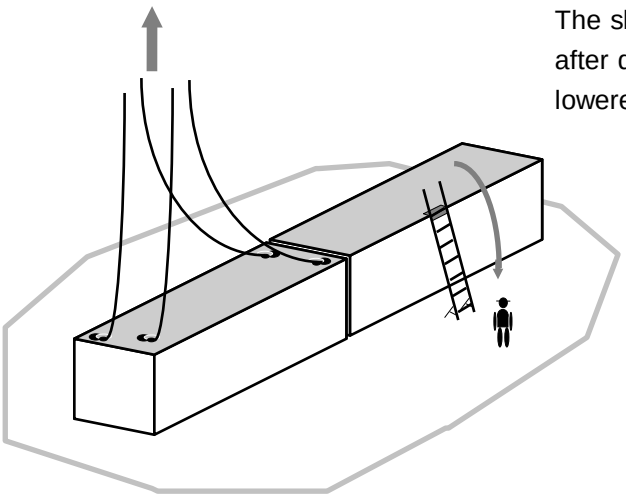
Loading Containers

Minimum working area on tops of containers

Inadequate working area on the container top –
The slinger should remain at the next level while the container is being lowered to the adjoining position. (Fig. II.12)



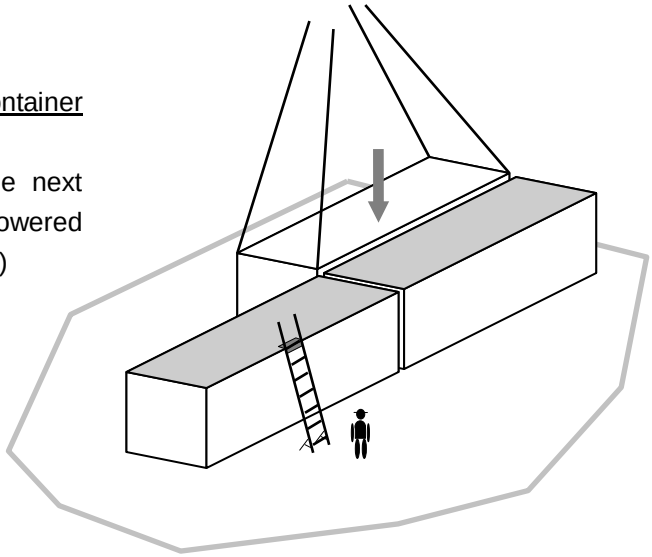
Inadequate working area on the container top –
The slinger should vacate to the next level after disengaging the lifting slings from the lowered container. (Fig. II.13)



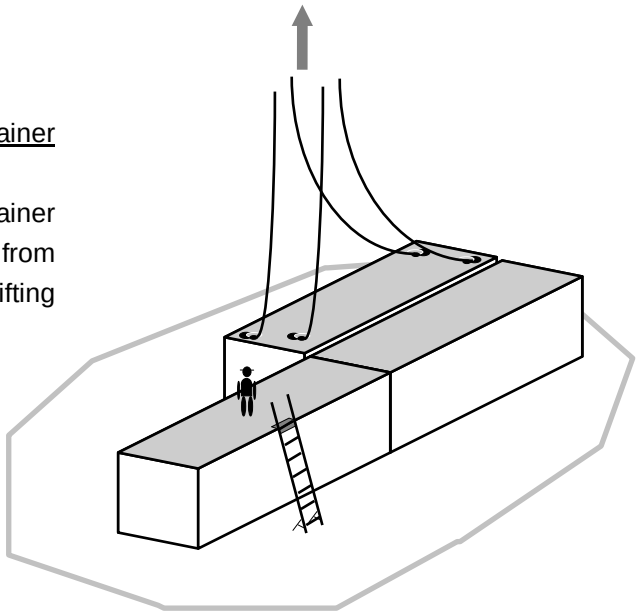
Loading Containers

Minimum working area on tops of containers

Inadequate working area on the container top –
The slinger should remain at the next level while the container is being lowered to the adjoining position. (Fig. II.14)



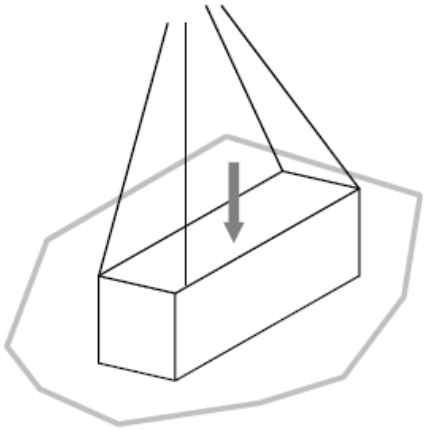
Adequate working area on the container top –
The slinger may remain on the container top after disengaging the lifting slings from the lowered container and while the lifting slings are being hoisted. (Fig. II.15)

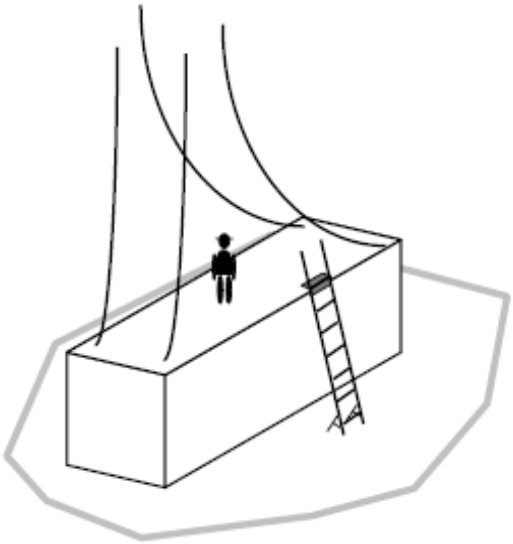


Loading Containers

Minimum working area on tops of containers

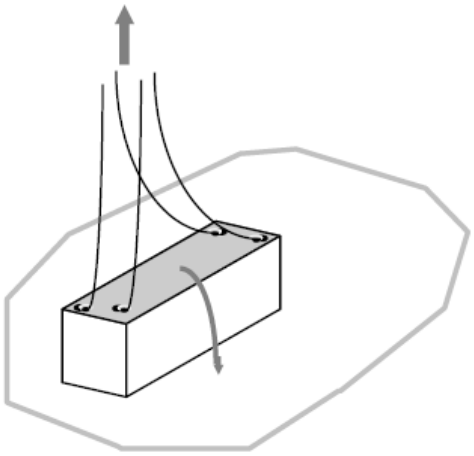
Inadequate working area on the container top –
The slinger should remain at the next level while the container is being lowered to the position. (Fig. II.16)





Inadequate working area on the container top –
The slinger should use ladder to the container top for disengaging the lifting slings from the lowered container.
(Fig. II.17)

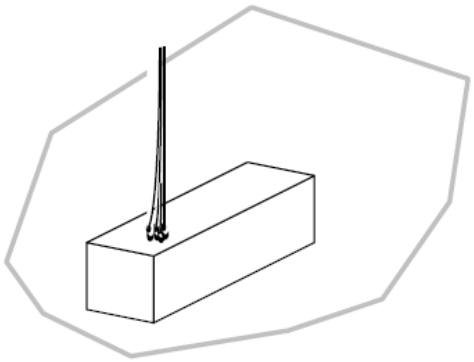
Inadequate working area on the container top –
The slinger should vacate to the next level after disengaging the lifting slings from the lowered container. (Fig. II.18)

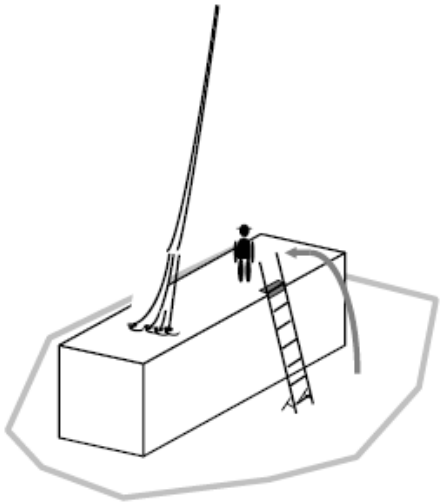


Loading Containers

Minimum working area on tops of containers

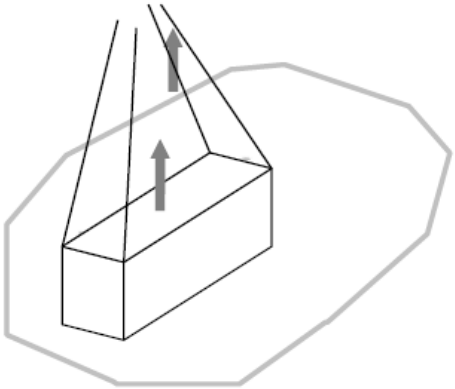
Inadequate working area on the container top –
The slinger should remain at the next level while the slings are being lowered to the position. (Fig. II.19)





Inadequate working area on the container top –
The slinger should use ladder to the container top after the slings are being lay on the container top. (Fig. II.20)

Inadequate working area on the container top –
The slinger should vacate to the next level after engaging the lifting slings to the container. (Fig. II.21)



Unloading Containers

APPENDIX III

Standards

A3.1 British Standard, BS 4654: 1970
Specification for hooks for lifting freight containers of up to 30 tonnes

A3.2 British Standard, BS 6166: Part 1: 1986
Lifting slings, Part 1. Methods of rating

A3.3 British Standard, BS 6166: Part 2: 1986
Lifting slings, Part 2. Specification for marking

A3.4 British Standard, BS 6166: Part 3: 1988
Lifting slings, Part 3. Guide to selection and safe use of lifting slings for multi-purposes

A3.5 ISO Standards, ISO 3874:1997
Series 1 freight containers – Handling and securing

APPENDIX IV

References

A4.1 Code of Practice for Safety and Health at Work (Land-based Construction over water - Prevention of Fall), Labour Department, HKSAR

A.4.2 Code of Safe Working Practices for Merchant Seamen, Maritime and Coastguard Agency, UK

A4.3 Container Top Safety, Lashing and Other Related Matters, International Cargo Handling Co-ordination Association, UK

A4.4 Code of Practice on Safety Management, Labour Department, HKSAR

A4.5 Safety and Health in Dock Work, International Labour Office, Geneva

A4.6 Safety in Docks, Docks Regulations 1988, Approved Code of Practice and Guidance, Health & Safety Commission, UK

A4.7 《貨櫃裝卸及運輸安全指南》(Container Loading, Unloading and Transportation Safety Guide), Occupational Safety and Health Council, HKSAR

A4.8 《船上貨物裝卸安全指南》(Stevedoring Safety Guide), Marine Department, HKSAR

APPENDIX V

Marine Department contacts

A5.1 For enquiries on occupational safety and health matters relating to shipboard industrial operations including cargo handling, ship-repairing and marine construction; and for reporting of industrial irregularities during office hours –

Marine Industrial Safety Section
Room 2315, Harbour Building, 38 Pier Road, Central, Hong Kong
Tel.: 2852 4472, 2852 4477 Fax: 2543 7209

A5.2 For reporting of marine and shipboard accidents during office hours –

Marine Accident Investigation Section
Room 2103, Harbour Building, 38 Pier Road, Central, Hong Kong
Tel.: 2852 4523, 2852 4496 Fax: 2543 0805

OR

For reporting of marine and shipboard accidents during and outside office hours –

Vessel Traffic Centre
Tel.: 2233 7801 Fax: 2858 6646
V.H.F.: Channel 12, 14 and 67

A5.3 For enquiries on matters relating to dangerous goods carried by vessels during office hours –

Dangerous Goods Unit
Room 307, Harbour Building, 38 Pier Road, Central, Hong Kong
Tel.: 2852 3085, 2852 4913 Fax: 2815 8596, 2805 2584

A5.4 For alerting the search and rescue authority (24 hours manned) –

Hong Kong Maritime Rescue Co-ordination Centre (HK MRCC)
Tel.: 2233 7999, Fax: 2541 7714

A5.5 Marine Department Web-site: http://www.mardep.gov.hk/en/home/html