

**PROVISIONAL LOCAL VESSELS ADVISORY COMMITTEE**

**Draft Code of Practice for Safe Means of Access to Vessels**  
**(September 2005)**

**Purpose**

1. This paper aims at seeking members' endorsement on the enclosed Code of Practice which is intended to provide practical guidance and recommendations on embarkation on and disembarkation from vessels in the waters of Hong Kong. Ship-owners, ship captains or coxswains, persons in charges of works, contractors and sub-contractors, works supervisors, safety personnel, employers and the employed engaging in the works should observe this Code in connection with relevant requirements in regulations.

**Background on Legislation**

2. The existing Shipping and Port Control (Cargo Handling) Regulations, Section 5 and 6 require safe means of access to be provided to the persons employed whenever a vessel (both local and non-local) is lying at wharf or terminal, or alongside with other vessels in the waters of Hong Kong.
3. The new Merchant Shipping (Local Vessels) Regulation, Cap 548 for local vessels and the proposed amendments to the Shipping and Port Control (Works) Regulation, Cap 313 for non-local vessels have also incorporated/withheld the requirements of safe means of access therein.
4. This Code of Practice is applicable to both local vessels and non-local vessels engaging in the works in the waters of Hong Kong. Approval, amendments and issue of this Code are rested in the Director of Marine in pursuant to Section 45A of the Merchant Shipping (Local Vessels) Ordinance, Cap 548 and Section 44A of the Shipping and Port Control Ordinance, Cap 313.

### **Salient Points of the Content**

5. This Code explicitly highlights the duties of the employers, persons in charges of works and the employed; spells out practical guidelines to the embarkation and disembarkation of vessels; delineates the responsibilities of the parties who should provide boarding equipment when the vessel is lying at berth as well as when she is alongside with other vessels in the waters of Hong Kong.
6. The Code further allows a series of options to boarding equipment; lays down detailed guidance of these boarding equipment; displays some photo images of boarding equipment for the users making reference to their own needs.
7. The Code does not preclude the usage of other boarding equipment not mentioned therein. In fact the Section 4.7 of the Code allows insertion of any other safe means of access identified in the future.

### **Consultation**

8. The industry had been consulted with this Code of Practice on May 2005. Their comments have been deliberated, reviewed and incorporated into the Draft Code of Practice. Members are welcome to comment on the Code and invited for its endorsement.

*Marine Industrial Safety Section  
Hong Kong SAR Government  
September 2005*

[The 3rd Draft, September 2005 ]

DRAFT CODE OF PRACTICE FOR

# Safe Means of Access to Vessels



MARINE INDUSTRIAL SAFETY SECTION  
MARINE DEPARTMENT, HKSAR



# FOREWORD

When vessels are lying alongside wharfs or anchoring in mid-stream, embarking and disembarking on and from ships are inevitable to face risks due to tidal movement, ship's wake and swells, and freeboard disparity.

Eliminating the risks requires the use of boarding equipment which is of proper design with perfect match between vessel and its counterpart where boarding equipment is bridged. However, a great diversity of vessel's shapes and wharf's contour makes complexity of design on the boarding equipment; likewise a wide variety of vessel's sizes resultant with unpredictable freeboard disparity adds hurdle to the perfect matching with the counterparts in term of safe access. No matter how arduous it is to bridge a ship with its counterpart, a simple safe means of access is better than nothing provided. This code of practice aspires to help minimize the inherent risks by throwing out some ideas in this aspect.

The Code attempts to provide practical guidance to every expectable conditions which may be encountered in real circumstances. As alluded in above paragraphs, the real situations under a dynamic environment are diverse. Should there be any circumstances differing from that stated in this Code, the readers must make risk assessment on their own cases and institute corresponding safety measures by virtue of the concept provided in this Code.

Furthermore, this Code will be kept updating and amending upon more practical cases and information which have been acquired and amassed, so as to achieve its fulfilment of providing a reasonably practical guidance to the industry of cargo handling, ship-repair and ship-breaking, and marine construction.

For easy reference, the relevant regulations from either ordinances and the subsidiary regulations are jotted down on the left column of this Code; the right column only provides guidance to the legal stipulations. The readers may refer to the relevant Ordinances and regulations for their legal meanings.

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# 1. INTRODUCTION

## 1.1 Purpose

*SAPCWR  
Part II &  
MS(LV)(W)R  
Part II*

1.1.1 The Shipping and Port Control (Works) Regulation, Cap. 313 sub. leg. B. and the Merchant Shipping (Local Vessels)(Works) Regulation, Cap 548 sub. Leg. ??? place a duty on the person in charge of works to ensure that a safe means of access to the vessel is provided for the use by the persons employed in any works carried on the vessel.

1.1.2 If the person in charge of works fails to provide a safe means of access, the employer shall make arrangement for providing the safe access to the persons employed.

1.1.3 Under these regulations, it is also the duty of the person in charge of works to ensure that the construction and maintenance of the means of access are adequate, and that the means of access is efficiently lighted.

1.1.4 This Code of Practice provides practical guidance and gives recommendations on the means of access to vessels. It is to be read by owners and masters or coxswains of vessels, persons in charge of works, contractors, supervisors, safety personnel, employers and the persons employed involved in shipboard works.

*SAPCO  
Sect. 44A  
&  
MS(LV)O  
Sect. 45A*

1.1.5 This Code of Practice is approved and issued by the Director of Marine under Section 44A of the Shipping and Port Control Ordinance under Section 45A of Merchant Shipping Ordinance. The recommendations contained in the Code of Practice should not be regarded as exhausting those matters that need to be covered by the relevant safety legislation.

1.1.6 This Code of Practice has a special legal status. Although failure to observe any recommendation given in this Code of Practice is not itself an offence, but failure may be taken by a court in criminal proceedings as a relevant factor in determining whether a person has breached the relevant safety legislation under the Shipping and Port Control Ordinance or the Merchant Shipping (Local Vessels) Ordinance. It will then be open to that person to satisfy the court that he has complied with the legislation in some other way.

- 1.1.7 This Code of Practice may be revised or amended from time to time, or revoked by the Director of Marine through notice in the Gazette. The statutory provisions summarised or referred to in this Code of Practice are the provisions in force on [Date of issue of the Code Of Practice].

## 1.2 Scope

- 1.2.1 This Code of Practice provides practical guidance and gives recommendations on the means of access to vessels, on which works are carried out in the waters of Hong Kong. Works include –

- (i) repairs to any vessel;
- (ii) the breaking up of a vessel;
- (iii) cargo handling on a vessel; and
- (iv) marine construction.

- 1.2.2 In particular, this Code of Practice provides practical guidance and gives recommendations on –

- (i) the means of access for the use by the persons employed at such times as they have to pass –
  - (a) between the vessel and another vessel;
  - (b) between the vessel and the shore or a place on land.

*SAPCWR  
Sect. ??,  
MS(LV)(W)R  
Sect. 6(1)  
SAPCWR  
Sect. ??  
MS(LV)(W)R  
Sect. 4(1)*



## 2. INTERPRETATION AND ABBREVIATION

Unless otherwise defined in this Code of Practice, the terms used in this Code of Practice have the same meaning as those in Shipping and Port Control Ordinance and Shipping and Port Control (Works) Regulations, or Merchant Shipping (Local Vessels) Ordinance and Merchant Shipping (Local Vessels)(Works) Regulations-

### 2.1 Interpretation

- MS(LV)O Sect. 2* “coxswain of a vessel” (本地船長) under MS(LV)O means a person having command of the local vessel.
- SAPCO Sect. 2* “master of a vessel” (船長) under SAPCO means a person having command of the vessel.
- SAPCWR Pt I & MS(LV)(W)R Pt I SAPCO Pt. I, Sect. 2 & MS(LV)O Pt. I, Sect. 2* “person employed” (受僱人) means a person employed in any works.
- SAPCO Pt. V Sect. 36 MS(LV)O Pt VIII, Sect. 37* “place on land” (陸上地方) means-
- (a) any premises, building or vehicle on land;
  - (b) any building, structure or object erected or placed on the bed or shore of the sea; or
  - (c) anything afloat (other than a vessel) if it is anchored or attached to the bed or shore of the sea.
- “Person in charge of works” (工程負責人) means –
- (a) the owner of, or master or coxswain of, or other person having control over, a vessel on local or non-local 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 any works being carried out on, to or by means of a vessel.

*SAPCO Pt. V  
Sect. 36*

*MS(LV)O Pt  
VIII, Sect. 37*

“Works” (工程) means (a) cargo handling;  
(b) repairs to any vessels;  
(c) breaking up of a vessel;  
(d) marine construction.

## **2.2 Abbreviation**

“HKSAR” is the abbreviation for Hong Kong Special Administrative Region.

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

“SAPCWR” is the abbreviation for the Shipping and Port Control (Works) Regulations, Cap. 313 sub. Leg. B.

“MS(LV)O” is the abbreviation for the Merchant Shipping (Local Vessels) Ordinance.

“MS(LV)(W)R” is the abbreviation for the Merchant Shipping (Local Vessels)(Works) Regulations, Cap 548 sub. Leg. ??

# 3. RESPONSIBILITY

The following paragraphs will explain the responsibilities of various duty holders engaged in the works carried on vessels concerning the requirements for safe means of access to vessels stipulated in SAPCWR or MS(LV)(W)R.

## 3.1 Responsibilities of person in charge of works

It is the responsibility of the person in charge of works to ensure that –

*SAPCWR  
Sect. 5(1),  
Sect. 6(1)  
&  
MS(LV)(W)R  
Sect.4(1)&  
6(1)*

(i) a safe means of access is provided for the use of persons employed to pass between the vessel and the shore, or between the vessels or between the vessel and a place on land ;

*SAPCWR  
Sect. 8  
&  
MS(LV)(W)R  
Sect. 9(1c)*

(ii) efficient lighting is provided at the means of access.

## 3.2 Responsibilities of employer

*SAPCWR  
Sect. 4  
&  
MS(LV)(W)R  
Sect. 23*

When the person in charge of works fails to carry out any of the responsibilities in 3.1 above, the employer of the persons employed shall take up the responsibility to comply with such requirements in SAPCWR and MS(LV)(W)R within the shortest time reasonably practicable after such failure.

## 3.3 Responsibilities of works supervisor

*SAPCWR  
Sect. 15A(3)  
&  
MS(LV)(W)R  
Sect. 19(1)*

It is the responsibility of a works supervisor appointed under Reg. 15A(1) of SAPCWR or Reg. 19 of MS(LV)(W)R to assist the person in charge of works to carry out his responsibilities in 3.1 above.

### **3.4 Responsibilities of person employed**

- SAPCWR  
Sect. 15E  
&  
MS(LV)R  
Sect 24(1)*
- 3.4.1 It is the general responsibility of a person employed to take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at work.
- 3.4.2 It is the responsibility of a person employed to co-operate with an employer, a person in charge of works, works supervisor or any other person so far as is necessary to enable that person to perform or comply with any duty or requirement imposed on by the relevant safety legislation for securing the health and safety of persons employed.
- SAPCWR  
Sect. 46  
&  
MS(LV)(W)R  
Sect.*
- 3.4.3 It is the responsibility of a person employed to use the safe means of access provided to embark and disembark the vessel.

# 4. Embarkation and Disembarkation of Vessels

## 4.1 General

- 4.1.1 Before any works is carried out on a vessel, the person in charge of works must ensure that safe means of access between the vessel and any wharf or between vessel to vessel are provided and maintained for the use of the persons employed.
- 4.1.2 The equipment necessary to ensure safe means of access must be fit for the purpose, placed in position promptly before commencement of the works and should be adequately illuminated and adjusted as necessary to maintain safe access.
- 4.1.3 The access equipment provided should be kept in position as long as required, and regularly checked for its necessary adjustment to any rise or fall in tidal movement or freeboard change.
- 4.1.4 The means of access and its approaches should be kept free from obstruction and, as far as practicable, kept clear of any substance likely to cause a slip or fall.
- 4.1.5 The means of access should be sited so that no suspended load passes over it. Where this is not practicable, access should be supervised at all times or notice board should be posted to giving necessary warning in vicinity.
- 4.1.6 Any access equipment provided must be of good construction, sound material and adequate strength, and free from patent defect. All access equipment should be properly maintained and be inspected at appropriate intervals.
- 4.1.7 In the event of a means of access being unsafe for any reason, physical barriers should be erected and warning notices prohibiting its use posted at every approach.
- 4.1.8 All overhead obstructions located at 2 metres or lower above gangways or at the approaches of safe access should be clearly marked with a high visibility colour.

- 4.1.9 A lifebuoy with a buoyant safety line of 30 m long should be provided ready for use in vicinity of the access aboard the vessel.
- 4.1.10 During inclement weather or rainy day, the person in charge of works should encourage the persons employed to wear lifejacket while embarking and disembarking to and from vessel.
- 4.1.11 Where the safe means of access is made of wood, it should not be painted nor be treated in such a way that any cracks or defects are concealed. Transparent protective coating may, however, be used for preservation purpose.

## 4.2 Access between Vessel and Shore or between Vessel and Place on Land

*SAPCWR  
Sect. ???  
&  
MS(LV)(M)R  
Sect. 4(1)*

- 4.2.1 If a vessel is lying at a container terminal, wharf, quay or place on land for the purpose of any works and the persons employed have to pass from shore or place on land to the vessel or from the vessel to shore or place on land, safe means of access shall, before works commencement, be provided for the persons employed, unless the condition allows the persons employed to pass from one to the other without undue risk.

*SAPCWR  
Sect. ???  
&  
MS(LV)(M)R  
Sect. 4(2)*

- 4.2.2 Accommodation ladder or gangway appropriate to the deck layout, size, shape and maximum freeboard of a vessel is generally used as a means of access between vessel and shore. Please see details of the accommodation ladder and gangway in section 4.4 of this Code.

*SAPCWR  
Reg. ???  
&  
MS(LV)(M)R  
Reg. 4(3)*

- 4.2.3 Where accommodation ladder or gangway is not reasonably practicable, other safe means of access such as a fixed ladder or other similar construction designed for this purpose could be used. In some circumstances where the abovementioned means of access is not practicable, rope ladder or portable ladder should be provided. Please see details of the fixed ladder in Section 4.5, and the portable and rope ladders in Section 4.6 of this Code.
- 4.2.4 Where a vessel having freeboard lower than the shore level is lying along the container terminal, wharf or quay for carrying out works, safe means of access should be provided by the terminal or wharf who contracts to the works. Such safe means of access could be a landing staircase, fixed ladder or other

permanent construction of safe access. Rope ladder could be only used where no safer means of access is reasonable practicable. It is preferably to arrange the low-freeboard vessel to berth alongside the quayside where permanent boarding facilities could have been provided. Where above arrangements are not practicable, the terminal, wharf or quay who contracts to the works may make administrative measures to enable that workers or ship-crew of the vessel are not necessary to embark or disembark the vessel during the progress of works. For example, mooring lines or other chores can be handled by shore-labourers. Please see details of the fixed ladder in Section 4.5, and the rope ladders in Section 4.6 of this Code.

- 4.2.5 Where the container terminal, wharf or quay fails to observe the Section 4.2.4 of this Code, the master or coxswain of the vessel, the persons having control over the vessels, or the owners of the vessels, principal contractor or subcontractor, or employers of the persons employed shall ensure provisions of safe means of access.
- 4.2.6 Where a vessels having freeboard lower than the shore level are lying along the container terminal, wharf or quay who has no contract to the works with the vessel, safe means of access should be provided by the master or coxswain of the vessel, or the persons having control over the vessels, or the owners of the vessels, principal contractor or subcontractor, or employers of the persons employed. In some circumstances where it is not practicable to the use of gangway, then rope ladder or portable ladder could be used. Please see details of the portable and rope ladders in Section 4.6 of this Code.
- 4.2.7 Where an ocean-going vessel having freeboard higher than the shore level is lying along the container terminal, wharf or quay for carrying out works, accommodation ladder or gangway should be provided by the master of the vessel, or the persons having control over the vessels, or the owners of the vessels, principal contractor or sub-contractor, or employers of the persons employed. In some circumstances where it is not practicable to the use of accommodation ladder or gangway, then rope ladder or portable could be used. Please see details of the portable and rope ladders in Section 4.6 of this Code.
- 4.2.8 Where a local vessel or Chinese coaster, Chinese river trade vessel or any other similar vessel having freeboard higher than the shore level is lying along the container terminal, wharf or quay for carrying out works, gangway or similar construction

should be provided by the master or coxswain of the vessel, or the persons having control over the vessel, or the owners of the vessel, principal contractor or sub-contractor, or employers of the persons employed. In some circumstances where it is not practicable to the use of gangway or other safe access, fixed ladder, rope ladder or portable ladder could be used. Please see details of the fixed ladder in Section 4.5, and the portable and rope ladders in Section 4.6 of this Code.

- 4.2.9 Ramps for access of vehicles to vessels should be of adequate strength, provided with side-boards at each side, and properly secured.
- 4.2.10 Ramps used by vehicles should not be used for pedestrian access unless there is suitable separation of vehicles and pedestrians.

### **4.3 Access to Vessel in Mid-stream and between Vessels**

*SAPCWR  
Sect. 5(2)(b)  
&  
MS(LV)(W)R  
Sect.6(1)  
SAPCWR  
Sect. 5(2)(b)  
&  
MS(LV)(W)R  
Sect.6(2)*

- 4.3.1 If a vessel is alongside any other vessel and the persons employed have to pass from one to the other for the purpose of works, safe means of access shall be provided for their use.
- 4.3.2
  - (i) Safe means of access should be provided by the vessel having a higher freeboard. The master or coxswain of the vessel having lower freeboard has responsibility to notify their need of boarding the vessels for the purpose of work to the vessel of higher freeboard. Where the vessel having a higher freeboard fails to provide safe means of access, the master or coxswain of the vessel having lower freeboard, the persons in charge of works, or the owners of the vessels, principal contractor or subcontractor, or the employers of the persons employed shall ensure provisions of safe means of access through other means.
  - (ii) Where two vessels have even freeboard, either vessel should provide a safe means of access, unless the conditions are such that it is possible to pass from one to the other without undue risk. Where two dumb steel lighters equipping huge-sized rubber tyres at either sides have even freeboard and the tyre's surfaces are not wet/slippery that it is possible to pass to and from either lighter without undue risk, the huge-sized rubber tyres could be considered as safe means of access.



*SAPCWR  
Sect. 6  
&  
MS(LV)(W)R  
Sect. 6*

(iii) Person in charge of works has no responsibilities for provision of boarding equipment to the persons who embark or disembark vessels not for the purpose of work.

- 4.3.3 If a vessel is afloat in mid-stream, the persons employed are transported by a launch or boat to board the vessel for purpose of works, safe means of access shall be provided by the person in charge of works.
- 4.3.4 Accommodation ladder or gangway appropriate to the deck layout, size, shape and maximum freeboard of the vessel is generally used as a safe access. For details of accommodation ladder and gangway, please see Section 4.4 of this Code.
- 4.3.5 Where accommodation ladder or gangway is not reasonably practicable, other safe means of access, e.g. fixed ladder, rope ladder, or portable ladder may be used. Please see Section 4.5, 4.6 of this Code for details of fixed ladder, rope ladder and portable ladder.

## **4.4 Accommodation Ladder and Gangway**

- 4.4.1 Accommodation ladder or gangway should be suitable to vessel design, and maintained in safe condition.
- 4.4.2 The angle of inclination of an accommodation ladder should be kept within the limits at which it was designed. Accommodation ladders should not be used at an angle of inclination greater than 55° from the horizontal, and gangways should not be used at an angle greater than 30° from the horizontal, unless specially designed for greater angles.

*SAPCWR  
Sect. 5(???)  
&  
MS(LV)R  
Sect. 4(2)(a)(b)  
Sect. 6(3)(a)(b)*

- 4.4.3 According to the SAPCWR and MS(LV)R, an accommodation ladder or a similar construction should be –
- (i) at least 550 mm in width;
  - (ii) properly secured to prevent its displacement;
  - (iii) constructed of materials of good quality and in good condition;
  - (iv) securely fenced throughout on either side or on one side if the other side of the vessel is properly protected by the vessel's side;

- (v) fenced to a clear height of not less than 820 mm, either by means of upper and lower rails, taut ropes or chains or by other equally safe means;
- (vi) of adequate length.

*SAPCWR  
Sect. 5(???)  
&  
MS(LV)R  
Sect. 4(2)(c)  
Sect. (6)( c)*

4.4.4 According to the SAPCWR and MS(LV)(W)R, a gangway or a similar construction should be –

- (i) not less than 550 mm wide;
- (ii) properly secured to prevent its displacement;
- (iii) constructed of materials of good quality and in good condition;
- (iv) securely fenced, throughout on each side, to a clear height of not less than 820 mm, either by means of upper and lower rails, taut ropes or chains or by other equally safe means; and
- (v) of adequate length.

4.4.5 When the inboard end of a gangway rests on or is flush with the top of a bulwark, suitable stairway or ladder leading from the bulwark onto the deck should be provided between the top of the bulwark and the deck with a handrail at least 820 mm high or with other handhold fixture.

4.4.6 Gangways and other access equipment should not be rigged on vessel's rails unless the rail has been reinforced for that purpose.

## **4.5 Fixed Ladder**

*SAPCWR  
Sect. 5(2)(b)  
&  
MS(LV)(M)R  
Sect.4(3)*

4.5.1 A fixed ladder or other similar construction should be used for access to the vessel where accommodation ladder or gangway is not reasonably practicable. Where a fixed ladder is used, it is preferably to use a hand-rope hanging from the point of access to the bottom of the ladder to facilitate the persons employed moving between the ladder and adjacent vessel or landing.

4.5.2 The hand-rope should have a diameter adequate for handgrip. It should be approximately the same length as the ladder.

- 4.5.3 A fixed and permanent ladder or any similar construction used as a means of access should be of rigid and permanent structure with adequate strength. The design should be provided with proper handgrips and footholds.
- 4.5.4 The top end of ladder should be provided with stanchions of not less than 1000 mm high at the upper landing place unless there are other suitable handgrips.
- 4.5.5 When a fixed and permanent ladder or similar construction is used for embarking and disembarking vessels: –
  - (i) It should be so placed as to afford a clearance of at least 115 mm behind the rungs for footholds.
  - (ii) The steps must be horizontal and equally spaced at adequate interval for users to climb up or down safely.

## 4.6 Portable and Rope Ladders

*SAPCWR  
Sect. 5(2)(b)  
&  
MS(LV)(M)R  
Sect. 4(3)*

- 4.6.1 A portable or rope ladder should only be used for access to the vessel where no safer means of access is reasonably practicable. Where any of these ladders is provided, it is preferably to use a hand-rope hanging from the point of access to the bottom of the ladder to facilitate the persons employed moving between the ladder and adjacent vessel or landing.
- 4.6.2 The hand-rope should have a diameter adequate for handgrip. It should be approximately the same length as the ladder.
- 4.6.3 A portable ladder or rope ladder should never be secured to rails or to any other means of support unless the rails or support are so constructed and rigid as to take the weight of a man and a ladder with an ample margin of safety.
- 4.6.4 A portable ladder or rope ladder used as a means of access should be of good construction, adequate strength and properly maintained. The design should be provided with proper handgrips and footholds.
- 4.6.5 The top end of ladder should be provided with stanchions of not less than 1000 mm at the upper landing place unless there are other suitable handgrips.

4.6.6 When a portable ladder is used for embarking and disembarking vessel: –

- (i) Its top end should be firmly secured to prevent from twisting, tilting or overturning. Its bottom end should be ensured free from smashing or crushing on the sea-wall or adjacent vessel due to tidal movement.
- (ii) It should be so placed as to afford a clearance of at least 115 mm behind the rungs for footholds.
- (iii) The steps must be horizontal and equally spaced at adequate interval for users to climb up or down safely.
- (iv) The length of portable ladders should be adequate for safe access purpose, but not exceed 3 m unless both top and bottom ends are firmly secured.

4.6.7 Where a rope ladder is provided, it must be of adequate length and so constructed that it can be efficiently secured to the vessel and it must meet the following standards -

- (i) Rope ladder of rectangular rung must be slip-resistant with a depth of at least 115 mm to afford footholds and must be so secured that they are firmly held against twisting, overturning or tilting.
- (ii) Rope ladder of round rung should only be used if the rectangular rung ladder is not available onboard. If 'round rung' rope ladder is used, it should be so placed as to afford a clearance of at least 115 mm behind the rungs for footholds.
- (iii) The rung must be horizontal and equally spaced at adequate interval for users to climb up or down safety.
- (iv) The side ropes of ladder should have sufficient strength.
- (v) There should be no shackles, knots or splices between rungs.
- (vi) Rope ladder should be fitted with spreaders at intervals not greater than 9 rungs apart. The lowest spreader must be on the fifth rung from the bottom. The length of spreader should be long enough to prevent ladder's twisting due to its extraordinary length.

- (vii) A rope ladder should be left in such a way that it either hangs fully extended from a securing point or is pulled up completely when not in use. It should not be left so that any slack will suddenly pay out when the ladder is used.
- (viii) Length of a round rung rope ladder should not exceed 5 metres. Length of the rectangular rung ladder should not exceed 9 metres.
- (ix) Where the freeboard of a vessel is 9 m or more, a rectangular rung ladder should be use in conjunction with an accommodation ladder, positioned in such a way as to provide safe and easy access from the rope ladder to the bottom platform. The rectangular rung ladder should extend at least 2 metres above the accommodation ladder's bottom platform.

## **4.7 Other Boarding Equipment**

- 4.7.1 Other boarding equipment has not been mentioned in the Code but designed and constructed suitable for safe embarking and disembarking purposes is also acceptable.
- 4.7.2 Man cage could be used as a safe means of access to vessel and should be robustly constructed and fenced by metal railings. Upper railing is preferably 1,000 mm high and middle railing 500 mm from the bottom of the cage. Toe boards of about 200 mm. Door or gate should be open inwards and equipped with safety interlock. Maximum permissible passengers' weight and maximum number of passengers' carried should be labelled on the cage.
- 4.7.3 Floating landing pontoon could be used as a safe means of access between vessel and shore. It should be properly designed for the landing purpose. Maximum permissible passengers' weight and maximum number of passengers carried should be labelled on the pontoon.
- 4.7.4 Any safety net properly designed for the purpose, e.g. Jason's Cradle, could be used as a safe means of access. The safety net should be regularly inspected and well maintained in good condition. It should be firmly fixed at the upper end to prevent any inadvertent movement.

## 4.8 Lighting

- MS(LV)(W)R* 4.8.1 The boarding equipment and the immediate approaches to it should be effectively illuminated from the vessel or the shore to at least a level of 20 lux, as measured at height of 1 metre above the surface of the means of access or its immediate approaches.
- Sect. 9(1)(c)*
- 4.8.2 Lighting should be reasonably constant and arranged to minimize glare and dazzle, the formation of deep shadows and sharp contrasts in the level of illumination between one area and another.
- 4.8.3 When portable or temporary lights are in use, the light supports and leads should be arranged, secured or covered so as to prevent a person tripping, or hitting onto the fittings. Any slack in the leads should be coiled. The leads should be kept clear of possible causes of damage. Portable lights should never be lowered or suspended by their leads.
- 4.8.4 Where portable or temporary lighting has to be used fittings and leads should be safe and suitable for the intended usage. To avoid risks of electric shock from mains voltage, the portable lamps used in damp or humid conditions should be of low voltage. The use of earthed direct current power supply of voltage under 110 volts would be comparatively safer.

# APPENDIX I (附錄I)

## Reference (參考書目)

- A3.1 Accident prevention on board ship at sea and in port, International Labour Office, Geneva  
(Accident prevention on board ship at sea and in port, 日內瓦國際勞工局出版)
- A3.2 Code of safe working practices for merchant seamen, Maritime and Coastguard Agency, UK  
(Code of Safe Working Practices for Merchant Seamen, 商船海員安全工作守則, 英國海事及海岸警衛隊管理局出版)
- A3.3 Guide to Safety and Health in Dock Work, International Labour Office, Geneva  
(Guide to Safety and Health in Dock Work, 日內瓦國際勞工局出版)
- A3.5 Shipbuilding and Ship-Repairing Safety Guide, Marine Department, HKSAR  
(《造船及修船工作安全指南》, 香港特區政府海事處出版)
- A3.6 《船上貨物裝卸安全指南》(Stevedoring Safety Guide), Marine Department, HKSAR  
(《船上貨物裝卸安全指南》, 香港特區政府海事處出版)

# APPENDIX II (附錄II)

## Photos 圖片

Photo 1 --- Accommodation ladder and Pilot Ladder

圖1－舷梯及領港員梯



Photo 2 –Rope Ladder 圖2 – 繩梯



Photo 3 – Gangways 圖3 – 跳板

圖3 – 跳板

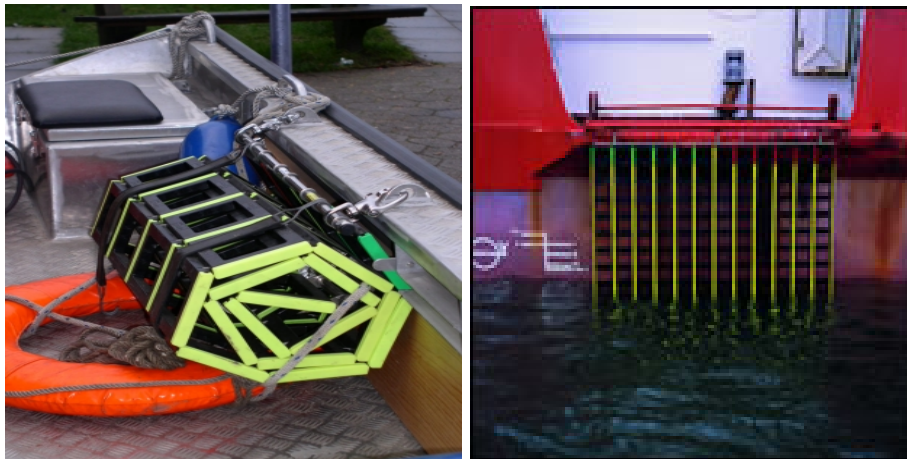




**Photo 4 – Pier Ladders**      圖4 – 碼頭梯



**Photo 5 – Jason’s Cradle**      圖5 – Jason’s Cradle



**Photo 6 --- Man Cage**      圖6 – 載人籠



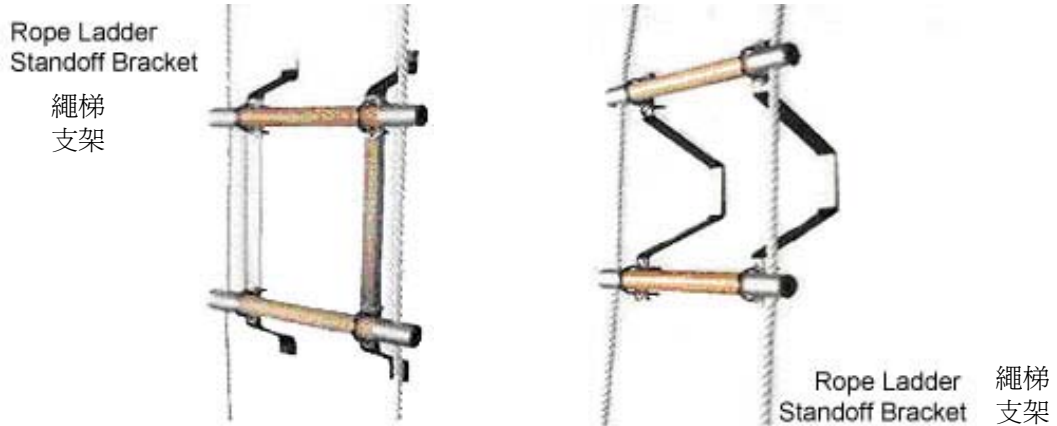
**Photo 7 --- Portable ladder with two legs of horizontal protrusions providing sufficient space ( at least 115 mm ) for footholds**

**圖7 — 活動扶梯設有兩條突出短杆，可提供足夠空間（最少115毫米）作為腳踏處。**



**Photo 8 – Rope ladder with standoff bracket to provide sufficient space (at least 115mm) for footholds**

**圖8 — 繩梯設有支架，可提供足夠空間（最少115毫米）作為腳踏處。**



**Photo 9 – Airfloat Pontoons**

**圖9 — 氣浮式浮躉**



**Photo 10 – Fixed ladders on dumb steel lighters 圖10—非自航鋼躉上的固定梯**



**(Note: It is the industry's request to produce the above photos, which is for reference only. The Person-In-Charge of Works should provide suitable safety means of access according to ship's layout.)**

(註：以上圖片乃按業界要求提供，僅作參考之用。工程負責人須因應船隻的設計而提供適當的上落設施。)