

## **Code of Practice for**

## **Designation of Competent Persons for Works on Local Vessels**

(issued under Section 45A of the Merchant Shipping (Local Vessels) Ordinance, Cap 548)



**Marine Industrial Safety Section**

**Marine Department, HKSAR**

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## Record on Updating and Amendments

**This Code of Practice is issued under section 45A of the Merchant Shipping (Local Vessels) Ordinance (Cap 548). This Code was first notified in the Gazette on 29<sup>th</sup> December 2006 to take effect on 2<sup>nd</sup> January 2007. 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 this Code.**

Amendment No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / pages

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## **Foreword**

The Merchant Shipping (Local Vessels)(Works) Regulation (the “Regulation”) is made under section 89 of the Merchant Shipping (Local Vessels) Ordinance, Cap 548 (the “Ordinance”). The Regulation stipulates various provisions to ensure that competent persons are in the control of workplace safety in carrying out works, which by definition means (a) repairs to a local vessel; (b) the breaking up of a local vessel; (c) cargo handling; or (d) marine construction.

This Code of Practice (the “COP”) provides practical guidance in respect of the requirements under the Regulation relating to competent persons so as to assist the determination whether a person is competent, reliable or trained to carry out or perform the tasks specified in the Regulation.

This approved COP is issued by the Director of Marine (the “Director”) under Section 45A of the Ordinance. Section 45A of the Ordinance 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 VIII of the Ordinance or of the regulations made under the Ordinance. It is important to note that compliance with this COP does not of itself confer immunity from any legal obligations in Hong Kong. The statutory provisions referred to or cited in the COP are those in force as at time of publication of this edition of the COP. Readers should check for the up-to-date version of the Regulation.

Under Section 45A of the Ordinance, any person who fails to observe a provision of this approved COP shall not of itself cause that person to incur any criminal liability, but any such failure may be relied upon by any party to the proceedings as tending to establish or to negative any liability which is in question in those proceedings.

## **1. Scope**

- 1.1 This COP recommends standards to determine whether a person is competent, reliable or trained to perform a particular task required under the Regulation.
- 1.2 The Regulation imposes, inter alia, the following tasks on competent persons :
  - (1) to operate power operated hatch covering and power operated hull door, etc. ( section 17);
  - (2) to supervise the application of heat treatment to lifting gear made of steel or having any part made of steel (section 29);and
  - (3) to carry out the inspection of lifting gear and wire ropes etc. pursuant to sections 34, 36 and 37; and to enter the certificates and particulars in accordance with section 39 obtained (sections 34, 36, 37 and 39).
- 1.3 The Regulation also imposes the following specific requirements:
  - (1) qualified person to be in charge of lifting appliances (section 46); and
  - (2) persons satisfied the requirements in section 51 to operate cranes and other lifting appliances; and to attend to falls on winch ends or winch drums (section 51).
- 1.4 The relevant statutory regulations to be complied with are indicated on the left margin of the provisions of this COP for ease of reference. Unless otherwise specified in this COP, the regulations referred to in the left margin are those of the Regulation.

## **2. Interpretation**

### **2.1 For the purpose of this COP :**

#### *Section 2*

“competent examiner” means a person who—

- (a) is registered under the Engineers Registration Ordinance (Cap 409) within a discipline specified in Schedule 3 of the Regulation; or
- (b) is appointed as a competent examiner for the purposes of the Regulation by an organisation specified under section 2(2) of the Regulation.

#### *Section 2*

“competent person” means a person who is competent to perform an inspection or any other particular task permitted or required to be performed by a competent person under the relevant provision of the Regulation.

#### *Cap548 Ordinance*

“crane” means any appliance equipped with mechanical means of hoisting and lowering a load and for transporting the load while suspended; and also all chains, ropes, swivels, or other tackle (down to and including the hook), used in the operation of the appliance; but does not include --

- (a) a hoist block running on a fixed rail or wire;
- (b) a stacker or conveyer whereby a load is moved by means of a belt or platform; or
- (c) an earth or mineral moving or excavating appliance not fitted with a grab.

#### *Cap 548 Ordinance*

“Director” means the Director of Marine.

#### *Section 2*

“hatch” means an opening in a deck of a vessel used for -

- (a) loading and unloading the vessel;
- (b) trimming; or
- (c) ventilation.

<i>Section 2</i>	“inspector” means a person appointed under section 39 of the Ordinance.
<i>Cap 548 Ordinance</i>	“lifting appliance” means a crane, winch, hoist, derrick boom, sheer legs, excavator, pile driver, pile extractor, fork lift truck or other self-propelled machine, and any other description of lifting appliance, derrick and mast bands, goose-necks, eyebolts, and all other permanent attachments to a derrick, mast or deck, used on a vessel for the purposes of hoisting or lowering in connection with works.
<i>Cap 548 Ordinance</i>	“lifting gear” includes a chain, rope sling, canvas sling, net, tray, board, box, bull rope, snorter, can hook or other means of supporting cargo and attachments thereto including a ring, link, hooks plate, clamp, shackle, swivel, eyebolt, bridle, beams, spreader, rope and wire, used on a vessel in connection with works.
<i>Section 2</i>	“register of lifting appliances and lifting gear” means a register of lifting appliances and lifting gear required to be kept under section 40(1) of the Regulation.
<i>Section 2</i>	“relevant safety training course” in relation to a person who operates or is in charge of a crane, means the safety training course called “Shipboard crane operator safety training course” provided by a person approved under section 70 of the Regulation.
<i>Section 2</i>	“workplace” means any place on a local vessel in which a person employed carries out works.
<i>Cap 548 Ordinance</i>	“works” means (a) repairs to local vessel; (b) the breaking up of a local vessel; (c) cargo handling; or (d) marine construction.

### **3. Competency of competent persons**

#### **3.1 *Competency and reliability***

- 3.1.1 A person is regarded as competent if he is qualified and well trained in the relevant trade. He is capable of identifying predictable, existing and potential hazards in his particular areas of operation in that trade.
- 3.1.2 A competent person must possess adequate knowledge and practical experience, and have the ability, necessary skill and authority to eliminate those hazards identified in the workplace.
- 3.1.3 The competent person who fully complies with the foregoing and other relevant requirements in this COP will generally be considered as reliable to carry out or perform the duties imposed under any particular provision of the Regulation.

#### **3.2 *Designation of a competent person***

- 3.2.1 It is the duty and obligation of the employer to determine the competency of all persons employed by him, including competent persons, to ensure that such persons have the ability to execute the duties of a competent person.
- 3.2.2 Possession of a valid certificate or training card alone does not qualify a worker as a competent person. A competent person needs to comply fully with the provisions in paragraph 3.1 above.
- 3.2.3 The competent persons are responsible for establishing and ensuring for a safe working environment. The workplace conditions may not be altered unless under the direct supervision of a competent person.
- 3.2.4 A competent person may not necessarily be a supervisor, who cannot countermand the expertise and directives of a competent person. A supervisor has different responsibilities in the workplace and may not possess the required competency and



reliability to intervene or override the decision of a competent person performing a particular task.

### 3.3 *The role of a competent person*

- 3.3.1 Under the Regulation, the employer and the person in charge of works have the duties to, inter alia, ensure that certain tasks required under the Regulation are performed by competent persons; to establish the role of competent persons in relation to all other persons employed in the workplace and to render necessary supports to them.

## 4. **Practical Guidance on the Requirements in respect of Competent Persons**

section 17

### 4.1 **Power operated hatch coverings and hull doors, etc.**

- 4.1.1 Persons employed to carry out works on a vessel may encounter work situations where someone has to open, close or otherwise operate hatch covering, door in the hull, ramp, retractable deck or similar ship's equipment which is operated by power (electric, hydraulic, pneumatic or otherwise). The above acts must be done by a competent person who possesses the following:

#### 4.1.1.1 Knowledge

he is well acquainted with the safe working procedures of the relevant power operated equipment, and follows the manufacturer's operating guidelines. He knows about the safe system of work and the location and function of safety devices, master switches, on-off switches and emergency stops;

#### 4.1.1.2 Skill

he has the skill of using hand tools, machine tools , measuring instrument and testing devices to conduct

simple functional checks of the relevant power operating devices;

#### 4.1.1.3 Ability

he has the ability to control machinery and is physically fit and sober when operating the relevant power operated equipment, as not to cause unnecessary risk of accident and bodily injury. Normally, he is an adult who has attained the age of 18 years;

#### 4.1.1.4 Training

he has received adequate information, instruction and training provided by his employer or the person in charge of works to render him competent to use such equipment; and

#### 4.1.1.5 Experience

he has engaged in ship handling and practised seamanship for not less than one year, involving in the operation of deck machinery, such as winches and windlasses, lifting appliances and lifting gear, etc..

- 4.1.2 A competent person referred to in section 17 is usually a seaman designated by the coxswain of the local vessel. However, if a shore mechanic is employed by a repair or engineering firm to carry out inspection, maintenance and repair work on board the vessel, he must have the authorisation from the coxswain or ship owner of the local vessel prior to operating any power operated equipment or devices on board the local vessel. His training, knowledge, skill and practical workshop experience relating to the type of equipment installed on board are counted towards the compliance requirement of a competent person stipulated in the Regulation. Likewise, a shore stevedore or person employed for cargo handling work should also obtain permission from the

coxswain to authorise him the use of such power operated equipment. He is competent to operate cranes and other lifting appliances and should have attended the relevant safety training course and obtained a valid certificate issued by a person approved by the Director.

*section 29*

4.2 **Restriction on using certain lifting gear requiring heat treatment**

- 4.2.1 The owner of a lifting gear concerned or a person in charge of works using a lifting gear, e.g. for the purposes of hoisting or lowering cargo, should ensure that no heat treatment shall be applied to lifting gear made of steel, or having any part made of steel, unless the treatment is carried out under the supervision of a competent person and as required by him. In carrying repair work to the lifting gear, preheating is necessary prior to welding to reduce the cooling rate of the heat affected zone to control the brittleness of steel metal and annealing is also employed to relieve the residual stresses induced in the welding and work processes. The competent person in such circumstances is usually a professional designated by his employer, ie the repair shop or engineering firm employing him, who has the necessary skills and knowledge and was trained as a competent person in this regard. The competent person supervising the application of heat treatment to any lifting gear should satisfy the following requirements:

4.2.1.1 **Knowledge**

he should have the knowledge of material science and metallurgy. He knows about welding processes and understands the mechanical tests and chemical analysis of steel materials;

4.2.1.2 **Skill**

he has the skill of using common non-destructive methods to assure the quality of work and to detect

flaws and defects in the lifting gear after heat treatment;

#### 4.2.1.3 Ability

he has the ability to understand and cause to carry out written or oral instruction to the workers under his supervision. He is able to inspect and evaluate test results for appropriate action to be taken, and maintain records of the inspection and tests for production to the inspector on demand;

#### 4.2.1.4 Training

the competent person designated by his employer recognises potential and developing hazards in the workplace and was trained to do the right job assigned by his organisation. Apart from on-the-job training and other in-house training provided by his employer, he is preferably holding academic and professional attainment in the relevant disciplines such as mechanical engineering, marine engineering, chemical engineering, material science and welding technology; and

#### 4.2.1.5 Experience

he has at least one year work experience, after satisfying the training requirement of his employer, which involves the heat treatment process.

4.2.2 The employer of a competent person must ensure that the competent person performs his designated duties. The competent person may not be on site all the time. He is responsible for establishing and developing safe work procedures and a safe work environment and maintaining the same which may not be altered except under his direct supervision.

- 4.2.3 The owner of the lifting appliances and lifting gear or the person in charge of works sometimes engage the services of the competent examiners in testing and certifying the lifting appliances and lifting gear. For the purposes of section 29 of the Regulation, and by virtue of the training and practical experience of such competent examiners, unless there are evidence to the contrary, these competent examiners are considered having satisfied the criteria of a competent person in supervising any heat treatment process to lifting gear.

section 34  
section 36  
section 39  
section 40

4.3 **Inspection of certain lifting gear and wire ropes, and certificates to be obtained, etc.**

Cap548 section 40  
of Ordinance

- 4.3.1 The owner of a lifting appliance or lifting gear or the coxswain of the relevant local vessel has to maintain a register of lifting appliances and lifting gear for production to the Director or an inspector for inspection as required under section 40 of the Regulation and section 40 (Powers of Director and Inspectors) of the Ordinance. Certain lifting gear and wire ropes are subject to periodic inspections at 3 months intervals by a competent person, who has to enter, in the relevant register of lifting appliances and lifting gear a certificate of inspection in respect of the lifting gear and all the particulars required to be entered in the register with regard to the inspection. A competent person in the context of operating a local lighter frequently refers to the derrick crane operator who is usually the head lighterman in charge of the cargo handling work. The competent person carrying out such inspection has to satisfy the following requirements:

4.3.1.1 **Knowledge**

he is fully acquainted with the operation, safety rules, precautions, maintenance and overhaul requirements of the lifting appliance and lifting gear that he has to inspect. He is conversant with the rig of the cargo gear and knows the location and function of safety devices, master switches, on-off switches and emergency stops of the winches. He knows the safe working loads of

all lifting gear and wire ropes he inspects and ensures that they are duly tested and examined by a competent examiner before use or after being lengthened, altered or repaired by welding. He will not use any lifting appliance having any stress-bearing part which has been substantially altered or repaired unless it has been tested and examined by a competent examiner after the alteration and repair;

#### 4.3.1.2 Skill

he has the skill of using hand tools for splicing wire ropes, machine tools, measuring instrument and testing devices to conduct simple functional checks of the lifting gear and wire ropes he inspects;

#### 4.3.1.3 Ability

he is able to identify defects and take appropriate action for rectification to maintain the safe working order of the lifting gear and wire ropes according to Part 4 (Lifting Appliances and Lifting Gear) of the Regulation. After each inspection, he has to enter in the relevant register of lifting appliances and lifting gear a certification of inspection and all the particulars required to be entered in it with regard to the inspection;

#### 4.3.1.4 Training

he is suitably trained and competent to operate a crane. In addition, he is required to hold a valid safety training certificate in respect of his attendance of an approved shipboard crane operator safety training course. Alternatively, he may hold such other training certificate(s) which is recognised by the Director as relevant and having the same level of instruction and safety standard; and

#### 4.3.1.5 Experience

he must have at least one year working experience relating to the type of lifting appliance and lifting gear he operates or uses, and has on hand experience of lubrication and maintenance of wire ropes, lifting blocks, shackles and swivels, etc..

4.3.2 A shore mechanic may be engaged by the owner of the lifting appliance and lifting gear to carry out inspection in a similar manner mentioned in paragraph 4.1.2 and sign the certificate of inspection. He is considered as competent if he was suitably trained and designated by his employer, such as a repair workshop or engineering firm, and satisfies the criteria of a competent person listed in the foregoing paragraphs. Competent examiners of lifting appliances and lifting gear, by virtue of their training and practical experience, are competent to carry out such inspection and sign for the relevant certificates.

4.3.3 The owner or the coxswain in command of the local vessel, for the purposes of these regulations, can designate the chief officer, second-in-command after the coxswain, a person considered as competent by virtue of his training, experience, seniority, knowledge of ship operation and his supervisory position on board the vessel, to carry out inspection of the vessel's lifting gear and wire ropes and sign the certificate of inspection in the register of lifting appliances and lifting gear. The chief officer's primary responsibilities are the vessel's cargo operations, its stability and supervising the deck crew. He is responsible for the safety and security of the ship as well as the welfare of the crew on board as well as maintenance of the ship's hull, cargo gears, accommodations, the life saving appliances and the firefighting appliances.

section 46

#### 4.4 **Qualified persons to be in charge of lifting appliances**

4.4.1 This regulation aims at preventing the dangerous practice of leaving a cargo load suspended from any lifting appliance unattended. The person qualified to be in charge of the lifting

appliance is a person who has attained the age of 18 years; holds a valid certificate in respect of the relevant safety training course or such other certificate relating to safety training recognized by the Director; and by virtue of his experience, is competent to operate a crane. Normally a competent person who is competent to operate the lifting appliance as stipulated in section 51 will be considered as a qualified person. See further elaborations in paragraph 4.5 below.

A qualified person should satisfy the following requirements:

4.4.1.1 Knowledge

he is well acquainted with the safe working procedures of the type of lifting appliance he is attending; also knows about the safe system of work and the location and function of safety devices, electrical and/or mechanical controls of the hoisting winch and emergency stops of the machinery;

4.4.1.2 Skill

he has the skill of using hand tools, machine tools, measuring instrument and testing devices to conduct simple functional checks of the lifting appliance under his charge;

4.4.1.3 Ability

he has the ability to assess the hazards associated with the work in hand and is physically fit and sober at the time of attending to the lifting appliance under his charge, as not to cause unnecessary risk of accident and bodily injury. He must have attained the age of 18 years to be qualified in this position;

4.4.1.4 Training



he is suitably trained and competent to operate the lifting appliance. In addition, he is required to hold a valid safety training certificate in respect of his attendance of an approved shipboard crane operator safety training course. Alternatively, he may hold such other training certificate(s) which is recognised by the Director as relevant and having the same level of instruction and safety standard; and

#### 4.4.1.5 Experience

he should acquire sufficient practical experience to operate a crane or the type of lifting appliance he is taking charge of. His practical training and experience associated with shipboard lifting appliance should not be less than one year.

- 4.4.2 A qualified person may sometimes be a crewmember of the vessel designated by the coxswain of that vessel to take charge of the lifting appliance. He should also comply with the competency requirements listed in paragraphs 4.4.1.1 to 4.4.1.5. However, if a shore mechanic is employed by a repair or engineering firm to carry out inspection, maintenance and load test after repair work on board the vessel, he must have the written authorisation from the coxswain or owner of the vessel prior to taking charge of or operating any crane or lifting appliance on board the vessel. His training by his employer, knowledge of cranes, skill and practical workshop experience relating to the type of equipment installed on board are counted towards the compliance of the requirement of a competent person stipulated in the Regulation. He may hold other training certificates recognised by the Director as relevant to the duties he is undertaking.

4.5.1 A crane or other lifting appliance for the purposes of hoisting or lowering in connection with cargo handling work must be operated by a competent person who satisfies the following requirements:

4.5.1.1 Knowledge

he is well acquainted with the safe working procedures of the type of crane or lifting appliance he is operating; also knows about the safe system of work and the location and function of safety devices, electrical and/or mechanical controls of the hoisting winch and emergency stops of the machinery. He knows how to check the maintenance record and test certificates of the lifting appliance and lifting gear before using them for hoisting and lowering a load;

4.5.1.2 Skill

he has the skill of using hand tools, machine tools, measuring instrument and testing devices to conduct simple functional checks of the lifting appliance under his charge;

4.5.1.3 Ability

he has the ability to effectively control the machinery and is physically fit and in good health, and at the time of operating the crane or lifting appliance, not under the influence of medicine or alcohol, so as not to cause unnecessary risk of accident and bodily injury. He must have attained the age of 18 years to be considered as competent and reliable;

4.5.1.4 Training

he is suitably trained and competent to operate a crane. In addition, he is required to hold a valid safety

training certificate in respect of his attendance of an approved shipboard crane operator safety training course. Alternatively, he may hold such other training certificate(s) which is recognised by the Director as relevant and having the same level of instruction and safety standard; and

#### 4.5.1.5 Experience

he should acquire sufficient practical experience to operate a crane or other lifting appliances he is taking charge of. His practical training and experience associated with operation of shipboard cranes and other lifting appliances should not be less than one year.

4.5.2 Persons operating a lifting appliance other than a crane or attending to falls on winch ends or winch drums should have also attained the age of 18 years and be competent to operate the type of lifting appliance he is required to operate and have sufficient practical experience in handling wire ropes and winch machinery. The competence develops by virtue of his training and practice in the trade of not less than one year. A person is considered as reliable to carry out his duties of operating a lifting appliance or attending to cargo falls on winch ends or winch drum, if, apart from his competence, he is also in good health and not under the influence of medicine or alcohol as to affect his judgement at work, and is able to identify and eliminate/avoid any immediate/potential hazards to prevent unnecessary risk of bodily injury.

4.5.3 Operators of cranes and other lifting appliances on board a vessel must have the written authorisation from the coxswain or owner of that vessel before carrying out any works.

## References

*Code of Safe Working Practices for Merchant Seamen*, Consolidated Edition-February 2004, Maritime and Coastguard Agency (MCA), UK

*Regulations (Standards – 29CFR)*, US Department of Labour, Occupational Safety & Health Administration

*Guidance Notes on Inspection, Thorough Examination and Testing of Lifting Appliances and Lifting Gear*, 2001, Labour Department, Hong Kong SAR

*Structural Materials*, 1990, Open University

## Marine Department Contacts

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

Marine Industrial Safety Section,  
Room 2315, Harbour Building,  
38 Pier Road,  
Central, Hong Kong.

Tel.: 2852 4472                      Fax.: 2543 7209

2. For reporting of marine accidents during office hours -

Marine Accident Investigation Section  
Room 2103, Harbour Building,  
38 Pier Road,  
Central, Hong Kong.

Tel.: 2852 4511, 2852 4943                      Fax.: 2543 0805

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

Dangerous Goods and Project Section  
Room 307, Harbour Building,  
38 Pier Road,  
Central, Hong Kong.

Tel.: 2852 3085                                      Fax.: 2815 8596

4. For reporting of marine and shipboard industrial accidents during and outside office hours -

Vessel Traffic Centre

Tel.: 2233 7801                                      Fax.: 2858 6646

5. Marine Department Web-site : <http://www.info.gov.hk/mardep>