

High Speed Craft Consultative Committee (HSCCC)

Proposed Examination for Cargo Endorsement

Introduction

1. The existing syllabus for River Trade deck officers' certification examination does not contain the element of cargo handling and stowage. As a result the river trade certificates issued to candidates after passing the river trade deck officer's certificate examination will not be issued with the endorsement on "cargo handling and stowage" function and therefore holders of such certificates are not qualified to work on cargo ships. The Merchant Navy Officers' Guild - Hong Kong suggested to add the topic of "cargo handling and stowage" to the river trade syllabus in the 14th HSCCC meeting and no objection was received (para. 14 of the meeting notes refers).

The Proposal

2. As most of the river trade certificate holders work on high speed passenger craft trading between Hong Kong/Macau and cargo handling function is not required in their normal duties, it is proposed that examination on cargo handling and stowage would be applied as an optional item subject to an individual's preference. As such, an additional optional examination paper of one and a half hour will be arranged for candidates who would like to have a qualification on "cargo handling and stowage" and this examination will have the following two levels :-

<u>Function</u>	<u>Certificate Applied</u>
1. Cargo handling and stowage at the operational level	Class 3 river trade deck officer certificate
2. Cargo handling and stowage at the management level	Class 2 and Class 1 river trade deck officer certificate

3. The syllabus for the "cargo handling and stowage" endorsement for river trade deck officers' certificates is given in the appendix. The syllabus for "cargo handling and

stowage” at the operational level is for candidates of Class 3 river trade deck officer certificate seeking such qualification while the syllabus for “cargo handling and stowage” at the management level is for candidate seeking such qualification in the Class 2 and Class 1 river trade deck officer certificate examination. Holders of existing river trade deck officer certificates may also apply to be examined on cargo handling and stowage of the appropriate level if they want to have the “cargo handling and stowage” endorsement on their certificates.

Consultation

4. Members are requested to give their comments/views on the proposal. Upon general consensus of the proposal, the Determinations for the certification of river trade deck officers will be amended to incorporate the proposal in the next revision exercise.

Shipping Division
Marine Department
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Appendix

Function : **Cargo handling and stowage at operational level**

Competence : Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes

Inspect and report defects and damages to cargo spaces, hatch covers and ballast tanks

<p>Criteria : Cargo operations are carried out in accordance with cargo plan or other document and established safety rules and regulations, equipment operating instructions and shipboard stowage limitations.</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice.</p> <p>Communications are clear, understood and consistently successful.</p> <p>The inspections are carried out in accordance with laid down procedures and defects and damages are detected and properly reported.</p>

Cargo handling and stowage

- (a) Knowledge of the effect of cargo including heavy lifts on the seaworthiness and stability of the ship.
- (b) Knowledge of safe handling, stowage and securing of cargoes including solid bulk cargoes and dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship.
- (c) Ability to establish and maintain effective communications during loading and unloading.
- (d) Definitions of various terms used in the carriage of goods, i.e. bale capacity, grain capacity, stowage factors, broken stowage, measurement cargoes, deadweight cargoes.
- (e) Cargo handling equipment. The meaning of Safe Working Load. The correct rigging and safe operation of derricks, cranes, stores hoists, etc.
- (f) Types of hatch covers in general use and their safe opening, closing, sealing and securing. Tank lids, trunkway doors, ventilation systems, hatches and other openings to cargo spaces.
- (g) The stowage of general and mixed or unitised types of cargoes in general cargo ships. The making and use of cargo plans. Preparation of holds. Use of dunnage. Separation of cargoes. Loading and discharging processes and the

securing of different types of cargo including heavy items. How to prevent or minimise cargo damage due to sweat and pilferage.

- (h) The stowage of dry cargoes in bulk carriers. Loading and discharging methods. Action to be taken in the case of grab damage. The preparation of holds for most common types of bulk cargoes. The principal hazards to ship and crew associated with the carriage of solid bulk cargoes, and how the effects of these may be minimised.
- (i) The handling, stowage, securing and carriage of deck cargoes.
- (j) Containerised and Ro-Ro cargoes. Methods of handling and securing in fully specialised or partly conventional ships. Principal hazards to be avoided during loading, carriage and discharge. Checks to be made to ensure correct out-turn. Main container types.
- (k) Liquid cargoes. Loading and discharging processes in tankers and OBO's. The hazards associated with petroleum, liquefied gases and bulk chemical cargoes and general safety precautions and measures. Gas testing instruments. Gauging and venting systems. Cargo pipeline systems. Tank cleaning and gas freeing processes.
- (l) Salt water ballast. The requirement to ballast in light ship condition. The control of ballast operations simultaneously with loading and discharging. Filling, discharging and stripping methods. Reasons for the avoidance of overflowing ballast on deck. The hazards of excessive free surface or stress produced by the combination of ballast and cargo operations. Checks to be made on the integrity of ballast tanks.

Inspect and report defects and damages to cargo spaces, hatch covers and ballast tanks

- (m) Knowledge and ability to explain where to look for damages and defects most commonly encountered due to loading and unloading operations, corrosion and severe weather conditions. Ability to state which parts of a ship shall be inspected each time in order to cover all parts within a given period of time.
- (n) Identify those elements of ship structure which are critical to the safety of ship. State the causes of corrosion in cargo spaces and ballast tanks and how corrosion can be identified and prevented.
- (o) Knowledge of procedures on how the inspections shall be carried out. Ability to explain how to ensure reliable detection of defects and damages. Understanding of the purpose of the "Enhanced Survey Programme".

Function : **Cargo handling and stowage at the management level**

Competence (i) : Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes

Criteria :	Cargo operations are planned and executed in accordance with established procedures and legislative requirements. Stowage and securing of cargoes ensures that stability and stress conditions remain within safe limits at all times during the voyage.
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- (a) Knowledge of and ability to apply relevant regulations, codes and standards and recommendations relating to the safe handling, stowage, securing and transport of cargoes.
- (b) Knowledge of the effect on trim and stability of cargoes and cargo operations.
- (c) Use of stability and trim diagrams and stress calculating equipment, including automatic data-based (ADB) equipment and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits.
- (d) Stowage and securing of cargoes on board ships including cargo handling gear, securing and lashing equipment.
- (e) Loading and unloading operations with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing.
- (f) General knowledge of tankers and tanker operations.
- (g) Planning, loading, discharging, stowing and securing with particular regard to heavy weights.
- (h) The correct use of cargo gear with special attention to lifting appliances. Safe working loads and associated limits. Proof loads. Calculations of approximate stresses on parts of cargo lifting gear. Equipment tests.
- (i) Certificates and records to be kept on board ship.
- (j) Preparation of holds for general and dry bulk cargoes. Loading port surveys.
- (k) Containers; their stowage and securing in holds and on deck in specialised and conventional ships. Planning and stability considerations.
- (l) Knowledge of the operational and design limitations of bulk carriers.
- (m) Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes.
- (n) Ability to establish procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78 Annexes III and V and other relevant information.
- (o) Ability to explain the basic principles for establishing effective communications and improving working relationship between ship and terminal personnel.

Competence (ii) : Assess reported defects and damages to cargo spaces, hatch covers and ballast tanks and take appropriate action.

Criteria :	Evaluations are based on accepted principles, well-founded arguments and correctly carried out. The decisions taken are acceptable, taking into consideration the safety of the ship and the prevailing conditions.
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- (p) Knowledge of the limitations on strength of the vital constructional parts of a standard bulk carrier and ability to interpret given figures for bending moments and shear forces.
- (q) Ability to explain how to avoid detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling.

Competence (iii) : Carriage of dangerous cargoes

Criteria :	Planned distribution of cargo is based on reliable information and established guidelines and legislative requirements. Information on dangers, hazards and special requirements is recorded in a format suitable for easy reference in the event of an incident.
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- (r) International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and IMO "Emergency Procedures for Ships Carrying Dangerous Goods".
- (s) Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage.
- (t) Bulk cargoes; coal, grain, ores etc. Their tendency to shift. The influence of stowage and distribution on stress and stability. Pulsing effects with ore concentrates. Moisture content limits for safe carriage. International regulations, standard, codes and recommendation on the carriage of dangerous cargoes including the International Maritime Solid Bulk Cargoes (IMSBC) Code.
- (u) Petroleum cargoes; IMO requirements as from SOLAS and MARPOL. Tanker and OBO layout and equipment. Tanker operations including safety and pollution avoidance.
- (v) Chemical and liquefied gas cargoes; operational procedures, safety and anti-pollution requirements.