CODE OF PRACTICE ----

Safety Standards for Class III Vessels

(issued under Section 8 of the Merchant Shipping (Local Vessels) Ordinance, Cap 548)

Local Vessels Safety Section
Marine Department, HKSAR

(January 2025 Edition)

Record on Updating and Amendments

This code of practice is issued under section 8 of the Merchant Shipping (Local Vessels) Ordinance, (Cap. 548). This code was first notified in the Gazette Notice on 29 December 2006 to take effect on 2 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.

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
1	G.N.7136	29 November 2013	29 November 2013	revision of sections 7.2 and 8.2 of Chapter I / Page 17
2	G.N.7136	29 November 2013	29 May 2014	addition of new item 13 to "(A) GENERAL AND SAFETY" in the table under section 5 of Chapter II/ Page 5& 9
3	G.N.7136	29 November 2013	29 May 2014	addition of new sections 6.4 and 6.5 to Chapter II / Page 9
4	G.N.7136	29 November 2013	29 May 2014	addition of new section 2.7 to Chapter IIIA / Page 2
5	G.N.7136	29 November 2013	First annual survey after 1 March 2014	addition of new section 15 to Chapter VII / Page 5&6
6	G.N.7136	29 November 2013	section 10.2.1(i) and (ii)–first annual survey after 29 November 2014. section 10.2.1(iii) and section 10.2.2 – 29 November 2014	addition of new section 10 to Chapter XII / Page 4&5
7	G.N.7136	29 November 2013	First annual survey after 1 March 2014	revision of section 1 of Annex U-5/Page 1
8	G.N.6640	21 November 2014	29 November 2014	revision of section 3.1 of Chapter I for – (i) addition of a new definition of "authorized organization" and "classification society"; (ii) repeal of the definition of "classification societies"; and (iii) addition of a new definition of "margin line"
9	G.N.6640	21 November 2014	29 November 2014	revision of sections 4.2, 4.3 and 6.1 of Chapter II;
10	G.N.6640	21 November 2014	29 November 2014	revision of the heading of section 5 of Chapter II
11	G.N.6640	21 November 2014	29 November 2014	addition of a new provision on high risk vessel to section 5 of Chapter II

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
12	G.N.6640	21 November 2014	29 November 2014	revision of items 1, 8, 10 and 12 under "(A) GENERAL AND SAFETY" in the table under section 5 of Chapter II
13	G.N.6640	21 November 2014	29 November 2014	revision of items 1, 2 and 3 under "(B) HULL" in the table under section 5 of Chapter II
14	G.N.6640	21 November 2014	29 November 2014	revision of items 3, 4(a), 4(b), 5, 6 and 7 under "(C) MACHINERY INSTALLATION" in the table under section 5 of Chapter II
15	G.N.6640	21 November 2014	29 November 2014	revision of item 1 under "(D)ELECTRICAL INSTALLATION (including Emergency Power System)" in the table under section 5 of Chapter II
16	G.N.6640	21 November 2014	29 November 2014	revision of remark *7 on the table under section 5 of Chapter II
17	G.N.6640	21 November 2014	29 November 2014	repeal of remark *12 on the table under section 5 of Chapter II
18	G.N.6640	21 November 2014	29 November 2014	omission of remark *13 on the table under section 5 of Chapter II
19	G.N.6640	21 November 2014	29 November 2014	addition of a new section 6.1A to Chapter II
20	G.N.6640	21 November 2014	29 November 2014	omission of the remarks on sections 6.4 and 6.5 of Chapter II
21	G.N.6640	21 November 2014	29 November 2014	revision of items 1 and 12 under "(A) GENERAL AND SAFETY MEASUREMENT" in Table 1 under section 7 of Chapter II
22	G.N.6640	21 November 2014	29 November 2014	revision of remark *11 on Table 2 under section 7 of Chapter II
23	G.N.6640	21 November 2014	29 November 2014	revision of item 6 under "(A&B) GENERAL, HULL & SAFETY EQUIPMENT" in Table 3 under section 7 of Chapter II
24	G.N.6640	21 November 2014	29 November 2014	addition of a new item 6A under "(A&B) GENERAL, HULL & SAFETY EQUIPMENT" in Table 3 under section 7 of Chapter II
25	G.N.6640	21 November 2014	29 November 2014	addition of a new item 9A under "(C&D) MACHINERY AND ELECTRICAL INSTALLATION" in Table 3 under section 7 of Chapter II
26	G.N.6640	21 November 2014	29 November 2014	addition of a new remark *5A on Table 3 under section 7 of Chapter II
27	G.N.6640	21 November 2014	29 November 2014	omission of the remarks on section 2.7 of Chapter IIIA

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
28	G.N.6640	21 November 2014	29 November 2014	revision of the English text of section 3.5 of Chapter IIIA
29	G.N.6640	21 November 2014	29 November 2014	revision of section 10.2 of Chapter IIIA
30	G.N.6640	21 November 2014	29 November 2014	addition of new sections 21.5A and 21.5B to Chapter IIIA
31	G.N.6640	21 November 2014	29 November 2014	revision of sections 6.1, 9.1 and 9.2 of Chapter IV
32	G.N.6640	21 November 2014	29 November 2014	revision of sections 1.1(c), 3.1(a), 3.2, 3.4, 3.5, 7.1 and 7.2 of Chapter V
33	G.N.6640	21 November 2014	29 November 2014	addition of new sections 1.5, 3.6, 3.7, 3.8, 3.9 and 7.1A to Chapter V
34	G.N.6640	21 November 2014	29 November 2014	revision of section 10.1(a) of Chapter VI
35	G.N.6640	21 November 2014	29 November 2014	repeal of section 13.5.2 of Chapter VI
36	G.N.6640	21 November 2014	29 November 2014	revision of section 3.1 of Chapter XI
37	G.N.6640	21 November 2014	29 November 2014	revision of section 10 of Chapter XII
38	G.N.6640	21 November 2014	29 November 2014	addition of a new section 11 to Chapter XII;
39	G.N.6640	21 November 2014	29 November 2014	omission of paragraph 1 of Annex U-5
40	G.N.6640	21 November 2014	29 November 2014	revision of paragraph 2 of Annex U-5
41	G.N.6640	21 November 2014	29 November 2014	addition of a new Annex U-6
42	G.N.6824	28 November 2014	29 November 2014	revision of section 11.2 of Chapter XII
43	G.N.3790	29 May 2015	29 May 2015	revision of sections 1.2 and 2.1 of Chapter VII
44	G.N.4986	2 September 2016	2 September 2016	addition of new requirements to section 1.3 of Chapter III B
45	G.N.4986	2 September 2016	2 September 2016	omission of section 1.3(c) of Chapter III B
46	G.N.4986	2 September 2016	2 September 2016	addition of new section 1.4 to Chapter IIIB
47	G.N.4986	2 September 2016	2 September 2016	revision of section 1.1 of Chapter IV
48	G.N.4986	2 September 2016	2 September 2016	revision of section 1.5 of Chapter V
49	G.N.4986	2 September 2016	2 September 2016	revision of section 1.6 of Chapter V

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
50	G.N.4986	2 September 2016	2 September 2016	revision of section 2.8 of Chapter VII
51	G.N.4986	2 September 2016	2 September 2016	addition of sections 10.3 and 10.4 to Chapter VII
52	G.N.4986	2 September 2016	2 September 2016	revision of sections 4.1 to 4.4 and 5.1[Note(F)] of Chapter VIII
53	G.N.4986	2 September 2016	2 September 2016	revision of Annex I-10
54	G.N.4986	2 September 2016	2 September 2016	addition of Annex K-2
55	G.N.4986	2 September 2016	2 September 2016	revision of Annex L
56	G.N.4986	2 September 2016	2 September 2016	addition of new requirements to Annex N-4B
57	G.N.4986	2 September 2016	2 September 2016	addition of new requirements to Annex N-4C
58	G.N.1134	3 March 2017	3 March 2017	the code is rewritten and partitioned into 3 volumes; namely Code of Practice – Safety Standards for Class I Vessels, Code of Practice – Safety Standards for Class II Vessels and Code of Practice – Safety Standards for Class III Vessels; and contents are comprehensively amended
59	G.N.5924	11 August 2017	11 August 2017	Chapter II amended: in Table 7-2, omission of item (A)(1); revision of items (C)(1),(2),(5) and (6); in Table 7-3, revision of items (E)(6) and Remark *4
60	G.N.5924	11 August 2017	11 August 2017	Chapter IIIA: revision of section 7.3 (English version only)
61	G.N.5924	11 August 2017	11 August 2017	Chapter IIIB: revision of section 2.3
62	G.N.95	4 January 2019	4 January 2019	Chapter II: addition of remark *9 attached to item (B)(5) under Table 7-2
63	G.N.95	4 January 2019	4 January 2019	Addition of new Annex Z
64	G.N. 8215	20 December 2019	20 December 2019	Chapter VII Section 1 –definition of "LSA Code" revised; Section 2 –subsections 2.1 and 2.3 revised; subsection 2.2 repealed and new subsection 2.1A inserted to specify the new and former lifejacket requirements;
65	G.N. 8215	20 December 2019	20 December 2019	New Annex AA added to specify the requirements of former regulations
66	G.N.7604	3 December 2021	3 December 2021	Chapter II: Section 3–all revised

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
67	G.N. 949	10 February 2023	20 February 2023	Chapter I Section 2 – subsection 2.1 revised Section 3 – definitions of "certificate" revised Section 3 – update of name of Classification Society
68	G.N. 949	10 February 2023	20 February 2023	Chapter II Section 7 –Table 7-2 items (B)(2), (B)(5) and (B)(6) revised Table 7-3 item (B) and (E)(6) revised
69	G.N. 949	10 February 2023	20 February 2023	Chapter III A Section 19 – subsection 19.2(d) revised Section 20 – subsection 20.5 revised
70	G.N. 949	10 February 2023	20 February 2023	Chapter VI: Section 2 – subsection 2.2 and 2.3 revised Section 5 - new paragraph 5.5 inserted
71	G.N. 949	10 February 2023	20 February 2023	Chapter VII Section 2 –subsection 2.1A.2, 2.1A.3 and 2.1A.8 revised; Section 2 –subsection 2.1A.1, 2.1A.9 and 2.1A.10 repealed; Section 4 – subsection 4.2 revised
72	G.N. 949	10 February 2023	20 February 2023	Chapter XII Section 2 – new Note*4 added in the Table 2.1 Section 3 – subsection 3.2(b) revised
73	G.N. 949	10 February 2023	20 February 2023	Annex V-4 Section 1.(6) revised
74	G.N. 949	10 February 2023	20 February 2023	Annex AA – deleted
75	G.N. 4206	19 July 2024	22 July 2024	New Chapter XIII added
76	G.N.235	10 January 2025	15 January 2025	Table of content: Chapter IV - Section 8 revised Chapter XIV added Annex I-5C revised Annex I-11 added
77	G.N.235	10 January 2025	15 January 2025	Chapter I: Remark 3 in section 5 revised
78	G.N.235	10 January 2025	15 January 2025	Chapter II: Table 7-1 – Items (C) & (D)(1) revised Table 7-3 – Items (C)(2) & (E)(1) revised
79	G.N.235	10 January 2025	15 January 2025	Chapter IV: Sections 2.1, 2.2(b), 8, 8.1 & 8.2 revised

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
80	G.N.235	10 January 2025	15 January 2025	Chapter VII: Section numbers 2.1A.7 & 2.1A.10 revised Section 15 revised
81	G.N.235	10 January 2025	15 January 2025	Chapter VIII: Section 5.4 revised
82	G.N.235	10 January 2025	15 January 2025	Chapter IX: Section 1 revised & note 1 deleted
83	G.N.235	10 January 2025	15 January 2025	Addition of a new Chapter XIV
84	G.N.235	10 January 2025	15 January 2025	Annex I-5C: Change “modification” to “alteration”
85	G.N.235	10 January 2025	15 January 2025	Addition of a new Annex I-11

FOREWORD

(1) The Merchant Shipping (Local Vessels) Ordinance, Cap 548 (here below refers as "the Ordinance"), is to provide for the regulation and control of local vessels in Hong Kong and for other matters affecting local vessels, including their navigation and safety at sea (whether within or beyond the waters of Hong Kong).

(2) This Code of Practice is approved and issued by the Director in pursuant to section 8 of the Ordinance for the purpose of ensuring acceptable technical and safety standards in the design, construction, maintenance and inspection of local vessels in conjunction with the condition required or the standards prescribed by the Director under Merchant Shipping (Local Vessels)(Safety and Survey) Regulation. This Code also provides necessary practical guidance on operational safety practices in conjunction with the relevant requirements in the Merchant Shipping (Local Vessels)(Certification and Licensing) Regulation.

(3) Section 9 of the Ordinance explains the use of approved codes of practice in proceeding .

(4) The owner, agent and the coxswain of any Class III vessel when engaged in operations outside the waters of Hong Kong are required -

(a) to ensure the compliance with relevant safety requirements specified by the Director. These requirements are promulgated in the Marine Department notices from time to time, and

(b) to observe any relevant requirement required by local Authority of those waters.

CODE OF PRACTICE -

SAFETY STANDARDS FOR CLASS III VESSELS

CHAPTER I

GENERAL

CHAPTER II

SURVEY/INSPECTION, ISSUANCE OF CERTIFICATE AND PLAN APPROVAL

CHAPTER III A

HULL CONSTRUCTION, MACHINERY, ELECTRICAL INSTALLATIONS AND FITTINGS - CATEGORY A VESSELS

CHAPTER III B

HULL CONSTRUCTION, MACHINERY, ELECTRICAL INSTALLATIONS AND FITTINGS - CATEGORY B VESSELS

CHAPTER IX

TONNAGE MEASUREMENT

CHAPTER XII

VESSEL SAFE OPERATION AND OPERATOR REQUIREMENTS

CHAPTER XIII

SPECIAL REQUIREMENTS FOR BATTERY POWERED VESSELS

CHAPTER XIV

SPECIAL REQUIREMENTS FOR VESSELS USING GASES OR OTHER LOW FLASHPOINT FUELS

ANNEXES

CHAPTER I
GENERAL

1 Introduction

1.1 The legislation relating to the control, licensing and regulation of local vessels in Hong Kong is contained in the Merchant Shipping (Local Vessels) Ordinance, Cap. 548 (the Ordinance) and its subsidiary legislations. This Code of Practice is issued under section 8 of the Ordinance.

1.2 This "Code of Practice – Safety Standard for Class III Vessels" has been developed by the Hong Kong Marine Department in consultation with the local maritime industry through representation in relevant working groups and committees.

1.3 The primary aim in developing the Code has been to set standards of safety and protection for all crew on board. The Code relates especially to the construction of a vessel, its machinery, equipment and stability and to the proper operation of the vessel so that safety standards are maintained. In accordance with the legal status prescribed in section 9 of the Ordinance, requirements set out in this Code shall be followed.

1.4 The legislative requirements quoted in this Code should be subject to authentic provisions of the legislative instrument and its latest amended. These requirements are mandatory and must be complied with.

1.5 The builder, repairer or owner/managing agent of a vessel, as appropriate shall take all reasonable measures to ensure that a material or appliance fitted in accordance with the requirements of the Code is suitable for the purpose intended having regard to its location in the vessel, the area of operation and the weather conditions which may be encountered.

2 Statutory Legislation and Standards

2.1 This Code must be construed in the light of the following statutory provisions and their amendments from time to time (if any) as appropriate:

(A) Merchant Shipping (Local Vessels) Ordinance (Cap. 548) (hereafter referred to as “the Ordinance”)

(1) Merchant Shipping (Local Vessels) (Certification and Licensing) Regulation (Cap. 548, sub. leg. D) (hereafter referred to as “Certification and Licensing Regulation”)

(2) Merchant Shipping (Local Vessels) (Typhoon Shelter) Regulation (Cap. 548, sub. leg. E)

(3) Merchant Shipping (Local Vessels) (General) Regulation (Cap. 548, sub. leg. F)

(4) Merchant Shipping (Local Vessels) (Safety and Survey) Regulation (Cap. 548, sub. leg. G) (hereafter to be referred as "Survey Regulation")

(5) Merchant Shipping (Local Vessels) (Compulsory Third Party Risks Insurance) Regulation (Cap. 548, sub. leg. H)

(6) Merchant Shipping (Local Vessels) (Fees) Regulation (Cap. 548, sub. leg. J)

(7) Merchant Shipping (Local Vessels) (Local Certificates of Competency) Rules

(B) Merchant Shipping (Prevention and Control of Pollution) Ordinance (Cap. 413)

(1) Merchant Shipping (Prevention of Oil Pollution) Regulations (Cap. 413, sub. leg. A)

(2) Merchant Shipping (Control of Harmful Anti-Fouling Systems on Ships) Regulation (Cap. 413, sub. leg. N)

(3) Merchant Shipping (Prevention of Pollution by Garbage) Regulations (Cap. 413, sub. leg. O)

(4) Merchant Shipping (Prevention of Air Pollution) Regulations (Cap. 413, sub. leg. P)

(C) Merchant Shipping (Safety) Ordinance (Cap. 369)

(1) Merchant Shipping (Safety) (Signals of Distress and Prevention of Collisions) Regulations (Cap. 369, sub. leg. N)

(2) Merchant Shipping (Safety) (Use of Signals of Distress) Regulations (Cap. 369, sub. leg. O)

2.2 Other Standards

The vessel's strength, structure, arrangements, materials, scantlings, main and auxiliary machinery, boilers and pressure vessels, electrical installations, etc. shall be so designed and installed as to ensure that the vessel is fit for the service for which it is intended. Apart from the requirements in this Code, present rules and standards of classification societies recognized by Marine Department or other equivalent standards may be used as assessment standards.

3 Definitions

3.1 In this Code-

"approved", in relation to equipment, appliances, machinery, any other fittings or materials, means approved by the Director;

"authorized organization (AO)" means the classification society authorized (by means of authorization document) by the Director to carry out statutory survey work for local vessels;

"authorized surveyor", as defined in section 2 of the Ordinance;

"certificate" means a Certificate of Survey, issued by the Director under the Survey Regulation; and a HKOPP Certificate or a HKAPP Certificate issued under Merchant Shipping (Prevention and Control of Pollution) Ordinance, Cap. 413;

"classification society (CS)" means an organization approved under section 8 of the Merchant Shipping (Safety) Ordinance (Cap 369)

(a) American Bureau of Shipping (ABS);

(b) Bureau Veritas (BV);

(c) China Classification Society (CCS);

(d) DNV AS;

(e) Korean Register of Shipping (KR);

(f) Lloyd's Register (LR);

(g) Nippon Kaiji Kyokai (NK);

(h) RINA S.p.A. (RINA); or

(i) Russian Maritime Register of Shipping (RS)

“Code” means this Code;

“Declaration” means Declaration of Survey;

“existing vessel” means a vessel which is not a new vessel defined in section 2 of the Survey Regulation

“extreme breadth”, in relation to a local vessel, means the athwartship distance between the extremity of the outermost permanent structure (including fenders of any kind, bulwark, hand rails, etc.) on the port side and the extremity of the outermost permanent structure on the starboard side of the vessel;

“favourable weather” means weather, when the visibility is good and when the combined effects of wind, sea or swell, upon the ship under consideration are never greater than those which would cause moderate rolling or pitching, or result in the shipping of green seas onto the main deck (in the case of open boats, over the gunwale);

“final inspection” means the last or final visit for the purpose of survey or inspection, usually carried out on safety equipment items and functional trials in an initial survey or a periodical survey for a vessel;

“gross tonnage”, a measurement figure for a local vessel of which the details and calculation can be referred to Chapter IX of this Code;

“IMO” means the International Maritime Organization;

“initial survey” in connection with anyone of the certificates mentioned in Part 3 and Part 4, in so far as applicable, of Survey Regulation means the survey (including its final inspection) to be completed for a new vessel for the first issue of the concerned certificate;

“length” or the symbol “(L)”, as defined in section 2 of the Survey Regulation;

“length overall”, as defined in section 2 of the Ordinance;

“main engine” means the propulsion engine(s) of vessel;

“moulded breadth” is measured at amidship and is the maximum breadth over the frames in respect of vessels built of steel or aluminium; and is the maximum breadth over the outside surface of hull planking in respect of vessels built of wood or composite materials;.

“moulded depth” , as defined in section 2 of the Survey Regulation;

“new vessel”, unless indicated otherwise, as defined in section 2 of the Survey Regulation;

“Ordinance” or “LVO” means the Merchant Shipping (Local Vessels) Ordinance (Cap 548).

“owner” , as defined in section 2 of the Ordinance;

“periodical survey” in connection with anyone of the certificates mentioned in Part 4, in so far as applicable, of Survey Regulation means the survey (including its final inspection) to be completed for an existing vessel for the renewal survey, annual endorsement survey or intermediate survey for the issue of the concerned certificate;

“Recognized Authority (RA)”, as defined in section 2 of the Survey Regulation;

"river trade limits" , as defined in section 2 of the Survey Regulation;

“sister vessels” or “series of vessels” means vessels constructed of the same design (i.e. the

same hull form with identical length, breadth, depth and arrangement) in the same shipyard;

"waters of Hong Kong " means waters of Hong Kong within the meaning of Schedule 2 of the Interpretation and General Clauses Ordinance (Cap. 1).

"watertight", as defined in regulation 1 of the Merchant Shipping (Safety) (Passenger Ship Construction And Survey) (Ships Built On Or After 1 September 1984) Regulations;

"weathertight", as defined in regulation 1 of the Merchant Shipping (Safety) (Passenger Ship Construction And Survey) (Ships Built On Or After 1 September 1984) Regulations

4 Application

4.1 Subject to 4.2 below, this Code will apply to Class III vessels of all types of construction.

4.2 Existing vessels shall comply with the requirements previously applicable to these vessels unless otherwise expressly specified in the Survey Regulation or in this Code. The approval and/or exemption of construction and equipment, if any, given to the existing vessels shall remain valid unless otherwise repealed.

4.3 Requirement in pair of angle brackets < > are applicable to new vessels only; i.e. the new vessels as on or after 2 January 2007.

5 Category of Vessel

Every vessel shall be categorised into Category A or B as indicated in the following table:

Class and Type of Vessel	Vessel Category	A		B	
	Material	Steel / Al / GRP		GRP / Wooden	
	Propulsion	with Main Engine	No Main Engine	with Main Engine	No Main Engine
Class III Vessel					
Fishing Vessel		*		*(1)	*(1)
Fish Carrier		*		*(1)	*(1)
Fishing Sampan				*(2)	*(2)(3)
Outboard open sampans (P4)				*(3)	

(Asterisk* means applicable)

Abbreviations in Table

Al : Aluminium

GRP : Glass reinforced plastic

Remarks in Table

(1) Vessels of wooden construction only.

(2) GRP vessels of less than 15 metres or wooden vessels of less than 8 m in length.

(3) See Ch. II/1.4.

6 Equivalent

Under section 83 of the Survey Regulation Marine Department may grant permission for providing on board any other fitting, material, appliance or apparatus, or type thereof, or other facilities that are different from those required in this Code if the department is satisfied by testing or other methods that their effectiveness is equivalent to that required in this Code; supported by necessary survey and test reports.

CHAPTER II

SURVEY / INSPECTION, ISSUANCE OF CERTIFICATE AND PLAN APPROVAL

1 Survey / Inspection for Issue or Endorsement of Certificate

1.1 Any local vessel to which sections 7(1) and (3) of Survey Regulation apply when applying for an initial licence is subject to the approval of plans per items (appropriate according to category and type of vessel) indicated in Table 5-1.

1.2 Any local vessel to which Part 4 of Survey Regulation applies when applying for an initial licence is subject to the initial survey per items (appropriate according to category and type of vessel) indicated in Tables 7-1 and 7-3; and after licencing the periodical survey per items indicated in Tables 7-2 and 7-3.

1.3 Any licensed vessel of the above sections 1.1 or 1.2 intended for alteration shall be subject to the approval of plans (if section 1.1 is applicable) and survey relating to the alteration under section 76(5) of the Survey Regulation.

1.4 Outboard open sampans (P4) and fishing sampans if meeting the requirements prescribed in sections (a) and (b) respectively of Schedule 2 of the Survey Regulation are exempted from plan approval and survey.

1.5 A laid-up vessel (which is granted with a permission for laid-up) shall be subject to survey when returning to service if the Certificate of Survey previously issued has expired. If the expiry is not exceeding 2 years, the survey shall cover items due in the past 2 years as the vessel was not laid up.

1.6 Any vessel having its Certificate of Survey expired for more than 2 year but less than 8 years, the surveys shall follow the quadrennial survey programme prescribed in Table 7-2.

1.7 Any vessel having its Certificate of Survey expired for more than 8 years, it shall be subject to thorough inspection according to items of Table 7-1. If alterations had been carried out onboard vessel plans relating to the alterations shall be submitted for approval. The survey and plan approval are to comply with standards applicable to existing vessels, and the amended (if any).

1.8 When deemed necessary or at his discretion, the attending surveyor/inspector may request any other item to be presented for inspection

1.9 The Director may, on the certificate of ownership of a certificated Class III vessel, make an endorsement to the effect that the certificated vessel may be used with one or more ancillary vessels where each ancillary vessel meeting the following conditions: –

(a) belongs to the same owner as the certificated vessel;

(b) does not exceed 4 metres in length overall; and

(c) is not fitted with an engine.

2 Statutory Surveys and Application

2.1 Subject to the below section 2.2 officers delegated by the Director are responsible for the

statutory plan approval and survey of vessel.

2.2 The Director may delegate some or all of the statutory plan approval and surveys of Class III vessel to Authorized Surveyor (AS)/Authorized Organization (AO)/Recognized Authority (RA)(see definition at Ch. I/3.1) as indicated in the authorization/recognition document. List of AS/AO/RA will be promulgated in the Marine Department Notice issued from time to time. Vessel owner or agent, when required, may also apply to Marine Department for plan approval and surveys.

2.3 Upon satisfactory completion of statutory surveys or assessment, the following relevant statutory certificates or record document would be issued by Marine Department as specified in the following table. Annex V-4 also lists the other certificates and documents that a local vessel might require, as appropriate:

No.	CERTIFICATES / RECORDS
(1)	Certificate of Survey
(2)	Exemption Certificate / Permit for alternative material, fitting or equipment (when applicable)

2.4 If the owner or agent wishes his vessel to be surveyed by an authorized organization or authorized organization or recognized authority, he shall provide the Department an "Engagement Form":

(a) prior to the survey - the name of the authorized organization or authorized organization or recognized authority, the place and date of the intended survey; and

(b) on completion of survey - a survey report and a declaration duly signed and issued by the authorized organization or authorized organization or recognized authority. The survey report may be furnished to the attending surveyor during final inspection (item No. E-4 in Table 7-3 refers).

3 Validity of Certificates and Endorsement

For the expiry date of the certificate or endorsement, refer to Marine Department Notice No. 199 of 2021. (Amended G.N. 7604 of 2021)

4 Submission of Plans and Data

4.1 Plans and data shall be submitted, to the relevant authority/person indicated in section 2.3, according to Table 5-1 (as marked with "✓"). Additional plans and data will be required when deemed necessary. The required plans and data may be consolidated into one plan (or plans) according to the size of vessel and complexities of the plan.

4.2 Except for any vessel classed with a classification society; and otherwise indicated in the table (items marked with 'MD'), the plans and data may be submitted to any of the AS/AO/RA for approval at the discretion of the owner. For any vessel classed with a classification society, plans and data shall be submitted to the relevant classification society for approval.

4.3 For plans and data to be submitted for Marine Department's approval, 3 copies of each shall be submitted of the 1st vessel of a series and 2 copies for the subsequent vessels.

4.4 One copy of such plans and data approved by AS/AO/RA shall be submitted to Marine Department for record. Supplementary plans and data may be required should any survey be

undertaken by Marine Department.

4.5 Plans of General Arrangement, vessel construction and relevant plans shall be drawn in appropriate scale of legibly quality.

5 Plans and Data required to be submitted [Survey Regulation, section 9 refers]

Table 5-1 Plans and Data

"✓" means applicable

Table 5-1 No.	Material of Construction & Length (L) of Vessel / Plans and Data	Steel: All Lengths; GRP: L ≥15m	GRP: 8m≤ L <15m (*1)(*2)
(A)	**GENERAL ARRANGEMENTS, ACCOMMODATION LAYOUTS AND ESCAPE ROUTES**		
(1)	General Arrangement (*3)	✓	✓
(B)	**SAFETY EQUIPMENT INCLUDING LIFE-SAVING APPLIANCES, FIRE-FIGHTING APPARATUS, LIGHTS, SHAPES AND SOUND SIGNALS ; EMERGENCY CONTROLS, STRUCTURAL FIRE PROTECTION**		
(1)	Safety Plan showing arrangement of - (a) life saving appliances,	✓	✓
	(b) fire fighting apparatus	✓	✓
	(c) structural fire protection arrangement	✓	
	(c) light and sound signals	✓	✓
	(d) means of escape, escape installation and arrangement, etc.	✓	
(2)	Structural Fire Protection Arrangement	✓	
(C)	**STABILITY, FREEBOARD CALCULATIONS, ARRANGEMENTS RELATING TO WATERTIGHTNESS, WEATHERTIGHTNESS, BULKHEADS, HATCHWAYS, COAMINGS, SIDE SCUTTLES, AIR VENTS, FREEING PORTS, SCUPPERS, INLETS AND DISCHARGES**		
(1)	Lines Plan and Offsets Table (for record)	✓	
(2)	Hydrostatic Curves	✓	
(3)	Cross Curves of Stability	✓	
(4)	Inclining Experiment Report / Simple Inclining Experiment Report	✓	✓
(5)	Stability Information Booklet (after inclining experiment)	✓	✓
(6)	Draft Marks	✓	
(7)	Arrangements relating to Watertightness, Weathertightness, Bulkheads, Hatchways, Coamings, Side Scuttles, Air Vents, Freeing Ports, Scuppers, Inlets and Discharges, etc.	✓	
(D)	**STRUCTURES AND SCANTLINGS**		
(1)	Midship Sections	✓	✓

Table 5-1 No.	Material of Construction & Length (L) of Vessel / Plans and Data	Steel: All Lengths; GRP: L ≥15m	GRP: 8m≤ L <15m (*1)(*2)
(2)	Scantling Calculation	✓	
(3)	Profile, Decks and Bulkheads (incl. Hull and Superstructure decks)	✓	✓
(4)	Shell Expansion	✓	
(5)	Rudder/Kort Nozzle, Rudder Stock, Skeg and Sole Piece	✓	
(E)	**FUEL, MACHINERY, SHAFTING**		
(1)	Engine Room Arrangement	✓	
(2)	Propeller Shafting, Stern Tube and Coupling	✓	✓
(3)	Fuel Oil System (incl. tanks, piping)	✓	✓
(4)	Fire-fighting Piping Arrangement (incl. fire main, fixed fire extinguishing system,etc)	✓	✓
(5)	Bilge Pumping Arrangement	✓	✓
(6)	Compressed Air Piping System (for pressure ≥ 10 bar)	✓	
(7)	Air Receiver (Ch. IIIA/15 refers)	✓	
(8)	Filling, Sounding and Air Vent System	✓	
(F)	**ELECTRICAL SYSTEMS (including Emergency Power System)**		
(1)	Electrical System Line diagram	✓	✓ (>220V)
(2)	Wiring Diagram of Main Switchboard	✓	
(3)	Layout of Main Switchboard	✓	
(4)	Electrical Arrangement	✓	✓ (>220V)
(5)	Wiring Diagram of Distribution Boxes	✓	
(G)	**PREVENTION AND CONTROL OF POLLUTION**		
(1)	Prevention of Oil Pollution Installation (Ch. IIIA/19.2 refers)	MD	
(2)	Prevention of Air Pollution Installation (Annex I-10 etc)	MD/AO	
(H)	**NAVIGATIONAL AND COMMUNICATION EQUIPMENT**		
(1)	Radio Communication equipment and arrangement	✓	✓
(I)	**MEASURES AGAINST POTENTIAL HAZARDS TO THE SAFETY OF THE VESSEL AND ANY PERSON OR PROPERTY ON BOARD THE VESSEL**		
(1)	Domestic LPG Installation (Annex U-1 refers)	✓	

Remarks in Table 5-1

*1 Applicable to the first vessel (original design vessel) of an approved series. Information such as the design standards or construction specifications of the hull components and engine equipment shall be produced.

For the second to the eighth sister vessels of a series built in the same workshop, the submission of the certificate of manufacture, construction inspection and test records issued by the inspected workshop together with photos; and lightship weight confirmation report are suffice.

*2 For any new vessel of length not exceeding 10 metres, in lieu of the listed plans above, owner may submit relevant "simple plans/information" for verification.

*3 Amended plan to be submitted should there be any change from the arrangement of vessel shown on the original General Arrangement Plan.

6 Plans to be retained onboard

<6.1 Every Class III vessel (excluding wooden fishing vessel and sampan) shall be provided onboard one copy of the plan(s) approved by the relevant authority, person or organisation at least with the following information indicated thereon :

(a) general arrangement of vessel;

(b) types and dispositions of life saving appliance, fire-fighting appliance, light, shape, sound signals and radiocommunications equipment (if fitted).

6.2 For every Class III vessel (excluding wooden fishing vessel and fishing sampan) which has been modified or altered in a way that would change the escape routes or dispositions of life saving appliance or fire-fighting appliance, all plans and documentation carried or displayed on board shall be modified to reflect those changes and approved by the relevant authority, person or organization.

6.3 Stability / loading & unloading information where applicable shall be provided on board. >

7 Survey / Inspection Items and Survey / Inspection Programmes

Table 7-1 Initial Survey

"✓" means applicable

Table 7-1 No.	Material of Construction & Length (L) of Vessel / Survey Item	Steel: All Lengths; GRP: L ≥15m	GRP: 8m≤ L <15m (*1)
(A)	**CONSTRUCTION – GENERAL, SHIP STABILITY**		
(1)	Draft Marks – verification	✓	✓
(2)	Measurement of Principal Dimensions	✓	✓
(3)	Inclining Experiment	✓	✓
(4)	Lightship Verification	✓	✓(*2)
(5)	Simple Inclining Test		✓(*3)
(6)	Means of Escape in Accommodation Space and Machinery Spaces - inspection	✓	

Table 7-1 No.	Material of Construction & Length (L) of Vessel / Survey Item	Steel: All Lengths; GRP: L ≥15m	GRP: 8m≤ L <15m (*1)
(B)	**FIRE-FIGHTING APPARATUS, STRUCTURAL FIRE PROTECTION, APPLIANCES FOR PREVENTION OF COLLISION**		
(1)	CO_2 Pipe - inspection, hydraulic test and blowing test	✓	
(2)	Fire Main - inspection and hydraulic test	✓	
(3)	Structural Fire Protection (Ch. VI/13 refers) - inspection	✓	
(4)	Position of Navigational Light and its Foundation – verification	✓	
(C)	**CONSTRUCTION – HULL**		
(1)	Material test - Steel Plate/Aluminium Plate (*4)/GRP Polyester Resin	✓	✓
(2)	- Propeller Shaft, Coupling, Rudder Stock (*4)(*5)	✓	
(3)	Hull Scantlings - verification	✓	✓
(4)	Welding / GRP Lamination and Finishing - inspection	✓	✓
(5)	Below Main Deck W.T. bulkhead and W.T. door fitted thereon - Hose test (*6)	✓	
(6)	Structural Tanks - internal inspection	✓	
(7)	- hydraulic test/air test (*6)	✓	
(8)	Watertight / Weathertight Appliances - inspection	✓	✓
(9)	- hose test (*6)	✓	
(D)	**CONSTRUCTION - FUEL, MACHINERY, SHAFTING, ELECTRICAL SYSTEMS**		
(1)	Main Engine, Gear Box - Type Approval Certificate (*7) inspection	✓	✓
(2)	Generator, Auxiliary Machinery Diesel Engine Certificate (*7) - inspection	✓	
(3)	Tail Shafts and Coupling - verification of dimensions	✓	
(4)	- taper bedding test	✓	
(5)	Stern Tube - verification of dimension and hydraulic test	✓	
(6)	Independent Fuel Oil Tanks - internal inspection and hydraulic test (*6)	✓	✓
(7)	Verification of No. and Volume of Structural and Independent fuel oil tanks	✓	✓
(8)	Bilge Line - inspection and hydraulic test	✓	
(9)	Sea Suction valve – inspection and hydraulic test	✓	
(10)	Steering System Hydraulic Line - inspection and hydraulic test	✓	

Table 7-1 No.	Material of Construction & Length (L) of Vessel / Survey Item	Steel: All Lengths; GRP: L ≥15m	GRP: 8m≤ L <15m (*1)
(11)	Fuel Oil Line - inspection and hydraulic test	✓	
(12)	Compressed Air Pipe - hydraulic test (for P > 17.2 bar)	✓	
(13)	Air Receiver - verification of wall thickness/ dimensions	✓	
(14)	- hydraulic test (*6)	✓	
(15)	Electrical Wiring/installation - inspection	✓	
(E)	**PREVENTION AND CONTROL OF POLLUTION**		
(1)	Prevention of Oil Pollution Installation (MD/AO) - Inspection	✓	
(2)	- hydraulic test of independent bilge water / sludge holding tank	✓	

Remarks in Table 7-1

*1 Except otherwise indicated, the listed items are applicable to the first vessel (original design vessel) of an approved series of 8m≤ L<15m. The workshop and relating facilities shall be inspected by Marine Department.

For the second to the eighth sister vessels of a series built in the same workshop, the submission of the certificate of manufacture, construction inspection and test records issued by the inspected workshop together with photos are suffice.

*2 Applicable to the 2nd to 8th of a series of 8 sister vessels of 10m≤ L<15m.

*3 Applicable to new vessel of length not exceeding 10 metres and only operating in Hong Kong waters.

*4 In lieu of the material test, mill sheet issued/endorsed by a classification society is acceptable.

*5 Ch. IIIA/9 and IIIA/17.4 refer.

*6 Annex M/3, 4 refer. Hose test for door fitted on watertight bulkhead may be replaced by a chalk test if a prototype test (with pressure corresponding at least to the head required for the intended location) has been carried out and certificated.

*7 Ch. IIIA/7.1 refers. For new vessels, (i) maker certificate for petrol engine; (ii) for diesel engine maker or classification societies approved certificates / information and document as appropriate required in Ch. IIIA or IIIB and Annex I-10 of this Code or MARPOL Annex VI.

Guide on Periodical Survey Cycle for Class III Vessel ("guide table")

No.	Material of Construction	Vessel Length (L)(metres)	Owner Declaration (*1)	Interval of Survey on Slip(*2) (Table 7-2 refers) (Year)	Interval of Survey Afloat (Table 7-3 refers) (Year)
(1)	Steel	L ≥ 24	-	2	Annual
(2)	Steel	L < 24	-	3	Annual
(3)	GRP	L ≥ 24	-	2	Annual
(4)	GRP	15 ≤ L < 24	-	3	Annual

No.	Material of Construction	Vessel Length (L)(metres)	Owner Declaration (*1)	Interval of Survey on Slip(*2) (Table 7-2 refers) (Year)	Interval of Survey Afloat (Table 7-3 refers) (Year)
(5)	GRP	8 ≤ L <15	Annual	-	2
(6)	GRP	L < 8	Annual	-	2
(7)	Wood	L ≥ 8	Annual	-	2
(8)	Wood	L < 8	Annual	-	3

Remark

*1 Owner Declaration: The owner shall inspect and declare the safety and equipment of his vessel within 2 months before the 1st / 2nd anniversary date of the Certificate of Survey, and produce a "Declaration of Safety and Equipment for Class II B or III B Vessels" (which can be downloaded at URL: https://www.mardep.gov.hk/filemanager/en/share/forms/pdf/md629.pdf)

*2 Vessel owner can apply to extend the date of survey-on-slip during the annual survey. Extension (not exceeding one year) would be granted or with condition after assessing the condition of the vessel is acceptable. Following that, the quadrennial survey can be extended accordingly.

Table 7-2 Periodical Survey

"✓" means applicable

Table 7-2 No.	Survey Item	Material of Construction and Vessel Length (L)	Steel / GRP: L ≥ 24m		Steel: L<24m, GRP:15≤L<24m	
		Survey Intervals (*1)(*2)	2	4	3	6
(A)	**CONSTRUCTION – HULL**					
(1)	Hull - external (incl. ship bottom) inspection		✓		✓	
(2)	- internal (incl. oil, water tanks and void spaces) inspection (*3)			✓		✓
(3)	- gauging thickness of deck, shell and bulkhead plating (*3)(*4)			✓		✓
(4)	Sea Suctions, Discharging Valves - stripped down inspection			✓		✓
(B)	**CONSTRUCTION - FUEL, MACHINERY, SHAFTING, ELECTRICAL SYSTEMS**					
(1)	Main Engine and Gear Box - stripped down for inspection (*5)(*6)			✓		✓
			(by engine workshop) (*7)			
(2)	Generator engine, auxiliary machinery engine - stripped down for inspection - stripped down for inspection			✓		✓
			(by engine workshop) (*7)			
(3)	Air Receiver (P<17.2 bar) - hydraulic test (*3)			✓		✓
(4)	Air Receiver (P≥17.2 bar) - hydraulic test (*3)		✓		✓	

Table 7-2 No.	Survey Item	Material of Construction and Vessel Length (L)	Steel / GRP: L ≥ 24m		Steel: L<24m, GRP:15≤L<24m	
		Survey Intervals (*1)(*2)	2	4	3	6
(5)	Tail Shaft(*9), Propeller(*9), Rudder and Rudder Stock (*3) – drawn out for inspection			✓(*9)		✓
(6)	50% Independent Fuel Oil Tank –hydraulic test (*4)			✓		✓
(C)	**PREVENTION AND CONTROL OF POLLUTION**					
(1)	Oil Pollution Prevention Installation - vessel with HKOPP certificate		(*8)			
(2)	- vessel without HKOPP certificate: hydraulic test of independent bilge water/sludge holding tank			✓		✓

Remarks in Table 7-2

*1 Survey Intervals: "2" means such item (marked as "✓") is to be subjected to survey biennially, "3" triennially, etc. The periodical survey shall be carried out in subsequent order; i.e. a 1st year survey shall be followed by a 2-yearly survey, a 3rd year survey shall be followed by a 4-yearly survey, etc. Refer to "Guide Table" for applicable types of vessels.

*2 If the hull and machinery installation of a classed vessel are inspected by a surveyor of classification society, the inspection reports/certificates issued by classification society shall be submitted for record.

*3 For guidance on machinery and hull wear down or corrosion tolerance limits and other inspection items, Annex M refers.

*4 Applicable to vessels of age exceeding 8 years.

*5 For a brand new gear box, the strip down inspection shall begin from the fourth anniversary the gear box is in service.

*6 Vessel owner may follow the schedule of engine manufacturer through the guidance of engine repairing workshop to carry out repairing and maintenance.

*7 Inspection record issued by engine workshop shall be submitted for reference.

*8 For the renewal of HKOPP certificates, oil pollution prevention installation shall be stripped down for inspection. Independent bilge water holding/sludge tank shall be hydraulic tested.

*9 Vessel owner may arrange periodical survey and extension survey in accordance with the requirements of Annex Z, "Alternative Survey Regime for Periodic Survey Requirements of Propeller Shafts and Propellers of Class III Vessels (Category A Steel/GRP Hull with L ≥ 24m)". If the results of the extension survey are satisfactory, the interval between the "Propeller Shaft – drawn out for inspection" can be extended for a period not exceeding 4 years.

Table 7-3 Final Inspection(*1)

"✓" means applicable

Table 7-3 No.	Material of Construction & Vessel Length (L) / Survey Item(*2)	Steel: All Lengths, GRP: L ≥15m	Wood: All Lengths, GRP: L <15m
(A)	**LIFE-SAVING APPLIANCES, FIRE-FIGHTING APPARATUS, APPLIANCES FOR PREVENTION OF COLLISION**		

Table 7-3 No.	Material of Construction & Vessel Length (L) Survey Item(*2)	Steel: All Lengths, GRP: L ≥15m	Wood: All Lengths, GRP: L <15m
(1)	Life Saving Appliances - inspection and function test (*10)	✓	✓
(2)	Fire Fighting apparatus (incl. emergency fire pump, etc) - inspection and function test	✓	✓
(3)	Navigation Lights and Sound Signals - inspection and function test	✓	✓
(4)	Fire Drill, Abandon Ship Drill (*8)	✓	
(B)	**CONSTRUCTION – HULL**		
(1)	Hull External (above waterline part) - General inspection (not required if an on-slip hull survey is carried out during the year)	✓	✓
(2)	Watertight / Weathertight Closing Appliances (incl. door, ventilator, air pipe, etc.) - inspection	✓	
(3)	Permanent ballast - confirmation of amount and position (*7)	✓	✓
(4)	Machinery Space (incl. Fuel Oil Installation) - General inspection (a) protection from injury of personnel (b) prevention of fire hazard (c) prevention of oil pollution hazard	✓	✓
(5)	Principal Dimensions, Engine and major machinery particulars - verification	✓	✓
(C)	**CONSTRUCTION - FUEL, MACHINERY, SHAFTING, ELECTRICAL SYSTEMS**		
(1)	Main Engines, Generator Engines, Steering Gears - running test	✓	✓
(2)	Unattended Machinery Space Installation (Ch. IIIA/18 and IIIB/13 refer) - function test	✓	✓
(3)	Air Receiver Safety Valves - function test	✓	✓
(4)	Bilge and Oily Water Pumping System - function test	✓	✓
(5)	Electrical Circuit - earthing test	✓	✓
(6)	- insulation resistance test (*4)	✓	
(7)	- Main circuit breaker function test (*5)	✓	
(8)	Location of emergency source of electrical power shall be outside machinery space and above waterline – verification (*6)	✓	
(9)	Meters on Switchboard - function test	✓	
(D)	**PREVENTION AND CONTROL OF POLLUTION**		
(1)	Air Emission Assessment (*3)	✓	
(2)	Prevention of Oil Pollution Installation - function test	✓	
(E)	**NAVIGATIONAL, COMMUNICATION EQUIPMENTAND OTHERS**		

Table 7-3 No.	Material of Construction & Vessel Length (L) / Survey Item(*2)	Steel: All Lengths, GRP: L ≥15m	Wood: All Lengths, GRP: L <15m
(1)	Radio Communication Equipment	✓	
(2)	Verifying Certificates of Competency of Master and Engineer (if manoeuvring test required)	✓	✓
(3)	Plans and data required to be retained onboard (section 6.1 refers) - confirmation of numbers and contents	✓	✓(*9)
(4)	Survey report issued by AS/AO/RA - verification	✓	✓
(5)	Inspection of remedial deficiency items in Initial / Periodical Survey	✓	✓
(6)	Domestic L.P.G. Installation - inspection	✓	✓

Remarks in Table 7-3

*1 For intervals of final inspection with respect to type of vessel, Guide Table refers.

*2 Where practicable the listed items may be presented for inspection prior to the final inspection.

*3 Air emission requirements to be conducted as per Annex I-10.

*4 Megger tests report to be submitted for record (insulation resistance shall not be less than 1 MΩ). Megger test report may defer to submit at major cycle survey if the earth leakage indicating lamps indicate normal condition. Electrical system insulation test reports issued by an EMSD registered electrical worker (REW) or registered electrical contractor (REC) are also acceptable.

*5 Applicable to any vessel fitted with A.C. generator of each capacity exceeding 50 kW.

*6 Applicable to only a vessel which is still a new vessel when the reference to "the commencement date of the Survey Regulation" in the definition of "new vessel" under Ch. I/3.1 is substituted by "29 November 2014".

*7 In addition to the visual inspection, owner's declaration on the amount and disposition of the ballast weights to be furnished to Marine Department for record.

*8 Applicable to vessels plying beyond Hong Kong waters.

*9 Excluding wooden fishing vessel and sampan.

*10 Random checks on lifejackets are to be according to the following proportions:

Statutorily Required No. of Lifejackets	Random Check
1-10	100%
11-100	10 pieces

The counting of the number is to be 100%.

CHAPTER III A

HULL CONSTRUCTION, MACHINERY, ELECTRICAL INSTALLATIONS AND FITTINGS - CATEGORY A VESSEL

PART 1 GENERAL REQUIREMENTS

(1) Except as otherwise specified, every vessel shall be designed and built to the requirements of rules and regulations of a classification society as listed at Annex A, having regard the size, construction material, and operational services of the vessel. Such rules and regulations shall be complied with in its entirety. However in the case of any inconsistency between this Code and any of the requirements of the classification society rules, the requirements of this Code shall be complied with.

(2) Main propulsion, control, fuel oil, compressed air, electrical and refrigeration systems; generator machinery; air receivers and other pressure equipment; piping and pumping arrangements; steering equipment, shafts and couplings for power transmission shall be designed, constructed and tested to the satisfaction of the surveyor. Suitable means or device shall be provided to machinery, equipment, lifting gear, winches, fish handling and fish processing equipment, etc. so as to reduce to a minimum any danger to persons on board. Special attention shall be paid to moving parts, hot surfaces and other potential dangers.

PART 2 HULL CONSTRUCTION

1 Main Deck Construction

1.1 Every vessel shall be fully decked.

1.2 For a new vessel[Note1], if opening is fitted on main deck leading to spaces below deck the first tier of superstructure on main deck shall be of weathertight construction for the purpose of maintaining the integrity and stability of vessel. The closing appliances fitted on such position shall meet the requirements of section 3 below.

2 Bulkheads

2.1 On any motored vessel, the dispositions and construction of watertight bulkheads shall meet the relevant requirements of classification societies.

2.2 On all vessels other than wooden vessels, and as far as practicable on wooden vessels, bulkheads shall be of watertight construction.

2.3 Access openings fitted in watertight bulkheads shall be equipped with effective watertight closing appliances and meet the requirements stipulated in section 2.4.

2.4 The design of the watertight doors shall comply with the following requirements:

(a) The dimension of the watertight doors shall suit the design of the vessels;

[Note1] Applicable to a vessel which is a new vessel when the reference to "the commencement date" in the definition of "new vessel" under section 2 of the Survey Regulation is substituted by "3 March 2017".

(b) The warning “Door must be kept closed when underway” shall be marked on both sides of the watertight door;

(c) For hinged type watertight door, they shall be opened outward except those doors in high flooding risk spaces shall be opened into the space; and

(d) Watertight doors to be fitted with visual and audio alarms in the wheelhouse to give alerts when watertight doors are open.

3 Closing Appliances, Freeing Ports

3.1 On every vessel, air pipes, ventilators, cargo hatchways, small hatchways, manholes, skylights and doors leading to a space below main deck shall be fitted with weathertight closing appliance and shall have a minimum coaming height as follows:

Plying Limits	Coaming Height (mm)
Hong Kong Waters	230 <300>
River Trade Limits	600

No coaming is required for watertight manholes.

3.2 Special consideration may be given to vessel of a design for a particular operation. Such restriction or condition, if any, would be endorsed on the inspection certificate of the vessel.

3.3 Sidescuttles below main deck shall be of watertight and non-opening type fitted with deadlight.

3.4 If bulwark is fitted at the shipside, freeing ports shall be provided in the bulwark with the minimum aggregate area in accordance with the rules of the classification society based on the vessel’s size and operational services.

4 Protection of Crew

4.1 Bulwark, guardrails or equivalent shall be installed near the periphery of weather decks accessible to crew. Storm rails or handgrips shall be fitted as necessary.

4.2 Bulwarks and rails shall have a minimum height of 1000 mm above deck. Where it can be shown that higher rails would interfere with the normal operation of the vessel a reduced height may be accepted. Sufficient freeing ports are to be provided on bulwarks. When guardrails are fitted, the opening below the lowest course of the rails shall not exceed 230 mm and the other courses shall not be more than 380 mm apart.

5 Flooring

Metallic or wooden flooring, if fitted above bilge, shall be readily removable for cleaning and inspection. A steel inner bottom, if fitted, shall meet the requirements of classification society rules in respect of double bottom. Access openings and air pipes shall be provided for such spaces.

6 Marking of Hull

6.1 The certificate of ownership number of a vessel must be marked in accordance with section 38 of the Merchant Shipping (Local Vessels) (Certification and Licensing) Regulation.

6.2 Permanent draft marks shall be provided on port and starboard side of stem and stern of a vessel. The marks shall be measured from the bottom of the keel, with letters and figures being in decimetric heights and at two decimetric intervals.

PART 3 MACHINERY INSTALLATION

7 Main Engine, Auxiliary Engine and Gear Box

7.1 In any vessel plying beyond Hong Kong waters which is not classed with a classification society and has main engine power output exceeding 130 kW, such main engine and its associated gear box shall be of a type approved by a classification society or maritime administration.

7.2 The main engine and the associated gearbox shall be matched at the maximum continuous rating condition. Alternative rating may be accepted subject to proper justification is given.

7.3 New main engines and gear boxes are required to be fitted on new vessels stated in section 7.1. For vessels other than those stated in section 7.1 used engine may be fitted. To facilitate the confirmation of the source of origin and/or the quality of reconditioning of the used engine, proper document from the original engine maker or purchase document from the engine workshop shall be submitted. The data on engine model, type and identification number shall be clear and adequate for accurate assessment of the engine power. The reconditioning reports shall give adequate details similar or same as the items and format given on checklist of engine and gearbox inspection in Annex I-2 and I-3. For new engine requirements, owners are drawn attention to the recommendation in Annex I-10.

Vessels built on or after 1 June 2008 but before 1 July 2016 may be fitted with Tier I engine; vessels built on or after 1 July 2016 must be fitted with Tier II engine.

7.4 For main engine and gear box fitted on vessel other than that stated in section 7.1, documentation provided by manufacturer indicating that the main engines are of marine type is sufficient.

7.5 Auxiliary engine(s) on new mechanically propelled vessel shall be ‘marine type’; auxiliary engine(s) on existing mechanically propelled vessel shall also be ‘marine type’ if they are being replaced/renewed.

7.6. Any engine fitted on a vessel shall be properly maintained at all time free from dark smoke emission. In this regard, during the final inspection for initial and periodic survey, engine performance condition check would include smoke emission test using Ringelmann Chart. Shade 2 of the Ringelmann Chart and a continuous period of 3 minutes are the upper limits. The emission beyond this limit is considered as a contravention of the law.

7.7 Any vessel if found or reported emitting excessive dark smoke, owners would be requested to present vessel's engine(s) for special inspection and smoke test to ensure compliance. Any non-compliance will be pursued in accordance with relevant legislation requirement.

7.8 If replacement of main engine, generator set, etc. are required, owner shall refer to the requirements as indicated in Annex I-5A, I-5B and I-5C.

8 Engine Fittings

8.1 Main engine and generator engine shall be provided with effective means of control and indication.

8.2 If remote control of main engine is provided from the wheelhouse, local control shall also be provided at engine side.

< 8.3 Emergency stopping device for main engine shall be provided in wheelhouse. >

8.4 Main engine installed on any vessel that may ply beyond Hong Kong waters>
shall be provided with means of protection due to engine faults as follows:

Engine Fault	**Means of Protection**	
	Audible and Visible Warning Alarm	Automatic Shut-off
Lubrication oil low pressure	✓	
Cooling water high temperature	✓	
Overspeed	✓	✓

8.5 The control for re-setting of main engine shall be fitted at the helmsman's position.

8.6 Engine with cylinder diameter greater than 200 mm or a crankcase volume greater than 0.6 m^3 shall be provided with crankcase explosion relief valves of approved type. Other engines of smaller size shall be fitted with crankcase venting pipe leading to the open deck.

8.7 The engine's exhaust pipe shall be lagged with heat-resistant material unless it is served by a water cooling system. A silencer or expansion chamber shall be fitted on the exhaust pipe.

9 Propeller Shafting

9.1 The diameter of propeller shaft shall meet the minimum requirements of the classification society rules. The owner and/or builder of vessel are suggested to consider an allowance for wear down of the shaft. Repair by machining to eliminate defects of the shaft may be permitted, provided the minimum diameter as required by the classification society rules is maintained.

9.2 Propeller shaft and its coupling shall be physically tested and certificated as follows:

Type of Vessel / Shaft Diameter	> 75 mm	≤ 75 mm
As stated in section 7.1	MD/CS	manufacturer
Others	manufacturer	manufacturer

MD : Marine Department

CS : classification society

9.3 Propulsion systems including shafting of non-conventional type may be accepted if that are of the types approved by classification society.

10 Engine Room

10.1 Engine room shall be so designed as to provide safe and free access to all machinery and its controls as well as to any other parts which may require servicing.

10.2 Adequate ventilation shall be provided in engine room. If only natural ventilation is provided, at least two cowl ventilators of adequate size shall be fitted. One of the cowl vents shall be led well down into the space to vent out the accumulated vapour in the lower part of the space. Ventilation trunk if passing through other compartments shall be of watertight or gastight construction and structurally protected [Note 1], as appropriate. The ventilator shall be fitted with a fire damper or other means of closing. If a fire damper is fitted, an indicator shall be provided to show whether the damper is in the open or close position. The fire damper may be of manual type and the indicator which could be in written form or other physical means, and be installed locally in the vicinity of fire damper.

10.3 If the vessel is constructed of GRP of non-oil resistant material, a suitable metal tray which can readily be cleaned shall be fitted under the engine to protect the bilges against saturation by oil.

10.4 Two means of escape including suitable ladders and exits shall be provided for the engine room. One of these means of escape may be waived with regard to the size and disposition of the space. Any vessel permitted to be operated by combined coxswain and engine operator (Ch. XII/3 refers) and of length less than 24 metres, one means of escape can be waived.

10.5 Every machinery spaces shall be at all times kept clean and free from unnecessary combustible materials and that waste oil is not allowed to accumulate in the bilges.

11 Nature of Fuel

Subject to section 81 and Schedule 6 of Survey Regulation and except otherwise permitted by the Director, marine fuel oil of flash point of less than 60ºC (closed cup test) must not be used for engine.

Note 1 Applicable to a vessel which is when the reference to "the commencement date" of the Survey Regulation in the definition of "new vessel" under section 2 of the Survey Regulation is substituted by "3 March 2017".

12 Tanks

12.1 The arrangements for filling fuel tanks shall be such that oil will not spill or overflow into any compartment of the vessel. Woodwork surrounding the deck filling mouth shall be covered with metal piece. No loose can/barrel of fuel oil shall be carried on board.

12.2 Fuel tanks shall be substantially constructed of suitable material and securely fixed in position. The tanks and their connections shall be tested per the requirements of Annex M/3.1.

13 Pumping and Piping Arrangement

13.1 All fuel oil tank, lubrication oil tank and spaces where flammable gas may collect shall be fitted with venting pipes leading to the weather deck. The open end of any oil tank's venting pipe shall be fitted with properly secured metallic wire-gauze.

13.2 Safe and efficient means of ascertaining the amount of fuel oil in any oil tank shall be provided. For sounding pipes, their upper ends shall terminate in safe positions and be fitted with suitable means of closure. Any transparent level gauge shall be of robust construction and of a type acceptable to the Department and fitted with automatic closing valves at both ends. Other means of proven design may be allowed subject to any failure or overfilling of the tank will not permit release of oil from it. Filling pipes shall have suitable screwed cap.

13.3 Fuel oil pipes, their valves and fittings shall be of copper, steel or other equivalent material. Where necessary flexible pipes may be allowed provided such pipes and their end attachments are of adequate strength, made of approved fire-resistant materials or design, to the satisfaction of the surveyor. Pipe joints in general are to be readily accessible. Fuel tank outlet valves shall be readily closed from a position outside the space where the tank is situated. An automatic closing drain valve shall be fitted at a lower position of fuel oil tank.

13.4 Oil pipes, water pipes and engine exhaust pipes shall generally not be fitted above and close to electrical distribution board, switchboard, etc. or any hot surface. Shall it be unavoidable, suitable protection shall be provided. Oil pipes shall not be led through any fresh water tank.

13.5 A suitable metal tray for collection of leaking oil shall be fitted under each valve of oil tanks and filters.

13.6 Independently driven fuel oil pump shall be provided with -

(a) a suitable relief valve at discharge side of the pump;

(b) a means of stop outside of the space where the pump is situated.

14 Bilge Pumping Arrangement

14.1 Every vessel shall be provided with a bilge pumping system for pumping out bilge water from any compartment other than oil tanks and water tanks appropriate to the size of vessel as given by classification society rules.

14.2 A screw-down non-return valve shall be fitted at the following positions in the bilge line:

(a) bilge valve distribution chests;

(b) direct bilge suction; and

(c) bilge pump connections to main bilge line.

14.3 Bilge pipes shall not be led through any fresh water tank. Bilges pipes, if pass through fuel oil, ballast or double bottom tanks, shall be of heavy gauge steel construction.

14.4 Any bilge pipe piercing collision bulkhead shall be fitted with a positive means of closing at the bulkhead with remote control from the working deck with an indicator showing the position of the valve provided that, if the valve is fitted on the after side of the bulkhead and is readily accessible under all service conditions, the remote control may be dispensed with.

15 Compressed Air System

15.1 Suitable pressure-relief arrangements shall be provided to prevent excess pressure in any part of the compressed air systems.

15.2 The starting air arrangements for main engine of a cylinder diameter exceeding 300 mm shall be adequately protected against the effects of back firing and internal explosion in the starting air pipes.

15.3 The discharge pipes from starting air compressor shall be led directly to the starting air receiver. Starting air pipes from air receivers serving main or generator engines shall be entirely separate from other services.

15.4 Provision shall be made to avoid or minimize the entry of oil into the air pressure systems and to drain the oil from the systems.

15.5 (a) Construction of air receivers shall meet the standard of a maritime administration's national standard or a classification society, and be subject to the approval of the Director. The air receivers are classified according to the following table (Note: The highest class prevails if there are different classes worked out from P, S and T):

Class I	Class II	Class III
$P > 39.2$	$39.2 \geq P \geq 17.2$	$P < 17.2$
or $S > 38$	or $38 \geq S \geq 16$	or $S < 16$
or $T > 350$	or $350 \geq T \geq 150$	or $T < 150$

where P = maximum design or working pressure (bar)
S = shell thickness (mm)
T = working temperature (^{o}C)

(b) Air receivers fitted on new vessel [Note 1] shall be built under the survey of one of the abovementioned maritime institutions, and issued with appropriate certificates.

[Note 1] Applicable to a vessel which is when the reference to "the commencement date" of the Survey Regulation in the definition of "new vessel" under section 2 of the Survey Regulation is substituted by "3 March 2017".

(c) Each air receiver shall be provided with the following fittings:
   (i) Stop valve and pressure gauge
   (ii) Drain valve
   (iii) Safety valve

(d) The following information shall be submitted in duplicate for approval:
   (i) Air receiver construction (including details of welded connections, attachments, dimensions and supports etc.)
   (ii) Construction of pressure parts (cylindrical shell, end plates, etc.)
   (iii) Arrangement of mountings and fittings
   (iv) Mechanical properties of material
   (v) Test pressure.

15.6 Every air receiver shall be tested at pressure according to the following table:

Type of Construction	Maximum Working Pressure (MWP)	Test Pressure
Riveted or Fusion welded	MWP ≤ 7 bar	2 × MWP
Riveted	7 bar< MWP ≤ 20 bar	1.5 × MWP + 3.5
Riveted	MWP> 20 bar	MWP + 14
Fusion welded	MWP> 7 bar	1.5 × MWP + 3.5

16 Anchors, Cables and Windlass

16.1 The sizes of chain cables and anchors shall be in accordance with classification society rule requirements prescribed for vessels operating in sheltered waters. Where ropes are proposed instead of chain cables, the ropes sizes and strengths shall be equivalent to that of chain cables.

16.2 A windlass for recovering the cables and anchors is recommended.

17 Steering System

17.1 Every motored vessel shall be provided with a main steering gear and an emergency means for actuating the rudder. The main steering gear shall be capable of turning the rudder over from 35^{o} on either side to 30^{o} on the other side in not more than 28 seconds, at vessel's maximum service speed. The emergency means may be of powered or manually operated.

17.2 Pressure relief valve shall be fitted at the hydraulic line.

17.3 The position of rudder, if power operated, shall be indicated in the wheelhouse. The rudder angle indication for power-operated steering gear shall be independent of the steering gear control system.

17.4 Material tests for rudder stocks shall be carried out as that for propeller shafts. Rudder stock assembly shall be enclosed with efficient watertight glands and packing. Suitable stopping devices are to be provided for the rudder to prevent it from excessive angular motion and vertical jumping.

18 Wheelhouse - Engine Room Communication

18.1 On any vessel with manned engine rooms, a suitable system of communication between wheelhouse and engine room shall be provided.

18.2 Any vessel with length or propulsion power as indicated below, operating in unattended machinery spaces mode shall be provided with the following installation in the proximity of the position of helmsman:

(a) Vessel of L ≤ 37 m or total propulsion power ≤ 1500 kW (2,010HP)

(i) for main engine-

(1) means of start, stop and control of speed

(2) control of gearbox or clutch

(3) lubricating oil pressure gauges

(4) < lubricating oil low pressure alarm>

(5) cooling water pressure gauges (if fitted on the engine)

(6) cooling water temperature gauges

(7) < cooling water high temperature alarm>

(8) exhaust temperature gauges (if fitted on the engine)

(9) a fixed fire detection (operated by fire detectors) and fire alarm system for engine room. (For the purpose of "combined coxswain" operation, vessels of length less than 12 m, except those operating beyond waters of Hong Kong, if regular surveillance (such as through tale-tell pipe or transparent glass view-hole fittings etc.) can be exercised from outside engine room or control station by the coxswain or a crewmember, these requirements can be waived).

(ii) for generator engine-

means to stop

(iii) for bilge water in engine room-

high level audible alarm.

(b) Vessel with length L >37 m or total propulsion power> 1500 kW(2010HP) would be specially considered.

19 Installation for Prevention of Oil Pollution

19.1 In accordance with Schedule 7 of Survey Regulation, vessels to which the requirements of Merchant Shipping (Prevention of Oil Pollution) Regulations (Cap 413A) applicable are reproduced in the following table:

Type of vessel	Category of vessel	A		B	
	Propulsion	with Main Engine	No Main Engine	with Main Engine	No Main Engine
		Gross Tonnage	Gross Tonnage	Gross Tonnage	Gross Tonnage
Class III Vessel					
Fish Carrier		≥80	-	≥400	-
Fishing Sampan		-	-	≥400	-
Fishing Vessel		≥80	-	≥400	-

19.2 The installation and documentation required on board, and information required to submit for approval are detailed in the following table:

Gross Tonnage (GT)	80≤GT<400	GT≥400
Required Installation and Documentation	(c),(f)	(a),(b), (c),(d),(e)
Information to be submitted	(i)	(g),(h),(j)

Legend

(a) An approved type oily water separator designed to produce effluent not more than 15 ppm of oil.

(b) Tank (sludge tank) for oil residue in engine room.

The minimum sludge tank capacity (V_1) shall be determined by the following formula:

$V_1 = 0.005CD$ (m^3)

where

C = daily fuel oil consumption (m^3); and

D = maximum no. of days when sludge can be discharged ashore.

Oil residue (sludge) may be disposed of directly from the oil residue (sludge) tank(s) through the standard discharge connection, or any other approved means of disposal. The oil residue (sludge) tank(s) shall be provided with a designated pump for disposal that is capable of taking suction from the oil residue (sludge) tank(s); and shall have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators except that the tank(s) may be fitted with drains, with manually operated self-closing valves and arrangements for subsequent visual monitoring of the settled water, that lead to an oily bilge water holding tank or bilge well, or an alternative arrangement, provided such arrangement does not connect directly to the bilge piping system.

(c) Standard discharge connection.

(d) For vessels of GRT≥400, HKOPP Certificate and Supplement issued/endorsed by the Director or International Oil Pollution Prevention Certificate and Supplement issued/endorsed by a classification society.

(e) Oil record book (Part I).

(f) Bilge water holding tank.

The minimum capacity (V) of the tank is to be determined by the following formula:

$V = 0.9 P + 50$ litres

where P = total horsepower of main engine(s), in kW.

The above formula is for an interval of discharge of 18 hours. For alternate intervals of discharge, the capacity shall be adjusted accordingly.

(g) Installation plans for oily-water separator consist of:

(i) piping arrangements, and

(ii) wiring diagram of electrical installation.

(h) Sludge tank and discharge arrangement plans include:

(i) construction, size and location of sludge tank; and

(ii) piping diagram of sludge tank from machinery spaces to reception facility via standard discharge connection.

(i) Bilge water holding tank and discharge arrangement plans include:

(i) construction, size and location of bilge holding tank; and

(ii) piping diagram of bilge water holding tank from machinery spaces to reception facility via standard discharge connection.

(j) Shipboard oil pollution emergency plan (not required for sludge oil carriers).

19.3 Vessels shall maintain a valid certificate relevant to prevention of oil pollution as required by Merchant Shipping (Prevention of Oil Pollution) Regulations (Cap 413 sub. leg A) for the intended purpose of the vessel.

19.4 Provisions for discharge prohibition for oil pollution prevention as stipulated in Cap 313, Cap 413 and Cap 548 must be complied with for all vessels, including those vessels not mandatory required to provide with the physical arrangements/ equipment/document on board as indicated in sections 19.1 and 19.2.

PART 4 ELECTRICAL INSTALLATION

20 Electrical Power Source

20.1 Nominal voltage of electrical system is recommended to be 380V for generation and power circuits, 220V for lighting and distribution circuits and 24V D.C. for low voltage circuits.

20.2 The hull return system shall not be used for power or lighting.

20.3 Where electrical power constitutes the only means of driving the lubrication oil pump and cooling water pump for the main engine, a main source of electrical power shall be provided which shall include at least two generating sets, one of which shall be driven by internal combustion engine.

20.4 The vessel's emergency lighting, fixed fire extinguishing system, fire detection and alarm system, public address system; and navigation lights for vessels of length exceeding 24 metres shall be provided with emergency power supply of sufficient capacity.

20.5 For vessels built on or after 29 November 2014 the emergency source of power shall be located outside engine room and above the full-load waterline of the vessel.

20.6 Ventilation fans serving machinery or cargo spaces, engines' oil fuel pumps and other similar oil pumps shall be capable to be stopped outside of the space where the appliance is situated.

20.7 Each navigation light shall be connected separately to the distribution board served for this purpose.

<20.8 In every electric or electro-hydraulic power steering gear system on vessel:

(a) the steering gear shall have two independent sets of supply cables connecting direct to main switchboard;

(b) the supply circuits of steering gear control system shall be provided with short circuit protection only;

(c) the steering gear motors shall have an overload alarm instead of overload protection. The short circuit protection shall be not less than twice the total rated current of the motor in the circuit protected.

This subsection is not applicable to vessels fitted with a separate power-operated means of steering.>

21 Precautions against Shock, Fire and Other Hazards of Electrical Origin

21.1 (a) Exposed permanently fixed metal parts of electrical machines or equipment which are not intended to be "live", but which are liable under fault conditions to become "live" shall be earthed unless they are supplied at a voltage not exceeding 50 volts.

(b) Electrical apparatus shall be so constructed and so installed that it shall not cause injury to person when handled or touched in the normal manner.

21.2 Main and emergency switchboards shall be so arranged as to give easy access as may be needed to apparatus and equipment, without danger to attendants. The sides and backs and, where necessary, the fronts of switchboards, shall be suitably guarded. Exposed "live" parts having voltages exceeding 50 volts shall not be installed on the front of such switchboards. There shall be non-conducting mats or gratings at the front and rear, where necessary.

21.3 The distribution system if exceeds 50V, whether primary or secondary, for power or lighting, with no connection to earth is used, a device capable of monitoring the insulation level to earth shall be provided.

21.4 (a) The voltage rating of any cable shall not be less than the nominal voltage.

(b) Every conductor of a cable, flexible cable or flexible cord shall be capable of carrying the maximum current which will normally flow through it without exceeding the appropriate current rating as specified by manufacturer of the cable.

(c) Cable runs shall be selected so as to avoid action from condensed moisture or drip. Cables shall, as far as possible, be remote from sources of heat, such as hot pipes, resistors, etc.

(d) Cables shall be prevented from mechanical damage. When necessary cables shall be enclosed in suitable conduits or casings, or armoured cables shall be used.

21.5 (a) Circuits shall be protected against short circuit and overload.

(b) The current rating of circuit breaker shall not exceed the current rating of the smallest size of cable in the circuit protected by the circuit breaker.

21.6 Lighting fittings shall be arranged to prevent temperature rises which could damage the wiring and to prevent surrounding material from becoming excessively hot.

21.7 In spaces where flammable gas mixtures are liable to collect and in any compartment assigned principally to the containment of an accumulator battery, the electrical fittings shall be of explosionproof type.

21.8 (a) The housing of accumulator batteries shall be properly stowed in a locker which shall be well ventilated.

(b) Accumulator batteries shall not be located in the crew spaces.

<21.9 A lightning conductor is recommended to be fitted for a vessel which hull or mast is constructed of nonconductive materials. The lightning conductor might be connected to a copper plate fixed to the vessel's hull well below the lightship waterline. >

21.10 When any work to be carried out on electrical appliances a signboard showing “Work in Progress” shall be displayed at prominent position of the electrical panel to prohibit anyone from operating the panel.

PART 5 REFRIGERATION INSTALLATION

22 Refrigerating Chamber and Refrigerating Machinery

22.1 Refrigerating Chamber

22.1.1 The insulation layer shall be intact and properly fixed.

22.1.2 Effective drainage arrangement shall be provided for the refrigerating chamber and evaporator.

22.1.3 All accessories of the system including the thermometer, pressure gauge shall be properly maintained to indicate the correct parameters.

22.1.4 Door alarm or manual call point, if provided, shall be properly maintained and routine testing is necessary to ensure their correct functioning.

22.1.5 The chamber shall be well lit and evaporator fan, if provided, shall be fitted with protective guard.

22.2 Refrigerating Machinery

22.2.1 All the accessories including the thermometer, pressure gauge, relief valve, liquid indicator shall be properly maintained.

23.2.2 The relief valves and bursting disc shall not be blanked and damaged. Blow test would be required if the stamp seal has been damage.

22.2.3 The high pressure (discharge) and low pressure (suction) cut-out of the refrigerating compressor shall be properly maintained. Periodic testing is necessary to ensure their normal functioning.

22.2.4 Insulation resistance of the electrical supply of the system shall not be less than 1 mega ohms.

22.2.5 Safety protective device of switchgear shall be properly maintained and tested to ensure their normal functioning.

22.2.6 Control and safety cut-out of the system shall be properly maintained and tested to ensure their normal functioning.

PART 6 RADIO EQUIPMENT INSTALLATION

23 Radio equipment installation (if required to be installed) must comply with the requirements of relevant legislation of Hong Kong. Vessel which holds a valid port clearance or is exempted under section 69(1) of the Ordinance from complying with section 28(1) of the Ordinance), when operating in such areas, shall also comply with the requirement of local legislation in order to ensure the needs of rescue and emergency communication.

CHAPTER III B

HULL CONSTRUCTION, MACHINERY, ELECTRICAL INSTALLATIONS AND FITTINGS - CATEGORY B VESSEL

PART 1 GENERAL REQUIREMENTS

(1) Fishing sampan of other than wooden construction shall be designed and built to the requirements of the relevant rules and regulations as listed at Annex A, having regard the size, construction material and operational services of the vessel. Such rules and regulations shall be complied with in its entirety. However in the case of any inconsistency between this Code and the requirements of the classification society rules, this Code shall be complied with. Wooden fishing vessels shall be of adequate structural strength appropriate for the sea and weather conditions likely to be encountered in the intended area of operation.

(2) GRP fishing sampan of length less than 15 metres shall be built in a shipyard having been certified competent for the construction by Marine Department or RA in the mainland, with regard to its facilities, organization and capability. A copy of the certification, if issued by the mainland authority, shall be furnished to Marine Department for consideration/record.

(3) Suitable means or device shall be provided to machinery, equipment, lifting gear, fish handling and fish processing equipment, etc. so as to reduce to a minimum any danger to persons on board. Special attention shall be paid to moving parts, hot surfaces and other potential dangers.

PART 2 HULL CONSTRUCTION

1 Hull and Bulkheads

1.1 Any motor vessel shall be fitted with:

< (a) a collision bulkhead (for vessels of other than wooden vessels and of length (L) exceeding 8 m); >

(b) engine room fore bulkhead; and

(c) engine room aft bulkhead, unless the machinery space is situated at aft end of the vessel.

1.2 For vessels of other than wooden construction, the bulkheads shall be of watertight construction. Bulkheads in vessels of wooden construction shall be as far as practicable of watertight construction. Openings fitted on bulkhead for the passing of pipes, cables, etc. shall be accordingly constructed.

1.3 < Access opening fitted in a watertight bulkhead shall be equipped with effective watertight closing appliance. No opening is to be fitted in collision bulkhead on vessels other than wooden construction. >

1.4 A fishing sampan shall be fitted with superstructure or erection to enable the proper display of navigation lights.

1.5 A fishing sampan:

(a) Shall have a main deck from stem to stern;

(b) Shall comply with the following minimum freeboard and reserve buoyancy requirements:

(i) A minimum freeboard appropriate to the vessel length (L) according to the following table:

Vessel Length (L) (m)	L ≤ 5	L = 15
Minimum Freeboard at Fully Load Condition (mm)	350	650

The minimum freeboard of intermediate length shall be obtained by interpolation.

(ii) Buoyancy tank with gross volume sufficient to support the lightship weight of the vessel (i.e. the aggregate of the vessel's own weight and the weight of propulsion machinery excluding fish hauls).

1.6 The requirements in the fitting of a sea connected fish-hold (commonly known as "live fish-hold") in a fishing sampan:

(i) each fishing sampan may be fitted with only one live fish-hold (which may be sub-divided into more than one compartment) with a length not exceeding 10% of the vessel length;

(ii) the bulkhead of the live fish-hold shall be of watertight construction to prevent leakage of water into other compartments on board;

(iii) the built-in buoyancy tank is sufficient to support the lightship weight of the vessel as per requirements in 1.5(b)(ii) after the live fish-hold is connected to the sea and the requirement for the minimum freeboard as mentioned in 1.5(b)(i) shall be met in all probable loading conditions; and

(iv) the live fish-hold shall be located in front of the steering position and near the midship, whereas the aft bulkhead shall not be situated before the midship.

Vessel owners applying for the fitting of the live fish-hold shall submit calculation data of the buoyancy tank and the minimum freeboard to Marine Department or authorized surveyors for approval. Applications for installation of the live fish-hold by fishing sampans failing to comply with any of the above conditions shall be made to Marine Department for consideration on a case-by-case basis.

2 Closing Appliances, Freeing Ports

2.1 The air pipes, ventilators, cargo hatchways, small hatchways, manholes and doors which are leading to a space below main deck shall be fitted with weathertight closing appliance and have a minimum coaming height of 230 or <300> mm on any <wooden vessel plying beyond Hong Kong waters.>

2.2 No coaming is required for watertight manholes.

2.3 If bulwark is fitted at the shipside on vessels operating outside the Specified Sheltered Waters, freeing ports shall be provided in both sides of the bulwark with the minimum aggregate area (in m^2) indicated in the following table. For vessels operating beyond

Hong Kong Waters, the aggregate area shall be twice of that indicated in the tables.

Length (L) (m)	Aggregate Freeing Port Area (m^2)
L ≦ 12	0.0115 L
12 < L < 24	(0.00146 L-0.006) L
L ≧ 24	0.029 L

3 Protection of Crew

Ch.IIIA/4 refer.

4 Flooring

Ch. IIIA/5 refers.

5 Marking of Hull

5.1 For vessels of all kinds of construction, Ch.IIIA/6.1 refers.

PART 3 MACHINERY INSTALLATION

6 Main Engine and Engine Fitting

6.1 The engine's exhaust pipe shall be lagged with heat-resistant material unless it is served by a water cooling system. A silencer or expansion chamber shall be fitted on the exhaust pipe. <Main engine crankcase shall be fitted with venting pipe leading to the open deck>.

6.2 The maximum horsepower of main engine to be installed on fishing sampans shall not exceed that indicated in Annex N-4B and Annex N-4C.

7 Engine Room

7.1 Adequate ventilation shall be provided in engine room. If only natural ventilation is provided, at least two cowl ventilators of adequate size shall be fitted.

7.2 If the vessel is constructed of wooden or GRP of non-oil resistant material, a suitable metal tray which can readily be cleaned shall be fitted under the engine to protect the bilges against saturation by oil.

7.3 Every machinery spaces shall be at all times kept clean and free from unnecessary combustible materials and that waste oil is not allowed to accumulate in the bilges.

8 Nature of Fuel

Subject to section 9.3, Ch.IIIA/11 refers.

9 Tanks

9.1 The arrangements for filling fuel tanks are to be such that oil will not spill or overflow into any compartment of the vessel. Woodwork surrounding deck-filling mouth shall be covered with sheet metal. No loose can/barrel of fuel oil is to be carried on board.

9.2 Fuel tanks shall be substantially constructed of suitable material and securely fixed in position.

9.3 On Class III GRP fishing sampan, the petrol fuel tank may be of portable tank approved by engine manufacturer. The maximum fuel tank capacity (for operation in Hong Kong waters) is as follows:

Length (L) (m)	$5 \leqq L < 6$	$6 \leqq L < 8$	$8 \leqq L < 15$
Maximum capacity for each fuel tank	50 litres		100 litres
Maximum capacity for all fuel tanks on board	100 litres		150 litres

10 Pumping and Piping Arrangement

Ch.IIIA/13 refers.

11 Bilge Pumping Arrangement

A hand or electrical operated bilge pump of sufficient capacity shall be fitted for pumping out water in the bilge.

12 Compressed Air System

Ch.IIIA/15 refers.

13 Wheelhouse - Engine room Communication

Ch.IIIA/18 refers

Note
For the purpose of "combined coxswain" operation, any existing vessel of length less than 24m, total power not more than 750 kW (1,000 HP), and operating within waters of Hong Kong, fittings of a fixed fire detection (operated by smoke detectors) and fire alarm system for engine room can be waived, provided regular surveillance (such as through tale-tell pipe or transparent glass view-hole fittings etc.) can be exercised from outside engine room or control station by the coxswain or a crewmember.

14 Installation for Prevention of Oil Pollution

Ch.IIIA/19 refers.

15 Electrical Installations

Ch.IIIA/Part 4 refers.

CHAPTER IV
FREEBOARD AND STABILITY

1 Freeboard Assignment, Certification, Intact Stability

1.1 The freeboard assignment, certification and intact stability requirements for a vessel shall be according to the following table:

Vessel Type and Plying Limits	Length (L)	L ≥ 24 m		L < 24 m	
	Requirement	Freeboard, Certification	Intact Stability	Freeboard, Certification	Intact Stability
Class III Vessel					
Category A Vessel		--	IMO Wind mt Note1	--	IMO
Fishing Sampan (L<15m)				SAMPAN FB	comply with stability and buoyancy requirements listed in Annex N-4B or 4C as appropriate

Legend

1.2 Freeboard Requirements

SAMPAN FB To comply with the minimum freeboard and reserve buoyancy requirements listed in Ch. IIIB/1.3(b).

1.3 Intact stability requirements in all probable loading conditions of vessel

IMO IMO Recommended Stability Criteria

(1) the initial GM_T shall not be less than 0.35 metres;

(2) the area under the curve of the righting levers (GZ curves) shall not be less than:-

(i) 0.055 m-rad up to an angle of 30°;

(ii) 0.090 m-rad up to an angle of either 40° or the angle at which the lower edges of any openings in the hull, superstructures or deckhouses, being openings which cannot be closed weathertight, are immersed if that angle be less;

(iii) 0.030 m-rad between the angles of heel of 30° and 40° or such referred to in (ii) above;

(3) the righting lever (GZ) shall be at least 0.20 metres at an angle of heel equal to or greater than 30°; and

Note1 Applicable to a vessel which is when the reference to "the commencement date" of the Survey Regulation in the definition of "new vessel" under section 2 of the Survey Regulation is substituted by "3 March 2017".

(4) the maximum righting lever (GZ_{max}) shall occur at an angle of heel not less than 25^o but preferably over 30^o.

Wind Mt Wind moment – as calculated according to section 2.3 Severe Wind and Rolling Criterion (weather criterion) of 2008 IS Code (International Code on Intact Stability, 2008) published by IMO in respect of wind moment effect. The wind pressure factor shall be taken to be 500 Pa.

1.4 Determination of minimum freeboard

A vessel shall meet the relevant stability criteria for the draught corresponding to the freeboard assigned.

1.5 Equivalent freeboard and stability criteria

Where it is not practical for any particular vessel, due to its geometric characteristics (e.g. the ratio of beam / depth is exceeding 2.5) or operating condition, to fully comply with the stipulated freeboard or stability criteria, the Department may permit the application of equivalent criteria which are at least as effective as that so specified.

2 Inclining Test

2.1 With the exception of a vessel which stability is to be determined by a rolling period test, every vessel which stability information is required as stated in section 1 shall be inclined to confirm the vessel's displacement, vertical centre of gravity (VCG) and longitudinal centre of gravity (LCG) in lightship condition when on completion or close to completion of construction (new vessels) or alteration (existing vessels). Inclining test report shall be submitted for approval.

2.2 Dispensation with conducting an inclining test may be given to -

(a) a vessel being similar in all respects to the sister ship for which a satisfactory inclining experiment report is available; and having been carried out a lightweight survey (see section 4 below) the result of which indicates that the deviations from –

(i) lightship displacement is not exceeding 2% for ships of $L \leq 50$ m; 1% for ships of $L > 160$ m (for intermediate *L,* by linear interpolation), and

(ii) lightship LCG is not exceeding 0.5% L.

(b) the addition/replacement of engine(s) and/or minor alteration, Annex I-5C refers.

3 Lightweight Survey

3.1 A lightweight survey report including the calculation of the lightship displacement and LCG of the vessel shall be submitted for approval.

3.2 If the results of the lightweight survey are found not acceptable, an inclining test shall be conducted.

4 Determination of Deadweight and Its Effects

4.1 The deadweight shall comprise the following items:

(a) full number of crew and effect;

(b) full load of fish hauls;

(c) fuel tanks (96% full) and fresh water tanks (100% full); and

(d) consumable stores.

4.2 The following information shall be used for the consideration of the effects of crew weight:

(a) each person has a mass of 68 kg or <75 kg>;

(b) VCG of seated persons is 0.3 m above seat;

(c) VCG of standing persons is 1.0 m above deck;

(d) persons and luggage shall be considered to be in the space normally at their disposal.

5 Stability Information Booklet

5.1 After inclining test or lightweight survey, a stability information booklet (for each vessel) shall be submitted to the authority, person or organisation specified under Ch. II/2.1 or 2.2 for approval.

5.2 The booklet shall include the vessel's following particulars:

(a) vessel’s name, principal dimensions, fully loaded displacement;

(b) general arrangement showing names of all compartments, tanks, machinery spaces, storerooms, crew accommodation spaces;

(c) the capacity and the VCG and LCG of every compartment available for the carriage of cargo, fuel, water, water ballast, etc.;

(d) the effect on stability of free surface in each tank in which liquids may be carried;

(e) the estimated total weight of crew and their effects, and the VCG and LCG of each such total weight. In assessing such centres of gravity the crew shall be assumed to be distributed about the ship in the spaces they will normally occupy, including the highest decks to which either or both have access.

(f) the estimated weight and the disposition and centre of gravity of deck cargo;

(g) hydrostatic particulars, cross curves particulars;

(h) calculation of loading and righting levers (GZ) curves of -

(i) light condition,

(ii) fully loaded (to the assigned freeboard) condition,

(iii) service loaded conditions,

(iv) probable worst conditions.

Conditions (ii)~(iv) shall be calculated on both departure and arrival condition.

5.3 The approved stability booklet shall be placed on board the vessel for the reference of the coxswain.

6 Permanent Ballast

6.1 When ballast is required to improve stability of the vessel, the correct quantity of ballast shall at all times be fixed (or so stowed thus not rendered movable when at sea) at the specified position. Such quantity and position of permanent ballast shall be endorsed in the Certificate of Survey.

7 Lashing of Cargo

7.1 In cargo hold and cargo space on deck, appropriate lashing gear and fittings shall be provided to prevent the cargo from sliding or tipping. These gear and fittings shall be regularly maintained and inspected.

8 Alteration onboard

8.1 Before a vessel is to undergo any alteration, application shall be submitted specifying the nature of the proposed alteration (Annex I-11 refers). Estimates of the effects of the alteration, i.e. the changes in vessel's lightship weight, VCG and LCG shall be submitted to the Marine Department for approval.

8.2 If the change due to alteration, or the finding of lightweight survey is exceeding 2%, an inclining test is to be conducted. The vessel's intact stability information, and damage stability information if applicable, shall be revised and submitted for approval.

8.3 No local vessel is allowed to construct or alter to have false bottom or secret compartment.

CHAPTER V
CREW ACCOMMODATION

Note

(a) This chapter shall apply to Class III Category A vessels in all except section 1.5.

(b) Wooden fishing vessels shall comply with sections 1.1, 1.4 and 2.

(c) Fishing sampans shall comply with sections 1.5 and 2.

1 General Requirements

1.1 In every vessel the spaces allocated for crew shall be -

(a) constructed properly;

(b) protected from sea and weather;

(c) minimum 1.85 metres clear headroom above deck covering or stair tread (except for awning on fishing sampan);

(d) well lighted and ventilated ; and

(e) maintained in a clean and habitable condition.

1.2 Any deck or bulkhead, or part of a deck or bulkhead, which separates a crew space from any engine room, machinery space, paint room, galley, or spaces used for the storage of flammable oils, shall be of gastight construction.

1.3 Toughened safety glass shall be used for window, the thickness shall meet the requirements of a classification society rules.

1.4 Glass or mirror shall be made of materials which will not break into dangerous fragments if fractured (such as BS6206 or equivalent).

1.5 If an awning is installed on a fishing sampan,

(a) the awning shall be of a length no more than 70% of the overall length of the vessel;

(b) the awning shall be in the form of a canopy (i.e. open on all sides beneath and unenclosed to minimise the windage area) and of a height no more than 1.85 metres above the lowest level of main deck;

(c) the awning shall be detachable; and

(d) the installation plan shall be submitted to the authority, person or organisation specified under Ch. II/2.1 or 2.2 for approval before installation. If the awning is of a length between 50% and 70% of the overall length of the vessel, the data pertaining to the stability on the impact of windage on the vessel (including related information such as lines plan of the vessel) shall be submitted for approval.

2 Maximum Carrying Capacity

2.1 No Class III vessel is permitted to carry any passenger according to section 5(2) of the Merchant Shipping (Local Vessels) (Certification and Licensing) Regulation.

2.2 The maximum crew allowance for Class III vessel is dependent on the factor

$A=3.21(L-B)B^2$, in which L is vessel's length overall, B is extreme breadth, in metric units, as follows:

Factor A	Maximum Crew Allowance
$A \leq 120$	4 (*1)
$150 \geq A > 120$	8
$300 \geq A > 150$	9 (*2)
$1000 \geq A > 300$	12
$A > 1000$	15

Note

*1: If the outcome of the simple inclining test (see Note *3) indicates that the angle of heel of the vessel does not exceed 7° even if the number of crew on the vessel is more than 4 but not more than 6, the maximum crew allowance may be increased from 4 to that number of crew.

*2: If the outcome of the simple inclining test (see Note 3) indicates that the angle of heel of the vessel does not exceed 7° even if the number of crew on the vessel is 9, the maximum crew allowance may be increased from 9 to 10.

*3: "simple inclining test" means the simple inclining test in Part 1 of Annex E, but the references to "passengers" therein shall be read and construed as references to "crew".

3 Marking

Evacuation routes, exits and lifejacket stowage shall be clearly marked.

CHAPTER VI
FIRE PROTECTION AND FIRE-FIGHTING APPARATUS

1 Definitions

““A” Class division” means a division formed by bulkhead or deck which is -

(a) constructed of steel or other equivalent material;

(b) suitably stiffened;

(c) so constructed as to be capable of preventing the passage of smoke and flame to the end of the 60 minutes standard fire test; and

(d) so insulated where necessary with suitable non-combustible materials that if the division is exposed to a standard fire test the average temperature on the unexposed side of the division shall not increase more than 140ºC above the initial temperature nor shall the temperature at any one point, including any joint, rise more than 180ºC above the initial temperature within the time listed below -

“A-60” standard 60 minutes

“A-30” standard 30 minutes

“A-0” standard 0 minutes;

"accommodation spaces" means public spaces; passageways and lobbies; stairways; lavatories; crew cabins; offices; pantries not containing cooking appliances; lockers and spaces similar to any of the foregoing and trunks to such spaces allocated to crew;

“control stations” are spaces in which radio or main navigating equipment, or the emergency source of power, or the central fire recording equipment, or fire control equipment, or fire extinguishing installations are located or a control room located outside a propulsion machinery space;

“engine room” means a space which contains propulsion machinery and generators;

“machinery space” means a space which contains internal combustion engines, electrical machinery, ventilation and air conditioning machinery and similar spaces;

“non-combustible material” means a material which neither burns nor gives off flammable vapours in sufficient quantity for self-ignition when heated to a temperature of 750ºC, and the expression “combustible material” shall be construed accordingly;

2 Fire-fighting Apparatus, Type and Quantity

2.1 <Fire-fighting apparatus and structural fire protection items shall be of approved types. Apparatus approved by the maritime administration of a convention country or classification society in accordance with the recommendations of the International Maritime Organization are acceptable. >

For existing vessels, fire-fighting apparatus which have been approved by the national maritime authority of their country of manufacture in accordance with the national standard or have been approved or accepted by the Department are also considered acceptable.

2.2 Fire-fighting apparatus, type and quantity of Class III vessels must comply with Table 7 in Schedule 4 of the Survey Regulation. The electronic version is available at URL – https://www.elegislation.gov.hk/hk/cap548G!en-zh-Hant-HK/sch4

2.3 For vessels that are required to install a fire detection system; refer to the specification at Schedule 11 of the Merchant Shipping (Safety) (Fire Protection) (Ships Built on or after 1 September 1984) Regulations (which is available at URL: https://www.elegislation.gov.hk/hk/cap369Y!en-zh-Hant-HK?INDEX_CS=N&xpid=ID_1438403105396_002

3 Fire Pumps

3.1 In a vessel which is required to be provided with fire pumps operated by power, such fire pumps (other than any emergency fire pumps) shall together be capable of delivering for fire fighting purposes a quantity of water, under the conditions and at the pressure specified in VI/4 of not less than that obtained from the following formula -

$Q = cd^2$ m^3/hour

where

c = 5 for vessels required to be provided with more than one fire pump (excluding any emergency fire pump) and

c = 2.5 for vessels required to be provided with only one fire pump

$d = 1 + 0.066 \sqrt{[L(B+D)]}$ to the nearest 0.25

L, B and D are length, moulded breadth and moulded depth of the vessel.

3.2 A fire pump required to be operated by power shall be operated by means other than the vessel's main engines unless specified in the Survey Regulation. Fire pumps may be sanitary, ballast, bilge or general service pumps.

3.3 In a vessel required to be provided with fire pumps operated by power, arrangements shall be made to ensure immediate availability of a water supply from the fire main at the required pressure by suitably placed remote starting of the fire pumps, unless the machinery space is continually manned.

3.4 In a vessel which is required to be provided with more than one fire pump operated by power (other than any emergency pump) every such fire pump shall have a capacity of not less than 80% of the total capacity of the fire pumps required in section 3.1 divided by the number of fire pumps to be provided in the vessel provided that each pump has a capacity of not less than 25 m^3/hour. When more fire pumps are provided in any vessel, the Director may permit the capacity of any such additional fire pumps to be less than 80%.

3.5 A fire pump required which is operated by power shall be capable of producing from any fire hydrant one jet of water, while maintaining the pressure required in section 4.2.

3.6 Relief valves shall be provided in conjunction with all fire pumps if the pumps are capable of developing a pressure exceeding the design pressure of the fire main, water service pipes, hydrants and hoses. Such valves shall be so placed and adjusted as to prevent excessive pressure in any part of the fire main system.

3.7 A centrifugal pump which is connected to the fire main shall be fitted with a non-return valve.

3.8 In a vessel, any emergency fire pump shall be situated in a position aft of the vessel's collision bulkhead.

3.9 A manually operated pump shall be capable of producing a jet of water having a throw of not less than 6 m from nozzle.

4 Fire Main, Water Service Pipes and Hydrants

4.1 In a vessel which is required to be provided with fire pumps operated by power, the diameter of the fire main and of the water service pipes connecting the hydrants thereto shall be sufficient for the effective distribution of the maximum discharge from -

(a) where only one pump is required; or

(b) where 2 such pumps are so required, both pumps operating simultaneously.

4.2 Any fire pump shall, when discharging the quantity of water required in 3.1 above through adjacent fire hydrants in any part of the vessel from nozzles of sizes specified in section 5, be capable of maintaining the following pressure at any hydrant –

(a) of vessel's gross tonnage 1000 or vessel's length 60 metres, whichever is the smaller, and upwards : 2.7 bar ($0.27N/mm^2$);

(b) of vessel's gross tonnage under 1000 tons or vessel's length under 60 metres, whichever is the smaller : 2.1 bar ($0.21N/mm^2$)

provided that the maximum pressure at any hydrant shall not exceed that at which the effective control of a fire hose can be demonstrated.

4.3 Where any vessel is required to be provided with appliances capable of producing one jet of water, hydrants sufficient in number shall be so positioned as to enable one jet of water from a single length of hose to reach any part of the vessel.

4.4 (a) The fire main shall have no connections other than those necessary for fire-fighting and washing down. However, fire main may be permitted to have connection to ballast lines, cooling water lines and bilge ejector etc., provided that shut-off valves to these lines are fitted and kept closed at all times when not in use.

(b) Materials readily rendered ineffective by heat shall not be used for fire mains unless adequately protected.

(c) The fire hydrants shall be so placed that the fire hoses may be easily coupled to them except where hoses and nozzles are permanently attached to the fire hydrant.

(d) In vessels which may carry deck cargo the fire hydrants shall be so placed that they are always readily accessible and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo.

(e) Hydrant valves of the screw lift type shall be fitted in such position that any of the fire hoses may be isolated and removed while the fire pumps are at work.

(f) The water pipes if made of iron or steel shall be galvanised or alternatively the pipe wall thickness shall be increased by a corrosion allowance satisfactory to the Director.

(g) Isolating valves to separate the section of the fire main within the machinery space containing the main fire pump or pumps from the rest of the fire main shall be fitted in a position outside the machinery spaces which shall be easily accessible when there is a fire. The fire main shall be so arranged that when the isolating valves are shut all the hydrants on the vessel, except those in the machinery space referred to above, can be supplied with water by a fire pump not located in this machinery space through pipes which do not enter this space. Exceptionally, the Director may permit short lengths of the emergency fire pump suction and discharge piping to penetrate the machinery space if it is impracticable to route it externally, provided that the integrity of the fire main is maintained by the enclosure of the piping in a substantial steel casing.

(h) Hydrants shall be positioned as to allow at least one jet of water from a single

prescribed length of fire hose to reach any part of the vessel normally accessible during navigation. If only one hydrant is provided for engine room it shall be located outside of the space and near the entrance.

(i) Except otherwise specified, at least one hose and one nozzle shall be provided for every hydrant.

5 Fire Hoses, Nozzles, etc.

5.1 Fire hoses provided shall not exceed 20 metres in length. Such hose shall be made of closely woven flax, canvas or other suitable material; and every other such hose shall be made of non-perishable material.

5.2 Every fire hose together with the tools and fittings necessary for its use, shall be kept in a conspicuous position near the hydrants or connections with which it is intended to be used. Hose diameters shall be not less than 65 mm if unlined or 45 mm if lined.

5.3 Fire hoses so provided shall not be used for any purpose other than for fire-fighting or testing the fire-fighting apparatus.

5.4 (a) A vessel which is required to be provided with fire pumps operated by power shall be provided with nozzles of 12 mm in diameter or as near thereto in diameter as possible.

(b) A vessel provided with manual fire pumps shall be provided with nozzles of 9 mm in diameter or as near thereto in diameter as possible.

5.5 Dual purpose nozzle incorporating a shut-off meeting the requirements set out in Appendix I of MDN 49 of 2019 is accepted as an alternative to the requirements of jet nozzles and spray nozzles stipulated in Schedule 4 of the Survey Regulation.

6 Location and Arrangement of Water Pumps for Other Fire Extinguishing Systems

Pumps required for the provision of water for other fire extinguishing systems, their sources of power and their controls shall be installed outside the space or spaces protected by such systems and shall be so arranged that a fire in the space or spaces protected will not put any such system out of action.

7 Fire Protection and Fire-Fighting Apparatus/Installation not required by the Survey Regulation

Where fire-fighting apparatus/installation of the type not required by the Survey Regulation (e.g. fire detection system, fixed extinguishing system, etc.) is provided, such apparatus/installation shall be so arranged that a fire in the space or spaces protected will not put any such apparatus/installation out of function; and the owner, agent and coxswain of the vessel shall ensure that the apparatus/installation is properly maintained in good and serviceable condition and be fit for the function intended.

8 Fire Extinguishers

8.1 Each type of fire extinguishers shall have a minimum capacity as shown in the following table:

Media	Capacity	
	Portable Type	Non-Portable Type
Foam	9 litres	45 litres
CO_2	3 kg	16 kg

Dry Powder	4.5 kg	
Water	9 litres	

8.2 Fire extinguishers to be used for switchboard, control panels, batteries, etc. shall be of the type suitable for electrical fires, e.g. dry powder or CO_2 fire extinguisher.

8.3 Fire extinguishers to be used for machinery spaces shall be of the type suitable for oil fires, e.g. foam, dry powder or CO_2 fire extinguisher.

8.4 Portable extinguishers are to be suitably distributed throughout the protected spaces. Normally at least one shall be stowed near the entrance inside that space.

8.5 Portable fire extinguishers provided for use in accommodation or service spaces of any vessel shall so far as practicable have a uniform method of operation.

8.6 The use of CO_2 fire extinguisher in a confined space is not recommended.

8.7 Portable CO_2 extinguishers shall not be located in accommodation spaces. Where such extinguishers are provided in wheel house or any other control station, at switchboards and other similar positions, the volume of any space containing one or more extinguishers shall be such as to limit the concentration of vapour that can occur due to discharge to not more than 5% of the net volume of the space. The volume of CO_2 shall be calculated at 0.56 m^3/ kg.

8.8 Fire extinguishers provided for use in any vessel shall not contain any extinguishing medium which has not been approved by the Director.

8.9 The capacity of a CO_2 extinguisher shall be taken to be the greatest weight of CO_2 which it can safely contain in a tropical climate.

8.10 The capacity of any fire extinguisher, other than a CO_2 fire extinguisher, shall be taken to be the greatest volume or weight of extinguishing medium which it can contain when sufficient space is left to ensure the proper operation of the extinguisher.

8.11 Every fire extinguisher shall be kept fully charged at all times.

8.12 Portable and non-portable fire extinguishers shall be periodically examined and subject to such tests as prescribed in Ch. II/Table 7-2.

9 Means for Stopping Machinery, Shutting Off Oil Fuel Suction Pipes and Closing of Openings

9.1 In every vessel there shall be provided -

(a) without limiting Ch. IIIA/20.6, means for stopping ventilation fans serving machinery, accommodation and cargo spaces;

(b) means for closing all skylights, doorways, ventilators and other openings to such spaces; and

(c) means to permit the release of smoke from machinery spaces.

Such means shall be capable of being operated from positions outside the said spaces and which would not be made inaccessible by a fire within such spaces.

9.2 Machinery driving forced and induced draught fans, oil fuel transfer pumps and other similar fuel pumps shall be fitted with remote stop installation situated outside the spaces in which such machinery or pumps are situated and which would not be made inaccessible by a fire within such spaces. The remote stop installation shall be capable of stopping such machinery or pumps in the event of fire in such spaces.

9.3 A pipe connected to any oil fuel or lubricating oil storage, not being a double bottom tank,

which if damaged would permit discharge of the contents so as to cause a fire hazard, shall be fitted with a valve or cock which shall be secured to the tank to which it is connected and which shall be capable of being closed from a readily accessible position outside the space in which the tank is situated.

10 Availability of Fire-fighting Apparatus

10.1 Fire-fighting apparatus carried in any vessel shall be maintained in good order and shall be kept available for immediate use at all times. All movable fire-fighting apparatus, other than firemen's outfits, carried shall be stowed where they will be readily accessible from the spaces in which they are intended to be used and, in particular, one of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.

10.2 Non-portable fire extinguish required to be fitted in engine room which is limited in space, may be stowed in vicinity of the engine room entrance provided that the jet of the fire extinguishing media can reach any part of the engine room.

11 Structural Fire Protection

11.1 Application

This part shall apply to new vessels.

11.2 Requirements for All Vessels

11.2.1 In all spaces –

(a) paints, varnishes and other finishes used on exposed surfaces shall not contain nitrocellulose or other highly flammable base products and shall not be capable of producing toxic gases or excessive quantities of smoke;

(b) insulating materials shall be of non-combustible materials;

(c) stairways, includes interior stairway, lifts and escalators (other than those wholly contained within the machinery spaces and enclosures) thereto, shall be constructed of steel or material of equivalent fire resistance, and as far as practicable arranged in fore and aft direction;

(d) any means of escape shall be led to open deck; and

11.2.2 In accommodation, service spaces and control stations –

(a) all exposed surfaces in corridors, exposed surfaces of ceilings and surfaces in concealed or inaccessible spaces shall have low flame spread characteristics

(b) primary deck coverings shall be of a material which will not readily ignite or give rise to toxic or explosive hazards at elevated temperatures;

(c) the doorways and stairways for escape purpose shall be evenly distributed and arranged so as to avoid congestion in any part of a vessel. Such door and hatch cover shall be operable from either side;

(d) dead-end corridor shall not be more than 7 metres in length; and

(e) the width and continuity of the means of escape shall be to the satisfaction of the Director.

11.2.3 [Note1] In vessels constructed of reinforced glass fibre plastic (GRP), fire retarding material

[Note1] Section 11.2.3 applies to any vessel which is when the reference to "the commencement date" of the Survey Regulation in the definition of "new vessel" under section 2 of the Survey Regulation is substituted by "3 March 2017".

shall be applied in the hull, deck and bulkhead structures of engine room boundaries, and is capable to maintain its required strength for a period of 30 min. For hull structures below waterline the insulation shall extend to at least 300 mm below the lightest waterline. In vessels constructed of wood, the engine room boundaries shall be applied with certificated type fire retardant coating or mineral wool insulation.

11.3 Additional Requirements for Category A Vessels

11.3.1 Any deck or bulkhead, or part of a deck or bulkhead, which separates a crew space from any machinery space, paint room, galley, or spaces used for the storage of flammable oils, shall be of gastight construction.

11.3.2 At least two means of escape shall in general be provided for the crew space and spaces accessible to them. However, one of the means of escape may be dispensed with in exceptional case having regard to the size and location of the space.

Chapter VII
Life-Saving Appliances and Arrangements

1 Definitions

"Survival craft" means lifeboat and liferaft.

"LSA Code" means the International Life-Saving Appliance ("LSA") Code adopted by the Maritime Safety Committee of the International Maritime Organization by its resolution MSC.48(66) or its amended version.

"SOLAS A Pack Liferafts" are the liferafts provided with normal equipment prescribed by the abovementioned LSA Code. For class III vessels, "Y" type inflatable liferafts approved by the Bureau of Fishing Vessel Inspection may also be accepted in lieu of SOLAS A Pack Liferafts.

"SOLAS B Pack Liferafts" are the liferafts provided with normal equipment prescribed by the LSA Code less the following equipment:

(a) half number of rocket parachute flares, hand flares and buoyant smoke signals;

(b) tin openers;

(c) fishing tackle;

(d) food ration;

(e) water tank; and

(f) graduated drinking vessels.

2 General Requirements

2.1 Life-saving appliances (other than lifejackets) shall be of the approved types. Appliances conforming to the LSA Code and approved by a maritime administration of a jurisdiction to which the International Convention for the Safety of Life at Sea, 1974 is applicable or a classification society are acceptable.

2.1A Lifejacket

2.1A.1 *(Repealed)*

2.1A.2 Under the Survey Regulation, unless otherwise specified[1], a Class III vessel shall provide every person on board with a suitable lifejacket (refer to 2.1A.4), the total number of which must be not less than the maximum number of persons licensed to be carried as specified in the operating licence.

2.1A.3 Lifejacket Standards

[1] With respect to Class III vessels, this covers outboard open sampan and fishing sampan which comply with Schedule 2 to the Regulation.

The lifejackets required to be provided on board a local vessel under section 32 of and Schedule 3 to the Survey Regulation must –

(a) at least comply with the performance standards and requirements set out in –

(i) for a vessel which is permitted to ply outside the waters of Hong Kong –

(A) section 2.2.1 or 2.2.2 of the LSA Code; or

(B) ISO 12402-3:2006 (Personal floatation devices – Part 3: Lifejackets, performance level 150 – Safety requirements) issued by the International Organization for Standardization (ISO); and

(ii) for a vessel which is permitted to ply solely in the waters of Hong Kong –

(A) section 2.2.1 or 2.2.2 of the LSA Code; or

(B) ISO 12402-4:2006 (Personal floatation devices – Part 4: Lifejackets, performance level 100 – Safety requirements) issued by the ISO; and

(b) be of a type approved by a maritime administration of a jurisdiction to which the International Convention for the Safety of Life at Sea, 1974 is applicable or a classification society or the European Union.

2.1A.4 Suitable Lifejacket

A suitable lifejacket means a lifejacket that is designed and manufactured in accordance with 2.1A.3 above, and fit for the intended wearer. A lifejacket complying with such standard is designed with a normal size range, differentiated by the weight and/or height of the intended wearer. Such a range of sizes would be marked on the label of lifejacket for reference:

	SOLAS	ISO
Adult	≥43kg, ≥155cm	≥40kg
"Common Lifejacket" (refer to <2.1A.6>	N.A.	15-120kg

2.1A.5 To avoid confusion, the lifejackets placed on board should as far as practicable not of mixed standards.

2.1A.6 "Common Lifejacket"

A lifejacket suitable for both adults and children (Common Lifejacket) complies with ISO performance level 100. It is only suitable to be used by vessels sailing within the Hong Kong waters. For details of the Common Lifejacket accepted by the Marine Department and the information of the manufacturers, refer to Marine Department

The Common Lifejacket should have a Radio Frequency Identification (RFID) electronic tag attached with a unique identification serial number. The electronic tag should fulfill the following specification requirements:

1	Material	Silicon (or equivalent).
2	Dimension	56 x 12 x 1.8 mm (+/- 10% on each dimension).
3	Frequency band	Within the 860 to 960 MHz band of the UHF spectrum, and shall be readable within the frequency range 865 – 868MHz and/or 920 – 925MHz allocated by the Office of the Communications Authority (OFCA) of the Hong Kong Special Administrative Region.
4	Protocol	EPC global ISO 18000-6C (or equivalent).
5	IC	Higgs 3 (or equivalent).
6	EPC memory	96 bits (or above).
7	User memory	512 bits (or above).
8	Write cycles	100 000 (or above).
9	Storage environment	-40℃ to +90℃ (or wider range).
10	Wet clean	85℃ (up to 60 minutes) (or equivalent). 120℃ (up to 10 minutes) (or equivalent).
11	Iron	200℃ (up to 10 seconds with press cloth) (or equivalent).
12	Security features	(a) The tags shall be compatible with the security scheme for product authentication. (b) Each tag shall be assigned a unique ID in EPC memory bank. Structure of the encoding and numbering scheme shall make reference to Item 13 below with details to be provided and confirmed by the Marine Department. (c) Each tag shall be protected by a locked access password to avoid unauthorised access (32 bits). (d) Each tag shall be protected by a locked kill password to avoid unauthorised access (32 bits). (e) Each tag shall be assigned an authentication code (96 bits) in user memory bank which will be updated during authentication process. (f) Data content of the security scheme for tag initialization.
13	Structure of the encoding in the UHF RFID tag (for reference)	(a) The code is AA99-999999, of which each "A" represents an alphabetic character from A to Z and each "9" represents a digit from 0 to 9. (b) The hyphen is fixed. (c) The prefix "MD" will be used in the RFID provided by the Marine Department. The RFID of other Common

		Lifejackets shall not use “MD” in the encoding.

2.1A.7 Oversized or Overweight Personnel on Board

With reference to the LSA Code, restraining straps should be provided on board to assist overweight or oversized personnel to secure their lifejackets as they are unable to don the standard-compliant lifejackets.

2.1A.8 The life-saving appliances and radiocommunications equipment including their types and quantity for class III vessels shall be provided according to the Survey Regulation Schedule 3. The electronic version is available at the URL below:

https://www.elegislation.gov.hk/hk/cap548G!en-zh-Hant-HK/sch3

In determining the number of lifejackets required to be provided on board according to the regulation, the number of lifejackets shall be rounded up if the calculation results are decimal numbers.

Part B – Former Requirements (Sections 2.1A.9 to 2.1A.10) (Transitional Arrangements until 22 December 2021)

2.1A.9 *(Repealed)*

2.1A.10 *(Repealed)*

2.2 Vessels operating within river trade limits shall be equipped with SOLAS B Pack liferafts.

For existing vessels, life-saving appliances which have been approved by the national maritime authorities of their country of manufacture in accordance with the national standard or have been approved by the Marine Department are also considered acceptable.

2.3 Radiocommunications equipment must have a licence issued by the Communications Authority (CA), Hong Kong.

2.4 One lifebuoy must be able to support two adult persons.

2.5 Each of the buoyant lifeline, self-igniting light and self-activating smoke signal required by the Survey Regulation shall be attached to a lifebuoy and be placed in proximity of the vessel’s both sides.

2.6 Lifebuoys shall be marked on both sides with the name (as that shown on the hull of vessel) or Certificate of Ownership number of the vessel on which they are carried.

2.7 On vessels sailing in waters beyond Hong Kong, the lifejackets and lifebuoys shall be fitted with the following:

(a) for lifejacket: lifejacket light, whistle and retro-reflective tape

(b) for lifebuoy: retro-reflective tape

2.8 Donning instructions shall be posted in the appropriate areas in the vessel.

3 Replacement of Life-Saving Appliances

Any item of life-saving equipment marked with an expiry date shall be replaced on or before that date.

4 Operational Readiness, Maintenance, Inspections and Servicing

4.1 Whenever a local vessel is being used or operated, every life-saving appliance carried on board the vessel shall be –

(a) in working order;

(b) ready for immediate use; and

(c) placed in an easily accessible position.

4.2 Every inflatable liferaft and hydrostatic release unit shall be serviced at a service station accepted by the Director (outside Hong Kong, by both the maritime administration of a convention country and by the appliance manufacturer) at intervals not exceeding 12 months or a period as recommended by the appliance manufacturer.

5 Survival Craft Muster and Embarkation Arrangements

5.1 Survival craft shall be stowed as close to accommodation and service areas as possible.

5.2 Muster and embarkation stations of survival craft shall be readily accessible from accommodation and work areas.

5.3 Alleyways, internal and external stairways and exits giving access to the muster and embarkation stations of survival craft shall be lighted.

6 Stowage of Survival Craft and Buoyant Apparatus

6.1 Each survival craft shall be stowed –

(a) in a way that neither the survival craft nor its stowage arrangements will interfere with the operation of any other survival craft at any other launching station;

(b) as near to the water surface as possible provided that it is safe and practicable; in serious situations where a fully loaded survival craft has an angle of trim or heel up to 20° or the weather deck starts to be flooded, etc., the embarkation point should be at least 2 m above the waterline;

(c) in a state of continuous readiness so that two crew members can carry out

preparations for embarkation and launching in less than 5 minutes;

(d) in a fully-equipped manner;

(e) in a secure and sheltered area as far as practicable to prevent any damages that may be caused by fire and explosions.

6.2 Liferafts shall be so stowed as to permit manual release from their securing arrangements.

6.3 Liferafts shall be so stowed as to be readily transferable for launching on either side of the vessel unless liferafts are stowed on each side of the vessel.

6.4 Every liferaft shall be stowed with its painter permanently attached to the vessel and with a float-free arrangement so that the liferaft can float free and, if inflatable, can inflate automatically when the vessel sinks.

6.5 Each buoyant apparatus shall be stowed -

(a) as to be readily transferable for launching on either side of the vessel;

(b) with a float-free arrangement so that the apparatus can float free when the vessel sinks.

6.6 Radar transponder shall be stowed -

(a) that it can be rapidly placed in any survival craft or one radar transponder stowed in each survival craft;

(b) with a float-free arrangement so that the equipment floats free when the vessel sinks.

7 Launching Stations

Launching stations shall be in such positions as to ensure safe launching having particular regard to the clearance from the propeller and steeply overhanging portions of the hull with the object of ensuring that so far as practicable, the survival craft can be launched down on the straight side of the vessel.

8 Survival Craft Launching Arrangements

Means shall be available to prevent any discharge of water onto the survival craft during abandonment.

9 Stowage of Lifebuoys

9.1 Lifebuoys shall be so distributed as to be readily available on both sides of the vessel and as far as practicable on all open decks extending to the vessel's side. At least one lifebuoy shall be placed in the vicinity of the stern.

9.2 Lifebuoys shall be so stowed as to be capable of being rapidly cast loose, and not permanently secured in any way to allow float free.

9.3 Except as otherwise provided, one lifebuoy shall be fitted on each side of the vessel with a buoyant lifeline attached.

9.4 Except as otherwise provided, lifebuoys with self-igniting lights and those with self-igniting lights and self-activating smoke signals shall be equally distributed on both sides of the vessel and shall not be the lifebuoys provided with buoyant lifeline.

10 Stowage of Lifejackets

10.1 Lifejackets shall be so placed as to be readily accessible and their positions shall be plainly indicated.

10.2 The additional lifejackets, when provided, shall be stowed in conspicuous places on deck or at muster stations.

10.3 If a lifejacket is individually stored in a plastic bag, and –

(a) where the plastic bag is completely transparent, the plastic bag shall be easily ripped open; and

(b) where the plastic bag is opaque or is not completely transparent –

(i) the plastic bag shall be easily ripped open; and

(ii) there shall be clear indication at a conspicuous place on the outside of the plastic bag that the plastic bag contains a lifejacket.

10.4 If one or more lifejackets are stored in an enclosed space (for example: a cabinet, a bag) which is opaque or is not completely transparent, there shall be a clear indication at a conspicuous place on the outside of the enclosed space that the enclosed space contains a lifejacket.

11 Stowage and Packing of Pyrotechnic Distress Signals

11.1 Pyrotechnic distress signals provided for use on board a vessel shall be stowed on or near the navigating bridge.

11.2 All pyrotechnic distress signals provided for use on board vessels or lifeboats shall be packed in water-resistant casings when stowed.

12 Operating Instructions for Survival Craft and their Launching Controls

Posters and signs provided on or in the vicinity of survival craft and their launching controls shall illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions.

13 Manning of Survival Craft

There shall be a sufficient number of crew members to operate the survival craft and launching arrangements for abandonment by all the people on board. The crew should be acquainted with their duties.

14 Requirements of Inflatable Liferafts for Category A Fishing Vessels

Vessel Length (L) (m)	**L < 24**	**24 ≤ L <45**(1)
Inflatable Liferaft (2)(5)	100% SOLAS B Pack inflatable liferaft (4)	100% SOLAS A Pack inflatable liferaft 100% SOLAS B Pack inflatable liferaft (3)

Notes:

(1) The requirements for a vessel of 45 m or more in length shall be specified by the Director on a case-by-case basis.

(2) Where the required quantity of life-saving appliances is expressed as a percentage, it means the percentage of life-saving appliances to the total number of persons on board.

(3) For fishing vessels intend to operate in waters not more than 200 nautical miles away from the coast, they may use SOLAS B Pack inflatable liferafts for at least 80% of the total persons onboard, and use buoyant apparatus for the remaining persons.

(4) For vessels of less than 20 m in length and intend to operate in waters not more than 120 nautical miles away from the coast, they may use SOLAS B Pack inflatable liferafts for at least 60% of the total persons onboard, and use buoyant apparatus for the remaining persons.

(5) (a) Applicable to a Class III vessel that holds a valid port clearance;

(b) Required equipment for a Class III leader fishing vessel or individual operating fishing vessel which is exempted under section 69(1) of the Ordinance from complying with section 28(1) of the Ordinance, and will have an endorsement on the licence or certificate.

15 Requirements of Radiocommunications Equipment for Class III Vessels

Radiocomm. Equipment	Vessel Category	A	B
	Vessel Length (L) (m)	L < 45(1)	L < 45(1)
Citizen Band Transceiver		1	-

Notes:

(1) The requirements for a vessel of 45 m or more in length shall be specified by the Director on a case-by-case basis.

16 Licensing, Operation, Operating Condition and Maintenance of Radiocommunications Equipment for Fishing Vessels

16.1 According to the Telecommunications Ordinance (Cap. 106) of the laws of Hong Kong, the model or type of radiocommunications equipment for fishing vessels must be approved or accepted by the Communications Authority (CA) and hold a licence of radio equipment issued by the CA.

16.2 The Ordinance requires equipment operators to receive appropriate training and obtain an operator certificate issued by the CA. Operator certificates issued by the Mainland or other countries are also acceptable.

16.3 The general condition of radiocommunications equipment shall be efficiently maintained. While a vessel is in operation, the certified operator or the ship master shall frequently carry out operation tests or inspections and keep record of the result.

16.4 When the radiocommunications equipment is licensed or installed for the first time, the vessel owner must submit a test and inspection report issued by the supplier or a suitable radio service company.

CHAPTER VIII

LIGHTS, SHAPES AND SOUND SIGNALS

1 General

1.1 Unless indicated otherwise, this chapter (including amendments made therein) applies to all vessels with effect from 1 July 2016.

1.2 Lights, shapes and sound signals provided for navigational purpose must be in accordance with the provisions of the Merchant Shipping (Safety) (Signals of Distress and Prevention of Collisions) Regulations, Cap. 369 sub. leg. N, which gives effect to the International Regulations for Preventing Collisions at Sea 1972 (COLREG), as amended.

1.3 All lanterns and sound signals must be of the type approved/certified by the Marine Department, or the Maritime Administration of a convention country.

All lanterns and sound signals fitted on new vessel[Note 1]; or replacement of these lights/signals on existing vessel must be of the type approved/certified by the Marine Department, or the Maritime Administration of a convention country or an authorized organization (definition in Ch. I/3.1 refers). Each navigation light shall be accompanied by a type-approval certificate with unique serial number.

1.4 Where applicable special signals as required in the International Code of Signals published by the International Maritime Organization must be exhibited.

1.5 For ease of reference for meeting relevant provisions of the Regulations mentioned in section 1.1, the following sections, tables or diagrams indicate the signal appliances a vessel must exhibit when underway/towing/being towed, of type and length as indicated.

2 Definitions

For the purpose of this chapter, except where the context otherwise requires:

(a) The words "length (L)" and "breadth" of a vessel mean her length overall and extreme breadth (as defined in Ch. I/3.1).

(b) The term "height above the hull" means height above the uppermost continuous deck. This height shall be measured from the position vertically beneath the location of the light.

3 Alternative Lights

3.1 All vessels of L ≥ 24.4 metres shall carry a complete set of alternative (standby) lanterns for the masthead lights, side lights (P. and S.) and stern light. The alternative lanterns may be either electric or oil type.

3.2 One set of spare bulbs (one per light) shall be carried for the electric lanterns. A set of spare chimneys (one per light) shall be carried for the oil lanterns.

Note1 Applicable to a vessel which is when the reference to “the commencement date” of the Survey Regulation in the definition of “new vessel” under section 2 of the Survey Regulation is substituted by “3 March 2017”.

4 Lights and Sound Signals

4.1 Power Driven Vessels L ≥ 50 m

Item	No. Reqd	Intensity/Size	Remark
Masthead Light	1 fwd 1 aft	visibility 6 n. miles	
Side Light (P&S)	1 set	" 3 n. miles	
Stern Light	1	" 3 n. miles	
Anchor Light	1 fwd 1 aft	" 3 n. miles	all round white
N.U.C. Light	2	" 3 n. miles	all round red
Black Ball	2	0.6 m diameter	
Black Diamond	1	0.6 m diameter, 1.2 m height	
Whistle	1	Audibility range 50 m ≤ L < 75 m 1 n. mile 75 m ≤ L < 200 m 1.5 n. mile	
Bell	1	0.3 m mouth diameter	
Gong	1		for L ≥ 100 m

4.2 Power Driven Vessels 20 m ≤ L < 50 m

Item	No. Reqd	Intensity/Size	Remark
Masthead Light	1	visibility 5 n. miles	
Side Light (P&S)	1 set	" 2 n. miles	
Stern Light	1	" 2 n. miles	
Anchor Light	1	" 2 n. miles	all round white
N.U.C. Light	2	" 2 n. miles	all round red
Black Ball	2	0.6 m diameter	
Black Diamond	1	0.6 m diameter, 1.2 m height	
Whistle	1	audibility range 1 n. mile	
Bell	1	0.3 m mouth diameter	

4.3 Power Driven Vessels 12 m ≤ L < 20 m

Item	No. Reqd	Intensity/Size	Remark
Masthead Light	1	visibility 3 n. miles	
Side Light (P&S)	1 set	" 2 n. miles	may be combined lantern
Stern Light	1	" 2 n. miles	
Anchor Light	1	" 2 n. miles	all round white
N.U.C. Light	2	" 2 n. miles	all round red
Black Ball	2	dimensions commensurate with size of vessel	
Black Diamond	1	ditto	
Whistle	1	audibility range 0.5 n. miles	
Sound Signal	1	means of making efficient sound signal	

4.4 Power Driven Vessels L < 12 m

Item	No. Reqd	Intensity/Size	Remark
Masthead Light	1	visibility 2 n. miles	may exhibit an all-round white light instead [Note A]
Stern Light	1	" 2 n. miles	
Side Light (P&S)	1 set	" 1 n. miles	may be combined lantern
Anchor Light	1	" 2 n. miles	all round white
N.U.C. Light [Note B]	2	" 2 n. miles	all round red
Black Ball [Note B]	2	dimensions commensurate with size of vessel	
Black Diamond [Note B]	1	ditto	
Sound Signal	1	means of making efficient sound signal	

Note

(A) The masthead light or all-round white light may be displaced from the fore and aft centreline of the vessel if centreline fitting is not practicable, provided that the sidelights are combined in one lantern which shall be carried on the fore and aft centreline of the vessel or located as nearly as practicable in the same fore and aft line as the masthead light or the all-round white light.

(B) Except those engaged in diving operations, the subject lights and shapes shall not be required.

4.5 Power driven vessel with L < 7 m and maximum speed not exceeding 7 knots may in lieu of the lights prescribed in 4.4 above, exhibit an all round white light and shall, if practicable, also exhibit sidelights.

4.6 Additional Requirements for Fishing Vessels

4.6.1 A vessel engaged in trawling

Item	No. Reqd	Remark
All Round Light		
Green	1	to be arranged in a vertical line, the upper being green and the lower white
and White	1	
or		
X Shape	1	two cones with their axes together in a vertical line one above the other
Masthead Light	1	applicable to L ≥ 50 m, to be positioned abaft and higher than the green light required above

4.6.2 A vessel engaged in fishing other than trawling

Item	No. Reqd	Remark
All Round Light Red and White or X Shape	 1 1 1	 to be arranged in a vertical line, the upper being red and the lower white two cones with their axes together in a vertical line one above the other
All Round Light White or Cone Apex	1 1	applicable when there is outlying gear extending > 150 m horizontally from the vessel

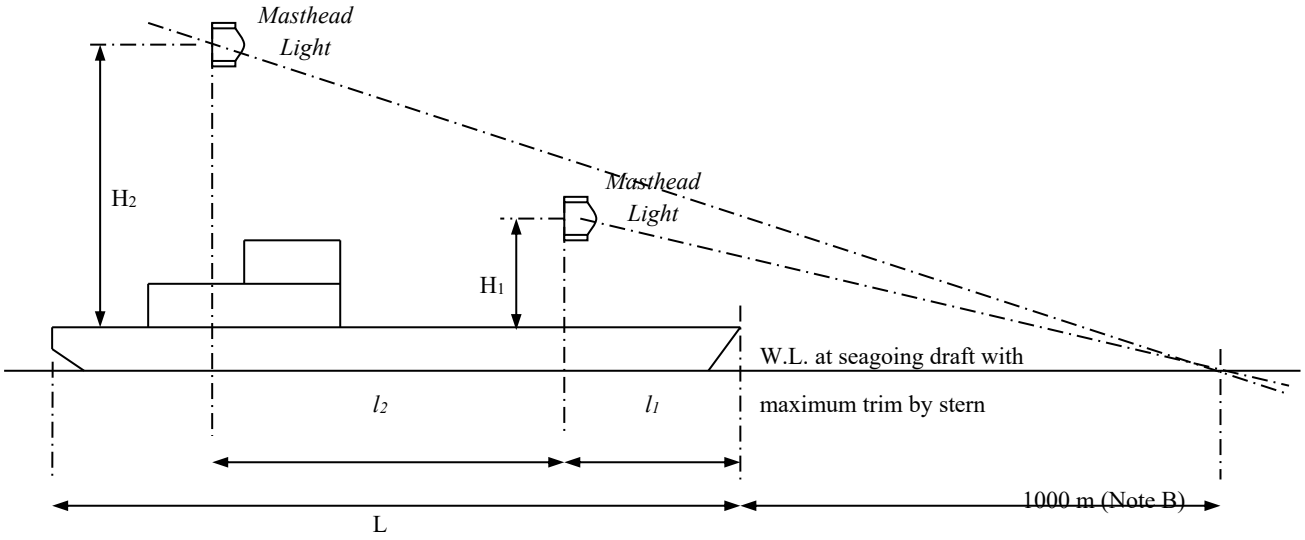
4.7 Vessel under oars

A vessel under oars must have ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision.

5 Positioning of Light Signals

Except in special cases, the masthead light, side lights and stern light must be so placed as to be above and clear of all other lights and obstructions.

5.1 Masthead Light



Ship Length L (m)	L < 12 (Note A)	12 ≤ L < 20 (Note A)	20 ≤ L < 50 (Note A)	L ≥ 50
l_1	As far forward as is practicable	As far forward as is practicable	≤ 0.5L	≤ 0.25L
l_2	--	--	--	≥ 0.5 L
H_1	may be < 2.5 m (Note D)	≥ 2.5 m (Note C)	≥ 6 m or ship's breadth (whichever is greater), but need not > 12 m	
H_2	--	--	--	≥ (H_1+4.5) (Note E)

Note

(A) On vessels of L < 50 m only one masthead light is required.

(B) The vertical separation of masthead lights of power-driven vessels must be such that in all normal conditions of trim the after light will be seen over and separate from the forward light at a distance of 1000 m from the stem when viewed from sea level.

(C) On vessels of 12 m ≤ L < 20 m the height is measured from gunwale.

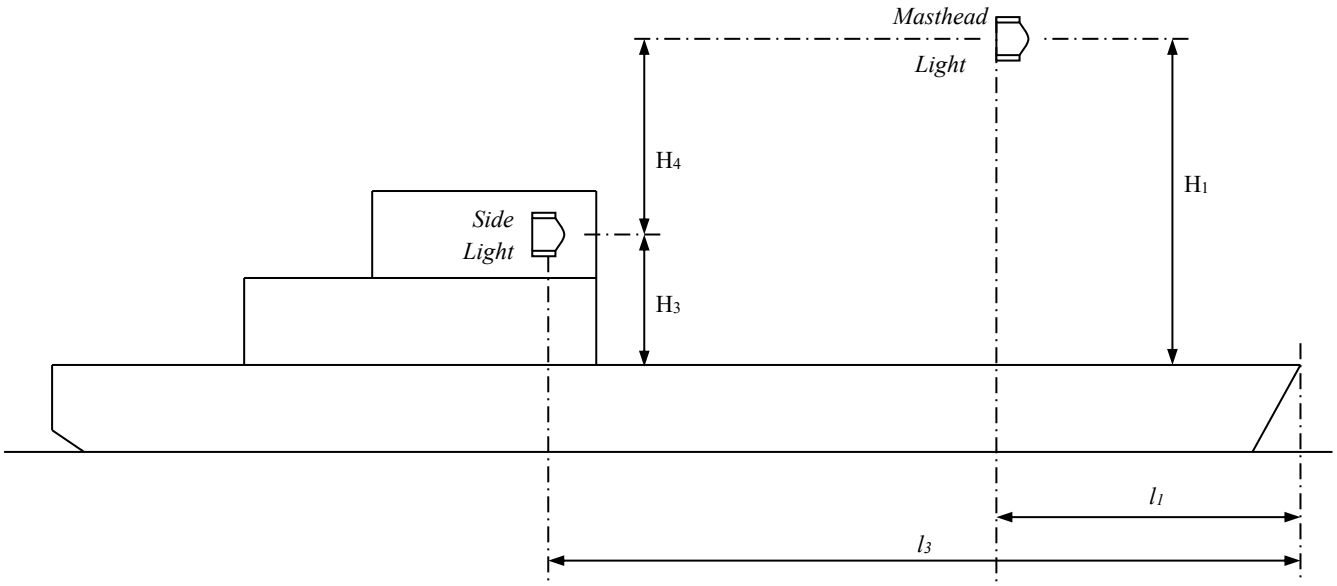
(D) Vessels of L < 12 m may carry the uppermost light at a height of less than 2.5 m above the gunwale. When however a masthead light is carried in addition to side lights and a stern light or the all-round lights prescribed in the regulation is carried in addition to side lights, then such masthead light or all-round light must be carried at least 1 m higher than the side lights.

5.2 Side Light

5.2.1 The side lights of vessels of L ≥ 20 m must be fitted with inboard screens painted matt black and meet the requirements with respect to horizontal sectors. On vessels of L < 20 m the side lights, if necessary to provide with horizontal sectors, must be fitted with inboard matt black screens. With a combined lantern, using a single vertical filament and a very narrow division between the green and red sections, external screens need not be fitted.

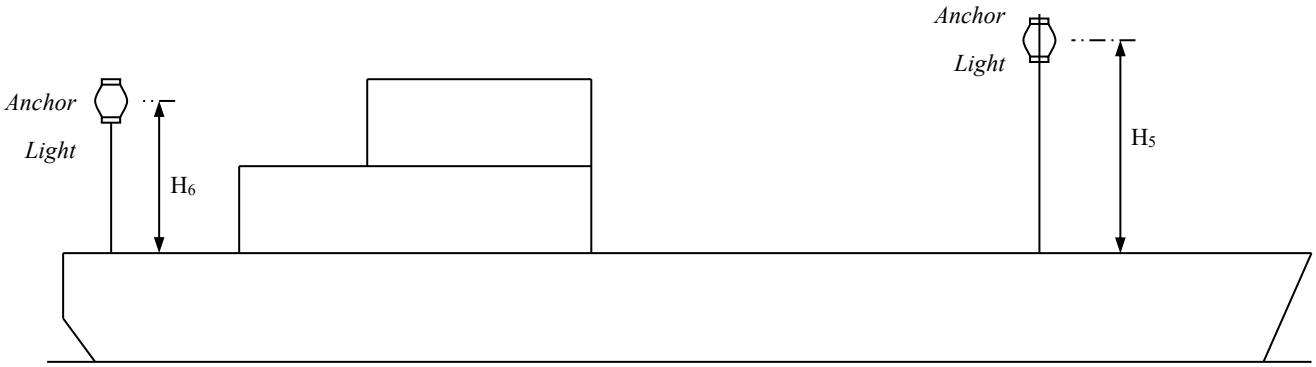
5.2.2 Side lights must not be so low as to be interfered with by deck lights. They must be placed at or near the side of the vessel (recommended not more than 0.1 ship's breadth from shipside).

5.2.3 The sidelights, if in a combined lantern and carried on a power-driven vessel of less than 20 m in length, must be placed not less than 1 m below the masthead light.



Length (m)	L < 20	20 ≤ L < 50	L ≥ 50
l_3	no requirement	$> l_1$ (i.e. side light not to be in front of masthead light)	$> l_1$ (i.e. side light not to be in front of forward masthead light)
H_3	≤ 0.75 H_1		
H_4	in the case of combined lantern, ≥ 1m	--	--

5.3 Anchor Light

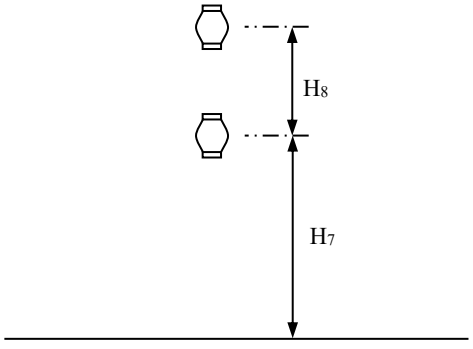


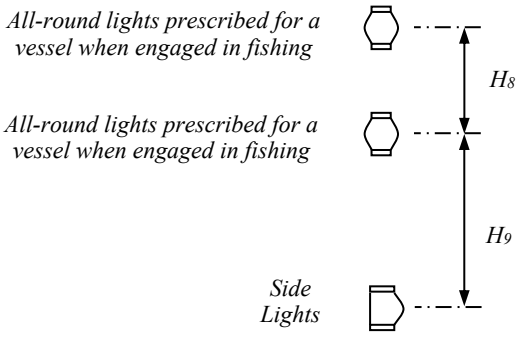
Length (m)	L < 50 (Note)	L ≥ 50
H_5	Position can best be seen	≥ 6 m
H_6		≤ (H_5 - 4.5)

Note

On vessels of L < 50 m, only one anchor light is required.

5.4 Vertical Spacing of Lights fitted in a Vertical Line





Length (m)	L < 20	L ≥ 20
H_7	≥ 2 m (except where a towing light is fitted)	≥ 4 m (except where a towing light is fitted)
H_8 Note	≥ 1 m	≥ 2 m
H_9	≥ 2 H_8	≥ 2 H_8

Note When 3 lights are carried they must be equally spaced.

5.5 Electric Light Vertical Sectors

The lights must be so positioned such that:

(i) at least the required minimum intensity is maintained at all angles from 5^0 above to 5^0 below the horizontal; and

(ii) at least 60% of the required minimum intensity is maintained from 7.5^0 above to 7.5^0 below the horizontal.

CHAPTER IX

TONNAGE MEASUREMENT

PART 1 General

1 Application

1.1 Subject to section 1.2, this chapter shall apply to new vessels (see definition in Ch. I/3.1).

1.2 The following vessels are not required to be measured in accordance with this chapter –

(a) any vessel the tonnage of which has been measured in accordance with the Merchant Shipping (Registration)(Tonnage) Regulations and is issued with the relevant tonnage certificate; or

(b) any vessel in possession of International Tonnage Certificate issued in accordance with the International Convention on Tonnage Measurement of Ships, 1969.

(c) any existing vessel the tonnage of which has been measured in accordance with the previous methods of tonnage measurement.

2 METHOD OF TONNAGE MEASUREMENT

2.1 The gross and net tonnages shall be determined in accordance with Part 2 of this chapter provided that in the case of novel types of vessel with constructional features which render the application of the provisions of Part 2 unreasonable or impracticable, the gross and net tonnages shall be determined as required by the Director.

2.2 All measurements used in the calculations of volumes shall be taken and expressed in metres to the nearest centimetre.

2.3 Gross and net tonnages shall be expressed as whole numbers, decimals being rounded off downwards.

2.4 All volumes included in the calculation of gross and net tonnages shall be measured, irrespective of the fitting of insulation or the like, to the inner side of the shell (below Main deck) or structural boundary plating (above Main deck) in ships constructed of metal, and to the outer surface of the shell (below Main deck) or to the inner side of the structural boundary surfaces (above Main deck) in ships constructed of any other material.

2.5 The total volume shall include volumes of appendages (e.g. rudder, kort nozzle, skeg, propeller shaft bossings, etc.) but exclude the volumes of spaces open to sea. Volumes within the hulls of ship, such as split-hull barges and dredgers, shall be retained in V and V_c notwithstanding that the space within the hull is temporarily open to the sea when discharging cargo.

2.6 Enclosed spaces above the main deck not exceeding 1 m^3, air trunks having a cross-sectional area not exceeding 1 m^2 are not to be measured.

2.7 Masts, cranes and container support structures, which are completely inaccessible and above the main deck, separated on all their sides from other enclosed spaces are not to be included in the total volume of all enclosed spaces. All mobile cranes are exempted.

PART 2 Ascertainment of Tonnage

3 Vessels of 24 Metres in Length and Above

3.1 Except wooden fishing vessels, the tonnage of vessels of 24 metres in length and above shall be ascertained in accordance with Part II of the Merchant Shipping (Registration)(Tonnage) Regulations..

4 Wooden Fishing Vessels of Any Length, and Other Vessels of Less Than 24 Metres in Length

4.1 The tonnage of wooden fishing vessels of any length; and all vessels of less than 24 m in length shall be ascertained in accordance with this section.

4.2 Gross tonnage

4.2.1 The gross tonnage (GT) shall be determined by the following formula:

$$GT = K_1 (V_1 + V_2)$$

where: $K_1 = 0.2 + 0.02 \log_{10} V_1$

$V_1 = V_H$, total volume of all enclosed spaces under the main deck, in m^3; which shall be obtained from section 4.2.2 (in catamaran, $V_1 = 2 \times V_H$).

V_2 = total volume of all enclosed spaces above the main deck, in m^3; which shall be obtained from section 4.2.3.

.

4.2.2 V_1 shall be determined by the following formula:

$$V_1 = L_m B D C \quad m^3$$

where: L_m = length of the main deck, m;

B =in vessels of other than wooden construction, the moulded breadth (in catamaran, the moulded breadth of one hull); and in wooden vessels, the breadth measured to the outer planking of the hull, m;

D = moulded depth, m;

C = coefficient obtained from the following table depending on the type of vessel:

Main deck is the deck which form the top of the enclosed space of the hull.

Vessel and Type of Vessel	Propulsion	Basic Hull Form	Hull Form Factor (C)
Class III Vessel			
Fishing Vessel	With Propulsion engine /No Propulsion engine	junk	0.60
GRP Fishing Sampan	With Propulsion engine	ship	0.60

4.2.3 V_2 shall be determined by the following formula:

$$V_2 = \Sigma \ l \times b \times h \qquad m^3$$

where l, b, h are respectively the mean length, mean breadth and mean height of each tier of the enclosed spaces above the main deck, in m.

4.3 Net Tonnage

The net tonnage (NT) shall be determined by the following formula (for all types of vessels):

$$NT = 0.3 \times GT$$

where: GT = gross tonnage calculated by section 4.2.1 above.

CHAPTER XII

VESSEL SAFE OPERATION AND OPERATOR REQUIREMENTS

1 General

Every vessel that is fitted with propulsion engine shall be controlled by the following appropriate complement when underway -

(a) coxswain; and

(b) engine operator, except that specified in Schedule 3 of the Merchant Shipping (Local Vessels) (Certification and Licensing) Regulation (Cap. 548 sub. leg.).

2 Certificate Classes and Validity

2.1 Local certificates of competency issued before, and after commencement of the Merchant Shipping (Local Vessels)(Local Certificates of Competency) Rules, (Local Certificates of Competency Rules), and its validity limitations are shown in the following table :

Certificates issued before the commencement of Local Certificates of Competency Rules	Certificates issued under Local Certificates of Competency Rules	Vessels Applicable
Local Certificate of Competency as Master of a vessel of 300 tons and under; Local Certificate of Competency as Trawling Master	Coxswain Grade 1	Up to and including 1600 gross ton [Note 1]
Local Certificate of Competency as Master of a vessel of 60 tons and under	Coxswain Grade 2	Up to and including 24 m length [Note 2], and 26.4 m length overall [Note 3]
Local Certificate of Competency as Master of a Fishing Vessel;	Coxswain Grade 3	Up to and including 15 m length [Note 2], and 16.5 m length overall [Note 3]
Local Certificate of Competency as Ferry engineer; Local Certificate of Competency as Engineer for a vessel with engine power over 150 BHP	Engine Operator Grade 1	Up to and including 3000 kW aggregate power [Note 4]
	Engine Operator Grade 2	Up to and including 1500 kW aggregate power [Note 4]
Local Certificate of Competency as engineer of a vessel with engine power up to 150 BHP; Local Certificate of Competency as Engineer of a Fishing Vessel	Engine Operator Grade 3	Up to and including 750 kW aggregate power [Note 4]

Note

1 If vessel's gross tonnage is greater than 1600 or vessel's total propulsion power is greater than 3000kW, special consideration may be sought from the Director.

2 "Length", as defined in Ch. I/3.1.

3 "Length overall", as defined in Ch. I/3.1.

4 "aggregate power" (總功率), according to Merchant Shipping (Local Vessels)(Local Certificates Of Competency) Rules, means the total power of all the vessel's propulsion engines as specified in the certificate of survey or certificate of inspection issued to the vessel in accordance with the provisions of the Survey Regulation

2.2 Local certificate of competency as master restricted to operate a craft of not more than 10 metres in length and fitted with either a petrol outboard engine of not more than 12 kW power or a diesel engine of not more than 38kW power within limits of permitted areas issued before the commencement of the Local Certificates of Competency Rules shall, unless earlier suspended or cancelled-

(a) continue in force until the date of its expiry;

(b) valid for operation within the limits of the permitted areas as shown shaded on the map in Schedule 3 of the Local Certificates of Competency Rules; and

(c) subject to the conditions except the geographic operational limits as endorsed in the original certificate.

2.3 Local certificate of competency as master restricted to operate in typhoon shelters only issued before the commencement of the Local Certificates of Competency Rules shall, unless earlier suspended or cancelled-

(a) continue in force until the date of its expiry;

(b) valid for operation in typhoon shelters only; and

(c) subject to the conditions as endorsed on the original certificate.

3 Vessel Permitted to be Operated by Combined Coxswain and Engine Operator

3.1 Except the types of vessels stated in section 3.2, and subject to the condition stated in section 3.3, vessels equipped for unattended machinery space operation as required in Ch. IIIA/18 when operating within Hong Kong waters may be operated under the command of a person who is a holder of both valid coxswain certificate and valid engine operator certificate (i.e. "combined coxswain").

3.2 The following types of mechanically propelled vessels while underway are not allowed to be controlled by only a combined coxswain:

(a) vessel of length exceeding 24 metres;

(b) vessel of total propulsion engine horsepower exceeding 1000 kW (1340 BHP);

(c) any other type of vessel as considered by the Director not suitable to be operated by only a combined coxswain.

3.3 On a vessel commanded by only a combined coxswain, there should be at least one crew member with common engineering knowledge on board to assist the combined coxswain while the vessel is underway.

3.4 Any fishing vessel equipped as required in Ch. IIIA/18 and of length not exceeding 24 metres and total power not exceeding 260 kW (350 BHP), may be controlled by only a combined coxswain.

4 Reporting of Accidents

It is a statutory requirement for the owner or coxswain or agent of any local vessel to report accidents relating to collisions and fires etc. as required in Part XI of the

Ordinance.

5 Observance of Safe Navigational Speed, Carrying Certificated Operators and Adequate Number of Crew

5.1 When any vessel is under way, the coxswain shall ensure the vessel is proceeding at a safe navigational speed, and diligently comply with the speed limits in the relevant operating areas and the relevant operational requirements as promulgated in Marine Department notices from time to time.

5.2 Any owner or coxswain of the vessel shall observe any specified licensing conditions on vessel operator requirements, including those indicated in Ch. IIIA/18, IIIB/13, XII and Annex U-4 of this Code, in order to cope with operational needs including helping out emergency measures etc.

6 Third Party Risks Insurance Coverage

It is the obligation of the owner and agent of any local vessel to ensure compliance with the relevant requirements of the Merchant Shipping (Local Vessels) (Compulsory Third Party Risks Insurance) Regulation.

7 Duties Relating to Owner and Agent of Vessel

7.1 It is the responsibility of the owner and agent of any vessel:-

(a) to ensure that the vessel is properly maintained, surveyed and certificated in accordance with the requirements of the Ordinance and regulations as mentioned in section 2 above, in addition to this Code; and

(b) to ensure that the vessel is built and constructed with adequate strength and stability, adequacy in safety for machinery, electrical and in safety arrangement and equipment for vessel's intended purpose through statutory survey and certification.

7.2 It is the responsibility of the owner, agent and the coxswain of any to observe applicable duties as indicated in the Merchant Shipping (Local Vessels)(General) Regulation and Merchant Shipping (Local Vessels)(Certification and Licensing) Regulation, and in particular relating to restrictions imposed under section 6 and operators holding relevant certificates of competency etc. required on any vessel specified under sections 46 to 50 of the latter Regulation.

CHAPTER XIII
SPECIAL REQUIREMENTS FOR BATTERY POWERED VESSELS

1 Application to Battery Powered Vessels

1.1 This chapter applies to local vessels that use electric power for the propulsion or general electrical loads with an installed battery capacity greater than 600Wh using cells and batteries containing alkaline or other non-acid electrolytes. Such vessels shall comply with the requirements of this chapter in addition to any other applicable requirements of this code of practice.

2 Requirements for Battery Powered Vessels

2.1 Batteries shall be constructed and tested in accordance with the relevant IEC Publications or equivalent where applicable.

2.2 Any lithium-ion batteries and battery systems with a capacity greater than 600 Wh installed a local vessel shall comply with the Technical Specification Small Craft – Lithium-ion batteries (ISO/TS 23625:2021) or equivalent.

2.3 Any local vessels of 24 meters or above, or any of the vessel type listed below, shall comply with the relevant rules published by an Authorized Organization for Electric Propulsion Systems or equivalent.

- Class I vessels;
- Dangerous goods carrier;
- Oil / Noxious liquid substance / Gas carriers;
- Special purpose vessels;
- Mobile fishing vessels; and
- Any Class II vessels that may navigate within river trade limits.

2.4 Any local vessels which do not belong to the vessels in paragraph 2.3 shall comply with the following:

(a) Vessels shall be constructed to the International Standards – Small Craft – Electric Propulsion System (ISO 16315:2016) and Small craft — Fire protection (ISO 9094), or their equivalent.

(b) Batteries shall be positioned aft of the collision bulkhead.

(c) Boundaries of battery compartment which is part of a vessel's structure or enclosures shall be of equivalent structural integrity and A-60 fire integrity.

(d) A battery compartment shall be fitted with fire/heat detectors or detection system where suitable.

(e) A battery compartment with combined stored energy over 50 kWh in lithium ion batteries shall be equipped with a type of fixed fire extinguishing system recommended as suitable for suppressing battery fire by the battery maker of that batteries.

CHAPTER XIV

SPECIAL REQUIREMENTS FOR VESSELS USING GASES OR OTHER LOW FLASHPOINT FUELS

1 Application to ships using gases or other low-flashpoint fuels

1.1 Unless expressly provided otherwise, this chapter applies to the vessels using gases or other low-flashpoint fuels ("**Alternate Fuels**") as fuel except gas carriers [Note 1] ("**IGF Vessel**").

1.2 IGF Vessel shall comply with the requirements of this chapter in addition to any other applicable requirements of this code of practice.

2 Requirements for ships using gases or other low-flashpoint fuels

2.1 An IGF Vessel shall comply in entirety with the requirements of the International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels ("**IGF Code**") as amended or equivalent.

2.2 An IGF Vessel shall hold a valid classification certificate issued by an Authorized Organization (AO).

2.3 The procedures as required under Part C of the IGF Code shall be endorsed by a suitably qualified AO for the compliance of IGF Code.

2.4 The crew of an IGF Vessel shall meet the applicable training requirements related to IGF Code in accordance with the STCW Convention and Code, as amended.

2.5 The owner of an IGF Vessel shall ensure that:

(a) the procedures listed in section 2.3 of this chapter are fully implemented on board the vessel;

(b) drills and emergency exercises related to Alternate Fuels shall be conducted at least once in every two months; and

(c) the crew of the vessel are adequately trained and experienced for the operation of the specific vessel related to the IGF Code.

3 Periodical Survey

3.1 During periodical survey of an IGF Vessel, full compliance of IGF Code shall be verified, including Part C and Part D of the IGF Code.

Note 1 For the special requirements for gas carriers, see Chapter XIII of "Safety Standards for Class II Vessels"

ANNEX A

RULES AND REGULATIONS FOR CLASSIFICATION OF VESSELS APPLICABLE TO LOCAL VESSELS

1 American Bureau of Shipping (ABS)

(i) Rules for Building and Classing Steel Vessels under 90 metres in Length

(ii) Rules for Building and Classing High Speed Craft

(iii) Rules for Building and Classing Steel Barges

(iv) Steel Vessels for Service on Rivers and Intracoastal Waterways (for vessels operating within smooth waters)

2 Bureau Veritas (BV)

(i) Rules for the Classification of Steel Ships

(ii) Hull Structure and Arrangement for the Classification of Cargo Ships less than 65 m and Non Cargo Ships less than 90 m

(iii) Hull Arrangement, Stability and Systems for Ships less than 500 GT

(iv) Hull in Composite Materials and Plywood, Material Approval, Design Principles, Construction and Survey

(v) Hull in Aluminium Alloys, Design Principles, Construction and Survey

(vi) Rules for the classification of high speed craft

3 China Classification Society (CCS)

(i) Rules for Classification of Sea-going Steel Ships

國內航行海船建造規範

(ii) Rules for the Construction and Classification of Coastal Boats (applicable to vessels of length not exceeding 20 metres

沿海小船入級與建造規範

(iii) Rules for the Construction and Classification of Sea-Going High Speed Craft

海上高速船入級與建造規範

(iv) Rules for Classification of Inland Waterways Steel Ships (applicable to vessels of length equal to or greater than 20 metres, operating in waters of Hong Kong or River Trade Limits not exceeding 5 km from coast)

鋼質內河船舶建造規範

4 DNV - AS

(i) DNV Rules for Classification of Ships

(ii) DNV Rules for Classification of High Speed, Light Craft and Naval Surface Craft

5 Lloyd's Register of Shipping (LR)

(i) Rules and Regulations for the Classification of Ships

(ii) Rules and Regulations for the Classification of Special Service Craft

(applicable to high speed craft, light displacement craft, multi-hull craft, yachts of overall length 24 m or greater and craft with draught to depth ratio less than or equal to 0.55)

6 Nippon Kaiji Kyokai (NK)

(i) Rules and Guidance for the Survey and Construction of Steel Ships

(ii) Rules and Guidance for the Survey and Construction of Passenger Ships

(iii) Rules and Guidance for the Survey and Construction of Inland Waterway Ships

(iv) Rules and Guidance for the Survey and Construction of Ships of Fibreglass Reinforced Plastics

(v) Rules and Guidance for High Speed Craft

7 Register of Fishing Vessel of the People's Republic of China (RFV)

The following are applicable to fishing vessel/fishing sampan

(i) Regulation for Statutory Surveys of Fishing Vessels of the PRC – River Trade, GRP, Wooden Sea-going and Small Steel Fishing Vessels Statutory Surveys and Technical Regulations

《漁業船舶法定檢驗規則——內河、玻璃鋼、海洋木質及小型鋼質漁業船舶法定檢驗技術規則》

(ii) Rules and Regulations for Construction of Sea-going Steel Fishing Vessel

《鋼質海洋漁船建造規範》

(iii) Rules and Regulations for Statutory Inspection of Fishing Vessel

《漁業船舶法定檢驗規則》

(iv) Rules and Regulations for Construction of Glass Reinforced Fibre Fishing Vessel (applicable to fishing sampan only)

《玻璃纖維增强塑料漁業船舶建造規範》

Note

(1) The lists include the current rules and regulations applicable to local vessels issued by 7 classification societies/recognized authority and are not exhaustive. Rules and regulations issued by other authorized organizations; and alternative standards may be considered.

(2) Hull scantlings and engine shafting calculations shall be verified and stamped by the respective Classification Society/Recognized Authority.

Annex E

APPROXIMATE DETERMINATION OF STABILITY

Part 1 Simple Inclining Test

1 General

1.1 The simple inclining test is to ascertain the angle of heel a vessel would occur when 2/3 of the persons distributed on one side of the vessel and 1/3 on the other side. The objective being that it should be ensured that no angle of heel exceeding 7° will arise as a result of the movement of persons from one side of the vessel to the other side.

2 Test Procedure

2.1 The vessel should be tested with weights to represent the fully laden service condition.

2.2 The weights should be disposed, as far as practicable, with their centres of gravity in the correct vertical and lateral positions having regard also to those vessels where persons should be taken as congregated at 0.3 m^2 each on the uppermost deck or decks to which they have access.

2.3 The test should be carried out in the following manner: -

(a) the vessel is to be loaded with weights as described above,

(b) calculate a heeling moment equal to $1/12^{th}$ the weight of the persons (W) multiplied by the extreme breadth (B) of the vessel (WB/12),

(c) transfer weights from one side of the vessel to the other side in 3 equal increments such that the final heeling moment is equal to WB/12, the same vertical CG of the whole being maintained.

The weights and the distance that are moved together with the angle of heel should be recorded for each of the 3 moves.

(d) restore all the weights to their original positions and record angle of heel when they are restored,

(e) repeat (c) moving weights from opposite side,

(f) repeat (d),

(g) if the angle of heel exceeds 7° during the test, the owner might add ballast weight and to repeat the test procedures (c), (d), (e) and (f). The weight and position of such ballast should be recorded.

3 Acceptance of Stability

3.1 As a general rule, no vessel will be accepted where the angle of heel exceeds 7° as a result of a heeling moment of WB/12 or any greater heeling moment that could be expected to arise in service.

3.2 In any case where an angle of heel exceeding 4° has arisen as a result of a heeling

moment of WB/12, the seating and other arrangements of the vessel should be examined to see whether a heeling moment greater than WB/12 could be expected to arise in service. If this is found to be so, proper measure should be taken to avoid an angle of heel greater than 7° would arise as a result of this heeling moment.

Part 2 Rolling Period Test

4 General

The rolling period is the duration for one complete oscillation, i.e. starting from the extreme end of a roll to one side of the vessel, moves right across to the other extreme side and returns to the original starting point.

5 Test Procedure

(a) The test should be conducted in harbour, in smooth water with the minimum interference from wind and tide.

(b) The mooring should be slack. A reasonable clearance at the sides of the vessel should be maintained to avoid making any contact during its rolling.

(c) Weights which are liable to swing or liable to move (e.g. a drum) should be secured against such movement. The free surface effects of slack tanks should be kept as small as is practicable.

(d) The vessel is made to roll (e.g. by rhythmically lifting up and putting down a weight far off middle-line; by people running athwartships in unison; or by any other means). As soon as this forced rolling has commenced the vessel is allowed to roll freely and naturally.

(e) By means of a stopwatch, the time is taken for not less than about five complete oscillations.

(f) After allowing the roll to completely fade away, repeat the operations in paragraphs (d) and (e) twice and time recorded.

6 Determination of Metacentric Height (GM)

(a) From the total time for the total number of oscillations made, calculate the mean time (say T seconds) for one complete oscillation.

(b) The metacentric height GM_o is to be determined from the following formula:

$$GM_o = (0.77\ B/T)^2$$

where

B = extreme breadth of vessel in metres

(Note: the formula is valid for motor dry cargo vessel of length not more than 24 metres in lightweight condition).

Annex I-1

VISIBILITY REQUIREMENT FOR WHEELHOUSE

Regarding navigation bridge visibility, new vessels of 45m and over in length shall comply with the Regulation 22, Chapter V of the SOLAS; new vessels of 12m to 45m in length shall comply with the following paragraphs 1 to 12; new vessels of under 12m in length should comply as far as practicable to the requirements for larger vessels as set out in this Code of Practice.

Requirements for new vessels of 12m to 45m in length are as follows.

1. The view of the sea surface from the conning position (it is defined in this Code of Practice as the main steering position controlled by the coxswain in wheelhouse) shall not be obscured by more than two ship lengths, or 500 m, whichever is the less, forward of the bow to 10 degrees on either side under all conditions of draught, trim, deck weight and cargo handling gear. Attention should be drawn on the blind sector created on tankers whilst in lightweight condition.

2. No blind sector caused by cargo, cargo handling gear or other obstructions (e.g. securing bars fitted on window) outside of the wheelhouse forward of the beam which obstructs the view of the sea surface as seen from the conning position, shall exceed 10 degrees. The total arc of blind sectors shall not exceed 20 degrees. The clear sectors between blind sectors shall be at least 5 degrees. However, in the view described in para. 1, each individual blind sector shall not exceed 5 degrees;

3. The horizontal field of vision from the conning position shall extend over an arc of not less than 225 degrees, that is from right ahead to not less than 22.5 degrees abaft the beam on either side of the ship.

4. From each bridge wing the horizontal field of vision of vision shall extend over an arc of at least 225 degrees, that is from at least 45 degrees on the opposite bow through right ahead and then from right ahead to right astern through 180 degrees on the same side of the ship.

5. From the main steering position the horizontal field of vision shall extend over an arc from right ahead to at least 60 degrees on each side of the ship.

6. The ship's side shall be visible from bridge wing.

7. The height of the lower edge of the wheelhouse front windows above bridge deck should be kept as low as possible. In no case shall the lower edge present an obstruction to the forward view.

8. The upper edge of the wheelhouse front windows shall allow a forward view of the horizon, for a person with a height of eye of not less than 1600 mm above the deck at the conning position, when the ship is pitching in seas.

9. Framing between the wheelhouse windows shall be kept to a minimum and not be installed immediately forward of any workstation.

10. To help avoid reflections, the bridge front windows shall be inclined from the vertical plane top out, at an angle of not less than 10 degrees and not more than 25 degrees.

11. Polarized and tinted windows shall not be fitted.

12. At all time, regardless of weather conditions, at least two of the forward windows shall provide a clear view, and in addition depending on the wheelhouse configuration, an additional number of windows shall provide a clear view.

13. On ships of unconventional design which, in the opinion of the Director, cannot comply with this Annex, arrangements shall be provided to achieve a level of visibility that is as near as practical to that prescribed in this Annex.

Requirement for existing vessels

It is required that existing vessels have a clear view ahead from the steering position and where practicable, comply with the requirements in this Code.

Checklist for Engine Inspection

Annex I-2

(to be completed by Engine Workshop except Part 3)
[Note : This form is applicable to mechanized vessels installed with propulsion and generator engines]

Name of Vessel : _____ C.O.O. No.:_____

Type of Engine : _____

Engine Model : _____

Engine Serial No.: _____

Part 1 : Inspection item	Yes	No	N/A	Remarks
Cylinder head				
Valves, inlet/exhaust				
Liners and jackets				Hydraulic test
Pistons and gudgeon pins				
Bottom end bearings				
Cooling system				Hydraulic test
Injectors				Injectors calibration report shall be submitted
Fuel system				Fuel pump calibration report shall be submitted
Crankshaft/main bearing/Camshaft system				Inspection report shall be submitted
Governors				
Turbocharger				Inspection report shall be submitted
Lubrication system				
Starting system				
Electrical system				
Control system				
Instrumentation and monitoring system				
Mounting and alignment				
Detailed engine maintenance report attached				

Part 2 : Maintenance Workshop Particulars

Name of Responsible Person : _____ Tel.: _____

Position / Rank : _____ Date : _____

Responsible Person's Signature : _____ Tel : _____

Name of Engine Workshop : _____ Company Chop :

Company Address : _____

Business Registration No. : _____

Part 3: Vessel Owner Declaration

I have inspected the open up and overhaul of engine on

Actual Completion date: _____ Signature/Chop:

Name of Owner/Coxswain/Engine Operator _____

Telephone No. : _____

Note : (1) Please use separate sheets if inspections are conducted by more than one workshop.
(2) Officers of Marine Department or Authorized Surveyors/Organizations reserve the right to inspect and dismantle the engine if necessary.

Checklist for Gearbox Inspection

(to be completed by Maintenance Workshop except Part 3)
[Note : This form is applicable to mechanized vessels installed with gearboxes for propulsion]

Name of Vessel : _____ C.O.O. No.: _____

Type of Gearbox : _____

Gearbox Model : _____

Gearbox Serial No.: _____

Part 1 : Inspection item	Yes	No	N/A	Remarks
Casing				
Gears and shafts				
Disc				
Clutch system				
Bearings				
Gasket and seal				
Gearbox control system				
Cooling system				Hydraulic test
Hydraulic system				
Lubrication system				
Instrumentation and monitoring system				
Mounting and alignment				
Other items				
Detailed gearbox maintenance report attached				

Part 2 : Maintenance Workshop Particulars

Name of Responsible Person : _____ Tel.: _____

Position / Rank : _____ Date : _____

Responsible Person's Signature : _____ Tel : _____

Name of Maintenance Workshop : _____ Company Chop :

Company Address : _____

Business Registration No. : _____

Part 3: Vessel Owner Declaration

I have inspected the open up and overhaul of gearbox on _____

Actual Completion date: _____ Signature/Chop:

Name of Owner/Coxswain/Engine Operator _____

Telephone No. : _____

Note: (1) Use separate sheets if inspections are conducted by more than one workshop.
(2) Marine Department Officers or Authorized Surveyors/Organizations reserve the right to inspect and dismantle the gearbox if necessary.

Annex I-5A

REQUIREMENTS FOR THE REPLACEMENT OF MAIN ENGINE

1 Document/Data/Drawing to be Submitted

1.1 Proof of sales of the new / used engine;

1.2 Type Approval Certificate / Maker Certificate certified Marine Type of the new/used engine;

1.3 The added weight, vertical centre of gravity (VCG) and longitudinal centre of gravity (LCG) of new new/used main engine and its accessories;

1.4 The percentage of the added weight based on the lightship weight;

1.5 Engine Seating Arrangement for approval (if any modification);

1.6 Piping Arrangement for approval (if any modification);

1.7 When replacing engine power output is more than 130kW, it shall comply requirements in Annex I-10.

2 Devices to be Provided and Fitted

2.1 Main engine automatic shut-off and alarm arrangements (chapter IIIA / 8.4 refers; applicable to new Category A vessels that may ply beyond Hong Kong waters);

2.2 Main engine emergency stopping device in the wheelhouse (all vessels);

2.3 A silencer or expansion chamber should be fitted on the exhaust pipe (all vessels);

2.4 Existing gearbox and shafting system should be in acceptable condition (all vessels).

3 Fee and Form to be Done by Owner

3.1 Appropriate fees are to be paid in advance and surveys are to be arranged at appropriate stages;

3.2 "Form Survey 6B" is to be completed and returned to this office for further action.

4 Inspection/Measurement to be Taken

4.1 Inspection of installation of para. 2.3;

4.2 Testing of all safety devices of 2.1, 2.2 and general inspection of 2.4;

4.3 Lightship weight verification (inclining experiment if required);

4.4 Inspection of modified items; and

4.5 The engine should be stripped down and inspected by MD officer/authorized inspecting personnel (used engine only).

REQUIREMENTS FOR THE REPLACEMENT OF GENERATOR SET

1 Document/Data/Drawing to be Submitted

1.1 Proof of sales of the new generator set;

1.2 Maker Certificate certifying that the new/used generator set is of Marine Type;

1.3 The added weight, vertical centre of gravity (VCG) and longitudinal centre of gravity (LCG) of new new/used main engine and its accessories;

1.4 The percentage of the added weight based on the lightship weight;

1.5 Engine Seating Arrangement for approval; (if any modification);

1.6 Piping Arrangement for approval; (if any modification);

1.7 Electrical Arrangement / Revised Electrical Arrangement; (if any modification);

1.8 Main Switchboard Wiring Diagram; (if any modification);

1.9 A.C. Electrical System Diagram. (if any modification);

1.10 When replacing engine power output is more than 130kW, it shall comply requirements in Annex I-10.

2 Devices to be Provided and Fitted

2.1 A silencer or expansion chamber should be fitted on the exhaust pipe (all vessels).

3 Fee and Form to be Done by Owner

3.1 Appropriate fees are to be paid in advance and surveys are to be arranged at appropriate stages;

3.2 “Form Survey 6B” is to be completed and returned to this office for further action.

4 Inspection/Measurement to be Taken

4.1 Lightship weight verification (inclining experiment if required).

4.2 Inspection of modified items.

4.3 The engine should be stripped down and inspected by MD officer/authorized inspecting personnel (used engine only).

REQUIREMENTS FOR WAIVING INCLINING EXPERIMENT AFTER THE ADDITION / REPLACEMENT OF ENGINE(S) OR MINOR ALTERATION

1 Technical Requirements

In general speaking, the Inclining Experiment can be waived subject to the total increased/decreased weight of the engine and its accessories or minor alteration do not exceed 2% of lightship weight (which was measured in the last inclining test) and the following conditions:

(a) Heel is not more than 5 degree;

(b) Ship's trim in any probable loading condition does not make the passenger deck less than 300mm above deepest loaded waterline;

(c) The intact and damage stability (where applicable) comply with the requirements of Ch. IV/1.3 and 2 respectively;

(d) Minimum freeboard complies with the requirements of Ch. IV/1.2.

(e) Comply with the applicable requirements of this Code.

2 Information to be Submitted

(a) The added/decreased weight, vertical centre of gravity (VCG) and longitudinal centre of gravity (LCG) of engine and its accessories or proposed alteration.

(b) The lightship weight and longitudinal centre of gravity (LCG) calculation with the percentage change.

ANNEX I-9

HARMFUL ANTI-FOULING SYSTEMS

The Merchant Shipping (Control of Harmful Anti-Fouling Systems on Ships) Regulation (Cap. 413N) which comes into effect on 1 January 2017 is to implement the International Convention on Control of Harmful Anti-Fouling Systems on Ships. 2001. The requirements of the Regulation are highlighted as follows:

(1) Any vessel must not, on or after the commencement date of the regulation, bear any organotin compounds that act as biocides in the anti-fouling system of the vessel. If a vessel bore any organotin compounds that act as biocides in its anti-fouling system before the commencement date, it must, as from that date, bear a coating that forms a barrier to the compounds.

(2) Any vessel of 400 gross tonnage or above and engaged in international voyages must be subject to survey for the issue / endorsement of International Anti-Fouling System Certificates.

(3) Any vessel of 24 meters or more in length, less than 400 gross tonnage and engaged in international voyages, the owner and the master of which must ensure that a declaration that is made in respect of anti-fouling system of the vessel is kept on board the vessel.

Annex I-10

Implementation of the Requirements of Annex VI of MARPOL 73/78 to Locally Licensed Vessels

The new Merchant Shipping (Prevention of Air Pollution) Regulation, CAP 413P has entered into force on 1 July 2016. The regulation is to implement the requirements of MARPOL Annex VI in Hong Kong. The Marine Department Notice (MDN) No. 39 of 2016 promulgated on 6 April 2016 gives details of the relevant requirements applicable to local vessels under the regulation. The MDN 39 of 2016 is available at the following URL:
https://www.mardep.gov.hk/filemanager/en/share/notices/pdf/mdn16039.pdf

Annex I-11

ALTERATION TO LOCAL VESSELS

Ship owners, agents, operators and repairers shall take relevant responsibilities with respect to alteration intended to be made on a licensed local vessel which is issued with a Certificate of Survey (COS) or a Certificate of Inspection (COI):

1. Alteration that will cause a local vessel be regarded as a new vessel

If the intended alteration is so substantial that it causes the vessel to fall within the definition of "New Vessel" described in paragraph (b) under the section 2 of the Survey Regulation, the vessel needs to be issued with a new license and shall comply with all the latest applicable requirements.

2. Alteration that requires permission

If the intended alteration is of such an extent that will render the particulars stated in any documents referred to in section 75(a) of the Survey Regulation inaccurate, but not to the extent that it will render the vessel a new vessel, the owner shall follow the provision of section 76 or section 77 of the Survey Regulation to apply for a written permission before making any alteration to the vessel. If an alteration is made without the required written permission, the person who makes or causes the making of the alteration commits an offence and is liable on conviction to a fine at level 3. The altered vessel will be required to be restored to the condition it was in immediately before the alteration. Vessel's certificates may be suspended before the required restoration work is completed.

3. Other alteration

Under section 28(2)(a)(v) of the Survey Regulation, COS or COI of a vessel may be suspended or cancelled if any material change occurs after the survey leading to the issue of the COS or COI.

4. Application required to be made by the owner or his agent

4.1 Owner or his agent shall apply to MD according to the procedure of licensing a new vessel if the intended alteration of his vessel falls in paragraph 1.

4.2 Owner or his agent shall make an application for alteration using the specified form if the intended alteration of his vessel falls in paragraph 2 or 3. The application form for alteration can be downloaded from the website of MD. The application form should be submitted to MD or an authorized surveyor (AS) depending on the type of certificate that the vessel is issued with:

(a) if the certificate is a COS, the application form shall be submitted to the Local Vessels Safety Section of MD;

(b) if the certificate is a COI, the application form shall be submitted to the AS who issued the COI.

Annex J-1

SPECIAL REQUIREMENTS OF INITIAL SURVEY FOR LICENSING OF NEWLY BUILT WOODEN VESSELS

1. General Requirement

Due to the difference in hull form and the structure pattern, if the arrangement of main longitudinal structural component and the section scantling satisfy the total section area of the various components in the midship region, it is allowed to adequately adjust the section scantling of various components in the deck and the ship's bottom part (below bilge keel).

2. Inspection before Commencement of Work

2.1. Examination of raw material

2.1.1. Examine whether the material quality, strength and performance of primary structural components for the construction of ship are conformed to the requirements of drawings, rules and standards.

2.1.2. Besides the natural contorted material used in the curving shape structure, the timber wood used on ship should be fully exsiccated.

2.1.3. According to the toughness of different types of tree, it may be divided into hard wood (如坤旬、紅稠、柞、櫟、榆、水曲柳、黃菠蘿、樟、槐、柚、柯、梢等) and soft wood (如紅松、落葉松、馬尾松、杉柏、桉等) two major types.

The components of bulkhead base, stem, stern frame, rudder post, stern centre girder, stern side girder, bracket, bulkhead stiffeners etc should used hard wood. Keel plate, side planking and engine bed plate should used hard wood or high quality pine wood

2.1.4. Whether it is planking or batten, the front side should be facing outward when installed. And the reverse side (tree ring side)should be facing inward

2.1.5. Defects and limitation of usage of timber material can refer to the relevant requirements of recognized classification societies or flag administrations.

2.2 Building yard should submit the important construction workmanship to Marine Department for approval.

2.3 Examine the workshop for pre-fabrication of frames and ensure the workshop is neat and solid.

3. Hull Inspection

3.1. According to approved drawing, inspect whether the material and dimensions of all

components and shell plate are conformed to the approved drawing or the relevant requirements of recognized classification societies or flag administrations. Keel plate, engine bed and rubbing strake should use hard wood. If good quality pine wood is to be used, permission from Marine Department to be obtained.

3.2. When laying the keel, surveyor should check the size and type of the joint. Also check whether two hard wood treenails are effectively piled at the centre line of the joint.

3.3. To inspect the structural style of stem, stern frame structural style, and whether the connections of other components are fasten and reliable.

3.4. Spot check the quality of the constitution of frames, the deviation of the half breadth of the frames at waterline should not be greater than 3mm. The quality of the joint should conform to the relevant requirement.

To survey the position of the frame installed on the keel and the deviation of the level of left and right, the deviation should not be greater than 4mm. If distortion appeared after the installation, corresponding corrective process should be carried out before the construction can continue.

3.5. The end of the joints of longitudinal structure, side shell and deck plating, except there is limitation in the structure, should fit in the transverse aggregate and fastened by bolts. The contact face must be closely fitted. The shifted distance between planks in way of the joints should satisfy the relevant requirements of recognized classification societies or flag administrations.

3.6. The side shell plating and frame should be closely fitted; the contact area should not be less than 90% of the total contact area. The contact face should be spread with putty. The gap of plank seam between every plate should meet the requirements of recognized classification societies or flag administrations.

3.7. The joints of garboard plate and sub-garboard plate should avoid placing under the engine base, the connection to the two sides of the keel plate should be suitably process and closely fitted.

3.8. Deck plating and beams should be closely fitted. The contact face should be spread with putty. The gap of plank seam between every plate should meet the requirements of recognized classification societies or flag administrations.

3.9. According to the approved drawings, inspect the installation position of the engine bed plate. The deviation should not be greater than 5mm. If the installation position changed, permission must be obtained from surveyor.

The lower surface of engine bed plate and the upper surface of side shell frame should be closely fitted. The un-contact face of each side shell frame should not be more than 30% of the total contact face. The thickness of the outside engine base plate should not be less than 60mm.

4. The Installation and Process of Hull Components

4.1. Inspect the condition of the process of the surface of the hull main components, the smooth finish of the surface should conform to the relevant requirement.

4.2. Mast post, rudder stock and others round shape components should be fine processed.

4.3. The adjoining plane of stern frame and stern tube, mutual adjoining plane of parts of combination stern tube should be precise processed, the surface can be rough machining.

4.4. Engine bed plate surface should be precise processed, other surface allow fine processed.

4.5. Measurement of main components of hull dimensions, the tolerances should not be more than the following required value:

a) The allowable deviation of material of keel, keelson, stem, stern frame, rudder stock, stern tube: length is ±0.3%; wide is ±1%; thickness (height) is ±1%

b) The allowable deviation of material of garboard plating, ship side planking, deck planking, longitudinal girder, beam stringer: width is ±5 mm; thickness is ±4mm.

c) The allowable deviation of deck beam, hatch end beam, half beam, hatch side girder, hatch coaming, engine base plate, deck plate, side planking: width is ±4mm, thickness is ± 2mm.

d) The allowable deviation of the height of side frame is ±3%

4.6. The allowable deviation of the hull principal dimensions:

a) The allowable deviation of ship length (L) is ±0.3%

b) The allowable deviation of ship breadth (B) is ±0.3%

c) The allowable deviation of ship depth (D) is ±0.4%

d) The allowable deviation of stem, centre line of stern frame and centre line of keel should not be greater than 5mm

e) The allowable deviation of centre line of tailshaft and centre line of rudder stock should not be greater than 3mm

f) The width of side frame at waterline level should not be greater than 0.3% of the width of waterline

5. Inspection of Nails, Screws and Bolts

5.1. Examine the strength performance test report of the connection of material, verify the whether the machined dimension of the connecting piece conform to the requirements.

5.2. Check whether the number and arrangement of nails, screws and bolts for connection of each component are conforming to the relevant requirements.

5.3. Check whether the size of the hole drilled for nails and bolts during fabrication with diameter 1mm less than the diameter of the nails and bolts to be fitted. Check whether the nails and bolts inserted into each component are fastened.

5.4. When using nails and bolts, gasket (rove) should be added. Before insert, the head should wrap with 2 to 3 layer of yarn (or rattan) soaked with putty. The nut of the bolts should be in the inboard of the hull.

5.5. The end of the joints of longitudinal structure, side shell and deck plating, except there is limitation in the structure, should fit in the transverse aggregate and fastened by bolts. The contact face must be closely fitted.

5.6. Except due to special condition in the structure, all nails, ends of bolts and the top surface of screws installed on board should be embedded 3mm to 10mm under the surface of components, and plastered by putty.

6. Caulk and Watertight

6.1. General requirement of caulking of hull

6.1.1. Caulking must not be carried out on any components when nails, screws and bolts are not in fasten condition or the timber is in wet condition.

6.1.2. The seam of all components such as hull plating, deck plating, deck house, bulkhead of superstructure and watertight transverse bulkhead, etc after caulking and all nails, screw and bolts should be plastered to ensure the watertightness and surface smoothness of the hull.

6.1.3. In the important watertight position, such as side planking, deck plating, watertight transverse bulkhead and water tank, etc, “clinching” and “spike nail” for connection of seam should be applied at suitable distance (about 100mm).

6.1.4. When the depth of crackle on the hull surface components exceeds 1/10 the thickness of the material, repair by caulking should be carried out. When there is decay, borer or other defects on components, patch should be applied (remove all the defected timber and inert the filler material of the caulk) to bride and fill up. For larger area, should gouge and clinching, and then patch to increase the adhesive strength.

6.1.5. The edge of the seam of the two plank should be beveled, the seam should be in “V” shape when place in position together.

6.1.6. The seam between two planks should be as close as possible. If the thickness of plank is less than 60mm, the outside gap of the seam should not be greater than 5mm, the inside gap of the seam should not be greater than 3mm. If the thickness of the plank is greater than 60mm, the outside gap of the seam should not be greater than 8mm, the inside gap of the seam should not be greater than 3mm.

6.1.7. The gap of the seam of hull plating, deck plating cannot meet the about requirement, it is allowed to use clinching to process.

6.2. The requirements of caulking technique

6.2.1. Caulking layer included bottom putty, filling material and top putty three parts. The bottom putty should be a smaller amount and evenly spread, do not put excessive putty. The filing material should be shredded into small piece and squeezed into the seam. After squeezed into the seam should have a recess of 2 ~ 5 mm. After the external area of the filler about 30% ~ 35% desiccated, the seam should be plastered by putty. The putty should be leveled with the surface of the plank.

6.2.2. The overlapping of the same putty connection should not be less than 100mm and should be repeatedly kneaded.

6.2.3. For double side caulk, caulking to be carried out in the inboard side before the outboard side. The depth of the caulk of the seam in the inboard side should be 10% ~ 20% of the plank thickness. The depth of the caulk of the seam in the outboard side should be 50% ~ 60% of the plank thickness. For single side caulk, the depth of the caulk should be 60% ~ 70% of the plank thickness.

6.2.4. If the putty is not congealed 15 days after the completion of the caulking of the hull, the reason to be find out and take necessary action.

6.3. Inspection of caulking material

6.3.1. Examine whether the yarn, gauze, rattan and putty are conforming the requirements of recognized classification societies or flag administrations.

6.3.2. Examine the certificate of the product of wood oil, whether the physical properties are conforming the requirements of recognized classification societies or flag administrations. The following simple testing methods can be used during survey to verify:

a) Smell: Whether there is a special odour of the wood oil;

b) Colour: Whether the oil is clear. The colour of good oil is pure and no impurity;

c) Viscosity: Use a rod to soak some oil and drop into still and clear water. Check whether the oil will congregate into a circular droplet and not diffuse. If the oil quickly diffused into the water, it means water content is high and it fake oil;

d) Boil: Put a spoon of wood oil into an iron pan, heat to 250^{o}C ~ 290^{o}C temperature. If the oil can form a honeycomb shape solid, the wood oil is pass.

6.4. Hull Tightness Test

6.4.1. After all the putty of the vessel dried up, tightness test is to be carried out before launching of the vessel. Surveyor can deem necessary the condition of the vessel to decide which part to be tested. During the test, no leakage occur in the part tested is

considered acceptable.

6.4.2. There are three types of tightness test, flood test, hose test and spray test:

a) Flood test: the height of the flooding to be up to maximum loaded draught for not less than 1 hour;

b) Hose test: The nozzle diameter for the test should not be less than 16mm. During the test, the height of the water jet should not be less than 10m and the distance between the nozzle and the testing area should not be greater than 3m;

c) Spray test: Use water spray to testing area and simulate the windy and rainy weather condition.

6.4.3. Flood test is applicable for the hull shell plate and water tank bulkhead; hose test is applicable for deck plate, deck house bulkhead and hatch cover; spray test is suitable for skylight of engine room, windows and doors of bridge and other windows and doors to open area.

6.4.4. When it is difficult to carry out tightness test when the vessel is on slipway, the tightness test can be carried out after the launching of the vessel with the approval from the surveyor.

7. Special Requirements and Inspection of Machinery and Electrical Installation

7.1. Inspection of main engine and gearbox installation

7.1.1. Main engine and gear box seating should have adequate strength and rigidity. The roughness of upper and lower contact area of seating should not exceed 6.3 μm, and the tolerance of the total length of plane should not exceed 0.10mm. The holding down fitted bolts of engine should not be less than 15% of the total bolts and minimum should have 4 fitted bolts. At least 2 fitted bolts are to be fitted for gearbox.

7.1.2. The foundation and the engine bed plate should be uniformly contact, the contact area should not be less than 75%.

7.1.3. One to three layer of metallic liners may be used for adjusting the space between the engine bed plate and foundation, and preventive measure is to be provided to avoid loosen of fitted bolts.

7.1.4. The gap between side frame and the casing of main engine and gear box shall not be less than 25 mm.

7.1.5. If the main engine has been installed on the slipway, the main engine and the shafting system to be re-examined after 48 hours of the launching of the vessel.

7.2. Inspection of lightning protection system

7.2.1. All wooden fishing vessels should be fitted with lightning protection.

7.2.2. Air terminals should be made from copper rod of not less than 12mm diameter or iron rod of not less than 25mm diameter, and project at least 150mm above the top of the vessel (or fittings).

7.2.3. Down conductors should have a minimum cross sectional area of 70mm^2 for copper tape or 100mm^2 for iron tape. The tape shall be solidly connected between air terminal and earth plate.

7.2.4. Down conductors should be securely connected between air terminal and earth plate. The earth plate shall be installed on exterior of hull shell plate and ensure the plate remain immersed when the vessel is rolling. The earth plate shall be of copper and the area shall not be less than 0.2m^2. The earth plate shall not be painted.

7.3. Inspection of earthing of electrical appliance

All electrical appliances should be earthed. The requirements of main earth plate and lightning earth plate are the same. However, the two systems shall not be connected to the same earth plate.

Note: The above are made reference to the relevant requirements of "The 'Ocean Fishing Vessels Statutory Survey Standard 2003' of Register of Fishing Vessels of the People's Republic of China"

Annex J-2

HULL INSPECTION REQUIREMENTS (OPERATION INSPECTION)OF WOODEN VESSEL

1. General Requirements

1.1. If the components or parts of the hull of wooden vessel under operation, exceed the required erosion (decay) limitation as specified in the following Table. The repair or renewal shall be carried out according to the requirements of original building.

Limitation of erosion (decay) of main components of hull

Serial No.	Components	Type of erosion, decay	Allowable erosion limit
1	Keel, keelson	Normal borer, decay	Depth exceeding 20% of the thickness; Partial depth exceeding 30% of the thickness
2	Hull shell plate	Borer, decay, wear down	Depth exceeding 25% of the thickness
3	Deck plate	Wear down, decay	Depth exceeding 25% of the thickness
4	Stem, rudder stock, deck beam, hatch side girder	Rotten	Depth exceeding 35% of the thickness
5	Side frame and it stiffeners	Erosion	Partial depth exceeding 25% of the thickness; Area of erosion more than 25% of the surface

1.2. On hull shell plate, main deck and other external and internal longitudinal components. If the depth and area of the wear and tear or decay affect the fastening function of the nails and bolts or cannot carry out caulking and there is leakage. The repair or renewal shall be carried out according to the requirements of original building.

1.3. Before docking of the vessel, the fuel tank, cargo hold, fish hold, refrigerating hold and water tank, etc should be emptied. Blocking should be properly arranged to avoid local concentration of loading.

1.4. Inspect of hull of wooden vessel also need to conform the relevant requirements of Chapter II of this Code.

2. Annual Survey

2.1. In general external inspection of each part of the hull is to be carried out. Particular attention will be paid on the main structural components of amidship and forward side planking (planking), rubbing strake, bulwark stay, bulwark stringer, fwd and aft handrail, deck longitudinal, etc. Also the technical condition of the caulk will be checked.

2.2. All opening and hatch arrangement to be inspected and tested. The relevant requirements of Load Line survey shall refer to Chapter IV of this Code.

3. Intermediate Survey

3.1. The inspection items, contents and requirements of intermediate survey shall include the annual survey items. In addition, the survey of hull bottom is to be carried out.

3.2. Intermediate survey shall normally carry out on slipway. External inspection of keel, garboard plate, bottom plate, bilge keel, stem, stern frame, rudder stock and keel band shall be carried out. The caulk of the underwater hull part to be carefully examined. When crack appear on caulk of seam, the caulk to be partially gouged out for inspection if necessary. Inspection shall also include the effectiveness of the coating for the prevention of borer, decay and anti-fouling.

3.3. The underwater hull inspection shall also include the examination of propeller, rudder, oil sealing arrangement of tail shaft and the examination and measurement of the rudder pintle clearance and tail shaft bearing clearance.

4. Renewal Survey

4.1. Renewal survey shall be carried out on slipway together with the repair works of the vessel if possible. Surveyor shall carry out survey together with the ship owner and the shipyard. According to the results of the survey and the requirements of Table at para. 1.1 of this Annex, verify the repair items of the vessel.

4.2. After docking of the vessel, the bottom sheathing and any sundries inside the fish hold, refrigerating hold and water tank etc. shall be removed. The paneling, insulation and other obstacle shall be partially removed, if necessary, to facilitate the inspection of the technical condition of the covered hull structure.

4.3. For vessel less than 10 years of age, inspection shall concentrate on the hull shell plate, keel band, deck plate, bulwark, cargo hold or fish hold, including the components near the insulation and the condition of the joints, tabled-scarf, caulk and coating, etc.

4.4. For vessel more than 10 years of age, more thorough inspection shall be carried out on main components of the vessels such as keel, stem, stern frame, side frame, deck beam, internal longitudinal girder, bulkhead, etc. To check the level of borer, decay, wear and tear and contact damage. If the damages exceeding the required limit, repair or renewal shall be carried out.

4.5. Full inspection shall be carried out for all the caulk below waterline. For vessels more than 8 years old, all caulk of the hull shall be gouged and renewed. In general the outer gap of the seam should not be greater than 15mm; the inner gap of the seam shall be closely fitted. Otherwise, it shall not carry out caulking. If the width of the seam is large and not suitable for caulking, the plank shall be replaced to reduce the width of the seam.

All caulk shall be subject to tightness test after repair or renewal.

4.6. When examine the condition of the stern structure, pay attention to distortion in the joints of components, leakage in seam, variation in shaft line of tailshaft, increase in vibration, etc. If abnormality find, repair shall be carried out. If the variation of the shaft line of tailshaft is due to insufficient hull strength, repairs shall combine with partial reinforcement of the strength and rigidity of the hull.

5. Hull Repair Requirements

5.1. When the main components of the hull exceeding the erosion (decay) limit prescribed in the Table at para. 1.1, the component shall be replaced. If the limit is not excess, the borer and decay part shall be removed. Use patch method to gouge and fill up. For wider area, rabbet shall be bored or clinching and patch to increase the adhesive strength.

5.2. If transverse cracks or broken damages appear in the components of the hull, the component shall be renewed.

5.3. If the joint in side shell, longitudinal components, strengthened deck plate, transverse framing of amidship area find loosen or crack or distortion appear in the seam. Repair and reinforcement of the structure shall be carried out.

5.4. In the seam and tabled-scarf area at the end face of the important components. If cross crack appear and the colour of the component near the crack changed to black, the component shall be replaced. Under the condition that the strength and watertighess are not affected, the main plank can be partially renewed.

5.5. The requirements for the precision of machining, tolerance after machining, connection method, the shifted distance between planks, choice of nails, screw or bolts, etc shall follow the relevant requirements of recognized classification societies or flag administrations.

5.6. The old caulking material shall be removed and re-filled with new caulking material in caulk required for repair. The bevel edge of the plank shall not be damage during the removed of old caulking material. The caulk shall be smooth, clean and grease free.

5.7. For scattered worm holes with diameter less than 5mm. The worm shall be removed and fill up with putty and gauze. For diameter less than 10mm, bore hole in way of the worm hole and remove the worm. Plug the hole with treenail and interlace the surrounding gap with gauze and cover with putty.

5.8. For exposed nuts, depend on the condition of the surrounding timber. Interlace with gauze and plaster with putty, if necessary. Not caulking shall be carried out if the bolt is not fastened.

6. Prevention of Worm and Decay

6.1. The periodical requirements of worm and decay preventive measure on main structural components:

a) The wooden structural components below fully loaded waterline shall carry out a worm prevention process every four years (in line with renewal survey).

b) The surface of all steel components below fully loaded waterline and weather exposed area shall be coated every year, can be in line with annual survey.

c) Anti-fouling coating for the vessel bottom shall be re-coated every year.

d) Asphalt type coating for under water hull below the fully loaded waterline and coating for the hull surface above fully loaded waterline and components inside accommodation. Shall be re-coated every two years together with renewal survey or intermediate survey.

Note: The above are made reference to the relevant requirements of "The 'Ocean Fishing Vessels Statutory Survey Standard 2003' of Register of Fishing Vessels of the People's Republic of China"

Annex M

GUIDANCE ON MACHINERY AND HULL WEAR DOWN OR CORROSION TOLERANCE LIMITS AND OTHER INSPECTION ITEMS

Note: If a vessel is classed with a recognized classification society (AO), the corresponding technical guidance of the classification society may be applied to such vessel.

(A) Hull

1. Repairing of Corroded Hull and Structural Member

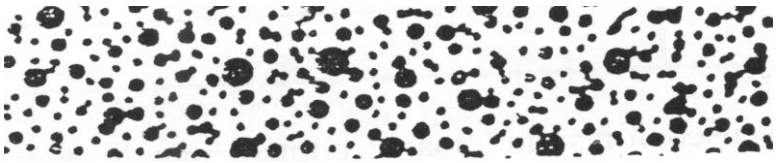
1.1 The thickness reduction of hull envelope plating and internal structural members caused by corrosion shall not be more than the specified percentage of the original built thickness as shown in the following table (in the case of increased thickness from minimum requirement will be separately considered):

Material / Structural Member	Corrosion Limit (%)	
	Steel	**Aluminium**
Deck Plating Shell Plating	30	15
Internal Structural Member	30	20
Seating for Main Engine, Crane, Windlass, etc.	25	15

When the corrosion exceeds the above limit, the relevant plate or structural member shall be cropped and renewed.

1.2 Local scar corrosion: the corroded member shall be cropped and renewed if the width of the scar exceeds 50mm or the depth of the scar exceeds 40% of the fabricated thickness.

1.3 Pitting corrosion: the corroded member shall be cropped and renewed if the depth of the pitting exceeds the limit of paragraph 1.1 and the pitted area exceeds 30% of the concerned area. (see following diagram for reference).



1.4 According to the requirements of paragraphs 1.1 to 1.3, the renewed plating shall be a minimum dimension of 150mm x150mm and the structural member shall be minimum 150mm in length.

1.5 Scattered pitting: pitting, which diameter between 15mm to 50mm and depth exceeds 50% of the fabricated thickness, generally may be repaired by welding. Prior to the repair the surface shall be properly cleaned; and after repair, the rebuilt areas shall be smoothened and ground to normal thickness.

1.6 For significant worn out structural member or suspected area, ultra-sonic test or other equivalent method may be required.

2. Other Requirement for Inspection of Structural Member

2.1 Buckling of plating(deformation of plating between framing)

Maximum allowable deflection =0.06s;
Where s= frame spacing at indents area (mm)

2.2 Indent of framing structure (deflection of combined framing and plating)

Maximum allowable defection *=6 l+10mm*;
Where l =span (m)

2.3 Buckling of plating and indent of framing structure are generally to be rectified by hot work; and if failed to return to original to be cropped and renewed.

2.4 Crack is not allowed in any case on hull envelope plating and structural members below main deck.

2.5 No buckling is allowed at bracket. Mis-alignment between beams and frames shall not exceed the frame thickness.

3. Water Tank & Oil Tank Tightness Test Pressure

3.1 Initial Inspection

Item	Type Of Tank	Water Pressure Head (m)
1	Fore / Aft Peak Tank, Deep Tank, Cofferdam	Top of air pipe
2	Fuel Tank, Liquid Cargo Tank	2.5m above highest point of tank top or to the height of the overflow whichever is the higher

3.2 Periodical Inspection

For all tanks, pressure test, which may be carried out using liquid of the tank carries, to top of air pipe or 2.5m above highest point of tank top as appropriate, or air test to 0.14kg/cm^2.

4. Requirements for the Inspection of Water Tightness by Hose Test

4.1 The water jet pressure shall not be less than 2 kgf/cm^2

4.2 Nozzle shall not be more than 1.5m from the test item

4.3 Nozzle diameter shall not be less than 13mm for vessels of length below 90 m.

5. Mooring Equipment

5.1 Wear down of chain cable and related parts shall not exceed 85% of the original diameter.

5.2 Loss of anchor weight shall not exceeds 20 % of original weight.

6. Wear Down Limit of Steering System and Tightness Test

6.1 Wear down tolerance for rudder

No.	Items	Wear Limit
(a)	Rudder stock	7 % of rule diameter
(b)	Kort nozzle, Rudder	30 % of design thickness
(c)	Flange	10 % of design thickness
(d)	Rudder chain	10 % of design diameter

Defect of steering component may be repaired by welding.

6.2 Kort nozzle and double plate rudder tightness test

(i) Hydraulic test - 0.25 kg/cm^2

(ii) Air test - 0.20 kg/cm^2

(B) Machinery & Electrical

7. Air Receiver

7.1 Corrosion limit of plating for air receiver shall not exceed 10% of original thickness.

7.2 Air receiver and piping system shall be hydraulic tested to the pressure specified in the IIIA/15.6.

8. Tail Shaft and Bearing

8.1 Polishing may be used to remove defect on tail shaft, however, the diameter of the tail shaft shall not be less than rule requirement after surface finishing.

8.2 Clearance limit between tail shaft and bearing

Tail Shaft Diameter (Mm)	Bearing Material	Lignum Viatae, Layered Rubber	White Metal Alloy		Cast Rubber
	Clearance Limit (mm)		Oil lubricated	Water lubricated	
<100		4.0	1.50	2.0	3.5
100~<150		4.4	1.65	2.2	4.4
150~<200		4.8	1.80	2.4	4.8
200~<250		5.2	1.95	2.6	-

9. Minimum Allowable Insulation Resistance Value

For the electrical circuit of nominal voltage over 50V, the insulation resistance shall not be less than 1.0 MΩ.

Note: The insulation resistance shall be measured by a 500V megger tester.

Requirements for Class III GRP Fishing Sampan Fitted with Diesel Engine

<table>
<tr><th>Length (L)</th><th>5m ≤ L < 8m</th><th>8m ≤ L < 15m</th></tr>
<tr><td>Power</td><td>Diesel inboard/ outboard engine ≤ 90HP (67kW)</td><td>Diesel inboard/ outboard engine ≤ 250HP (187kW)</td></tr>
<tr><td>Hull Construction</td><td colspan="2">● Fully decked with deckhouse (as per the proposal of the representatives of fishermen).
● Scantlings in compliance with the relevant requirements such as RFV or any recognized classification societies etc (including properties of glass-fibre material)</td></tr>
<tr><td>Stability and Buoyancy</td><td colspan="2">● Simple inclining test to indicate that heel < 7° in fully loaded condition,
● A minimum freeboard requirements appropriate to the vessel length (L) according to the following table:
<table>
<tr><td>Vessel Length (L) (m)</td><td>L ≤ 5</td><td>L = 15</td></tr>
<tr><td>Minimum Freeboard at Fully Load Condition (mm)</td><td>350</td><td>650</td></tr>
</table>
The minimum freeboard of intermediate length should be obtained by interpolation.
● Shall equip Buoyancy tank with gross volume sufficient to support the lightship weight of the vessel (i.e. the aggregate of the vessel's own weight and the weight of propulsion machinery excluding fish hauls).
Or
● Inclining test + Stability information as other vessels operating outside Hong Kong waters</td></tr>
<tr><td>Inspection</td><td colspan="2">Survey afloat every 2 years</td></tr>
<tr><td>Operating Limits</td><td colspan="2">(1) For vessel length 5m ≤ L < 8m, Hong Kong waters only
(2) For vessel length of 8m ≤ L < 15m, Hong Kong waters or not exceeding 10 n miles from shore. (Applicable to vessel that holds a valid port clearance or is exempted under section 69(1) of the Ordinance (LVO) from complying with section 28(1) of the LVO)</td></tr>
<tr><td>LSA</td><td colspan="2">● One lifejacket for each person on board; and
● One Life buoy</td></tr>
<tr><td>FFA</td><td colspan="2">● One 2.7kg dry powder portable fire extinguisher and one bucket with lanyard
● For vessel length of 8m or above, one additional set of above is required</td></tr>
<tr><td>Navigation lights</td><td colspan="2">One masthead light, sidelights, sternlight. N.U.C. light and post height requirements as per details in COLREGS.</td></tr>
<tr><td>Emergency Comm. Means</td><td colspan="2">Not required for HK waters. Those operating in mainland waters would have to meet mainland required standards.</td></tr>
<tr><td>Drawings-hull/mc</td><td colspan="2">The first vessels is required for approval of proto-type design and inspection standards which would cover a certain hull number of subsequent vessels built to approved standards</td></tr>
<tr><td>Survey-hull/mc/final</td><td colspan="2">Subject to satisfactory inspection of prototype by Marine Department on hull and machinery and final inspections to meet the approved standard and tests with proper records submission. Then, each subsequent vessel is built and tested to approved standards for a certain hull number with inspection records submission to Marine Department for vetting and subject to final inspection.</td></tr>
<tr><td>Certificate of Survey</td><td colspan="2">Local Vessel Certificate of Survey will be issued (as per category B according to Survey Regulation)</td></tr>
</table>

RFV Register of Fishing Vessel of PRC's " Construction Standard for GRP Fishing Vessels 2002 "

Requirements for Class III GRP Fishing Sampan Fitted with Petrol Outboard Engine

<table>
<tr><th>Length (L)</th><th>5m ≤ L < 6m</th><th>6m ≤ L < 8m</th><th>8m ≤ L < 15m</th></tr>
<tr><td>Power (P)</td><td>Petrol outboard Engine P ≤ 40HP (30kW)</td><td>Petrol outboard Engine P ≤ 75HP (56kW)</td><td>Petrol outboard Engine P ≤ 90HP (67kW)</td></tr>
<tr><td>F.O. Storage System</td><td colspan="2">Max. fuel oil capacity not more than 100 litres, each tank capacity not exceeding 50 litres(1).</td><td>Max. fuel oil capacity not more than 150 litres, each tank capacity not exceeding 100 litres(1).</td></tr>
<tr><td>Hull Construction</td><td colspan="3">● Fully decked with deckhouse (as per the proposal of the representatives of fishermen).
● Scantlings in compliance with the relevant requirements such as RFV or any recognized classification societies etc (including properties of glass-fibre material)</td></tr>
<tr><td>Stability and Buoyancy</td><td colspan="3">● Simple inclining test to indicate that heel < 7° in fully loaded condition,
● A minimum freeboard requirements appropriate to the vessel length (L) according to the following table:
<table>
<tr><td>Vessel Length (L) (m)</td><td>L ≤ 5</td><td>L = 15</td></tr>
<tr><td>Minimum Freeboard at Fully Load Condition (mm)</td><td>350</td><td>650</td></tr>
</table>
The minimum freeboard of intermediate length should be obtained by interpolation.
● Shall equip Buoyancy tank with gross volume sufficient to support the lightship weight of the vessel (i.e. the aggregate of the vessel's own weight and the weight of propulsion machinery excluding fish hauls).
Or
● Inclining test + Stability information as other vessels operating outside Hong Kong waters</td></tr>
<tr><td>Inspection</td><td colspan="3">Survey afloat every 2 years.</td></tr>
<tr><td>Plying Limits</td><td colspan="3">(1) 5m ≤L < 8m, operating within Hong Kong waters only(other than port of Victoria)
(2) 8m ≤ (L) < 15m, operating within Hong Kong waters(other than port of Victoria) and not exceeding 10 n. miles from shore. (applicable to vessel that holds a valid port clearance or is exempted under section 69(1) of the Ordinance (LVO) from complying with section 28(1) of the LVO)</td></tr>
<tr><td>LSA</td><td colspan="3">● One lifejacket for each person on board; and
● One Life buoy with lifeline</td></tr>
<tr><td>FFA</td><td colspan="3">● One 2.7kg dry powder portable fire extinguisher and one bucket with lanyard
● For vessel length(L) of 8m or above, one additional set of above FFA is required.</td></tr>
<tr><td>Navigation lights</td><td colspan="3">One masthead light, sidelights, stern light, N.U.C. light and position of lights should meet requirements in COLREGS.</td></tr>
<tr><td>Emergency communication</td><td colspan="3">Not required for HK waters. To comply Mainland's requirement when operating in Mainland waters.</td></tr>
</table>

Drawings- Hull /Machinery	The first vessels is required for approval of proto-type design and inspection standards which would cover a certain hull number of subsequent vessels built to approved standards
Survey- Hull/mc/final	Subject to satisfactory inspection of prototype by Marine Department on hull and machinery and final inspections to meet the approved standard and tests with proper records submission. Then, each subsequent vessel is built and tested to approved standards for a certain hull number with inspection records submission to Marine Department for vetting and subject to final inspection.
Certificate of Survey	According to Survey Regulation, Certificate of Survey for Category B Local Vessel will be issued.

RFV Register of Fishing Vessel of PRC's " Construction Standard for GRP Fishing Vessels 2002 "

Remark : Petrol tanks including its pipings must fulfil safety standard and be made according to the engine manufacturer or a type approved by the engine manufacturer (see annex U-2). Relevant endorsement should be obtained before using an engine with fuel oil having a flash point below 60^0C.

For use on new wooden kaito / fishing sampan / GRP or wooden small boat or sampan etc.

適用於新船木殼街渡 /漁船舢舨 / 玻璃纖維或木質小船或舢舨等

(Vessel length less than 15 m /船隻長度小於 15 米)

Simple Plans Required Approval for Initial Licensing of Local Vessels

本地船隻首次牌照 需要審批的簡單圖則

* Delete where not appropriate / 刪去不需要處		File No. / 檔案號碼	
Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼		Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	

Approval Plans / 審批圖則	**Remark /備註**
(A) General Plans /一般圖則	
1. *簡單圖則* ***Plan(Simp)-G –01*** **General Arrangement Plan** (Owner to provide necessary information on layout, decks etc.) **一般佈置圖則** (船東提供所需資料如外形、甲板層數等)	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
2. *簡單圖則* ***Plan(Simp)-G-02 /11*** (Only applicable to vessel carrying more than 4 passengers /只適用載乘客 4 人以上) **Passenger Space (shelter)/ Seating Arrangement & Position / Freeboard Mark Diagram** **乘客艙(遮閉安排) / 座位佈置及座位設置 / 吃水標示意圖則**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
3. *簡單圖則* ***Plan(Simp)-G –01+ HS-01/ 09*** (equiv to *Plan-G-01and Plan-H-09)* (Only applicable to vessel length less than 8 m / 只適用於船隻長度小於 8 米) **Vessel Particulars , General Arrangement and** **Basic Hull and Deck Plate Thickness Diagram** **船隻特別資料、 一般佈置及基本船殼和甲板之板厚示意圖則**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
(B) Hull and Safety Equipment Plans / 船殼及安全設備圖則	
4. *簡單圖則* ***Plan(Simp)-HS-01/ 09*** *(equiv to Plan- HS-03, H-09*) **Vessel Particulars , and Basic Hull and Deck Plate Thickness Diagram** **船隻特別資料及基本船殼和甲板之板厚示意圖則**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
5. *簡單圖則* ***Plan(Simp)-HS-07*** **Inclining Experiment Report/Rolling Period / Simple Inclining - Test Report** **傾斜試驗／橫搖週期 / 簡單傾斜- 測試報告**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
6. *簡單圖則* ***Plan(Simp)-HS –10A&B (HS-10C)*** **LSA & FFA Installation and Arrangement Diagram** **救生及救火設備及佈置示意圖則**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
7. *簡單圖則* ***Plan(Simp)-HS –10C*** *(Not applicable to open boat* / 開敞船隻不需要) **Escape Installation and Arrangement Diagram** **逃生設備及佈置示意圖則**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
8. *簡單圖則* ***Plan(Simp)-HS –10D*** **Lights, Shapes & Sound Signals Installation and Arrangement Diagram** **號燈、號型、聲號備及佈置示意圖則**	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
(C) Machinery Installation Plans 機器及其系統設備圖則	
9. *簡單圖則* ***Plan(Simp)-M-01/ to / 10 etc.***	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
(D) Electrical Installation Plans 電器及其系統設備圖則	
10. *簡單圖則* ***Plan(Simp)-E-01 / to / 05 etc.***	Yes / No / Not Applicable * 有 / 沒有 / 不需 *
(C/D) Machinery / Electrical Installation Plans 機器/電器及其系統設備圖則	
11. *簡單圖則* ***Plan(Simp)- M-01/ to / 10 + E-01 / to /05 etc.***	Yes / No / Not Applicable * 有 / 沒有 / 不需 *

Note : If required, owner shall submit additional plans to supplement for deficient information (please refer to relevant Code of Practice or regulation).

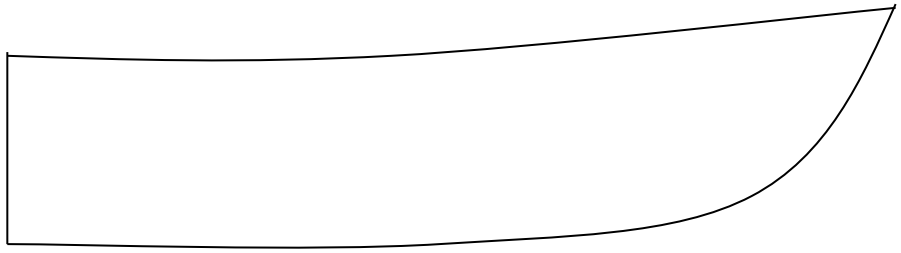
註 : 如有需要，船東須另加圖則以補充不足的資料 (參考本有關 工作守則或規例) 。

簡單圖則 Plan(Simp)-G –01

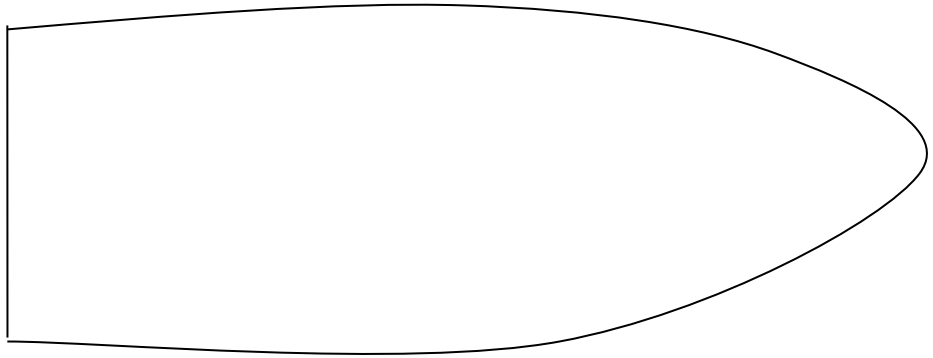
General Arrangement Plan (Owner to provide necessary information on layout, decks etc.)

一般佈置圖則 (船東提供所需資料如外形、甲板層數等)

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)



側面圖
Side View Profile



甲板
DECK

Remarks 備註:

1. If there is superstructure, please indicate.
   如設有上層建築, 請標示
2. Details can be supplement by photos or separate sheets.
   詳細可以相片補充或另加紙張
3. Not to proportion/scale.
   不按比例/標尺

Vessel information 船隻資料	**Content 資料內容**
1. File No. 檔案號碼	
2. Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Length 長度	
5. Width 闊度	
6. Depth 深度	
7. No. of decks 甲板層數 (Please Show Location / 請顯示位置)	
Approved by 經辦審批 :	Date 日期 :

簡單圖則 Plan(Simp)-G-02 /11

(Only applicable to vessels carrying more than 4 passengers */只適用載乘客 4 人以上)*

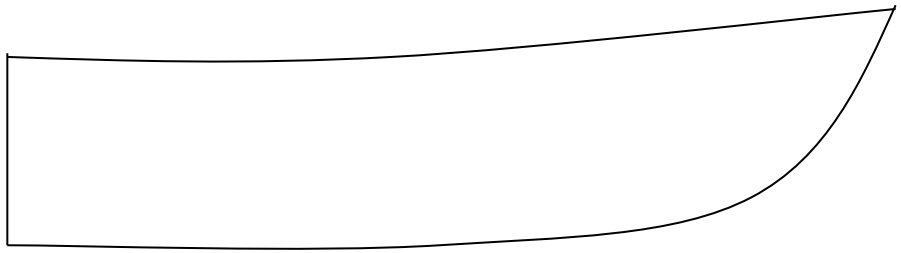
Passenger Space (shelter)/ Seating Arrangement and Position / Freeboard Mark Diagram

乘客艙(遮閉安排) / 座位佈置及座位設置 / 吃水標 示意圖則

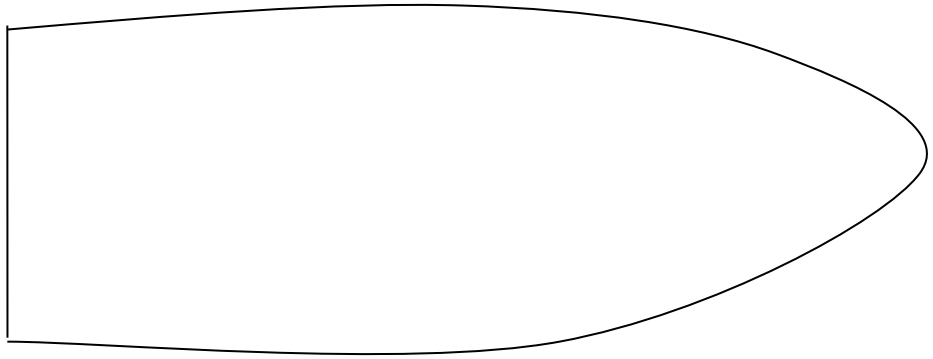
(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)

Remarks 備註:

1. If there is superstructure, please indicate.
   如設有上層建築, 請標示
2. Details can be supplement by photos or separate sheets.
   詳細可以相片補充或另加紙張
3. Not to proportion/scale.
   不按比例/標尺



側面圖
Side View Profile



甲板
DECK

Vessel information 船隻資料	Content 資料內容
1. File No. 檔案號碼	
2. Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Length 長度	
5. Width 闊度	
6. Depth 深度	
7. Freeboard Mark (mm below main deck) 吃水標 (主甲板以下(mm)) (Please Show Location / 請顯示位置)	
8. Seating Arrangement / Position(*) 座佈置及座位設置(*)	
Approved by 經辦審批 :	Date 日期 :

(Only applicable to vessel length less than 8 m / 只適用於船隻長度小於 8 米)

簡單圖則 Plan(Simp)- G-01+ HS-01/09

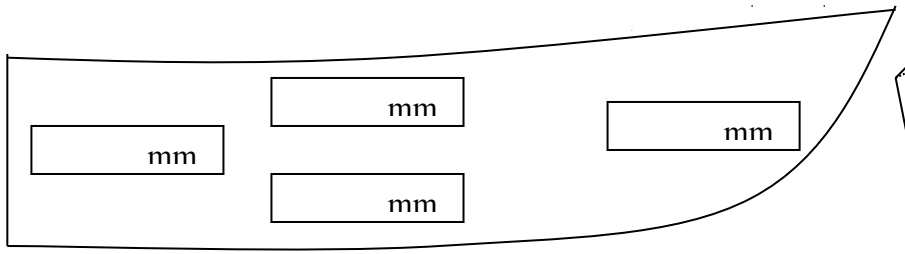
Vessel Particulars / General Arrangement and Basic Hull and Deck Plate Thickness Diagram

船隻特別資料/一般佈置/及基本船殼和甲板之板厚示意圖則

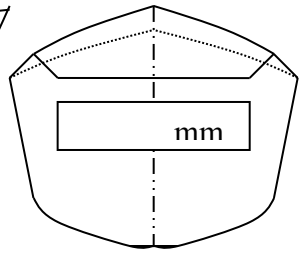
(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)

Remarks 備註:

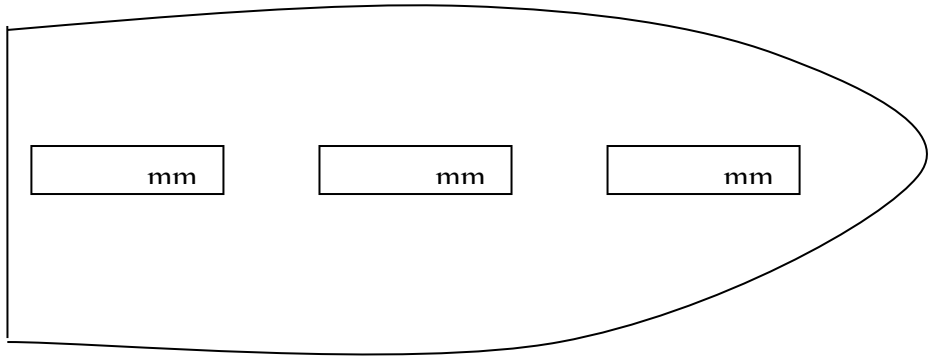
1. If there is superstructure, please indicate.
   如設有上層建築, 請標示
2. Details can be supplemented by photos or separate sheets.
   詳細可以相片補充或另加紙張.
3. Please show by dotted line long/transverse frame.
   請以虛線列出縱及橫向肋骨.
4. Not to proportion/scale. / 不按比例/標尺



船旁及船底板
SIDE & BOTTOM PLATING



船尾板圖
TRANSOM



甲板
DECK PLATING

Vessel Particulars & Basic Hull information **船隻特別資料及基本船殼資料**	**Content** **資料內容**
1. File No. 檔案號碼	
2. Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Length 長度	
5. Width 闊度	
6. Depth 深度	
7. Material 構造材料 (GRP 或 木質)	
8. Number of Transverse Frame 橫架數目	
9. Number of Long. Girder/Keelson/ Frame 縱龍骨/邊龍骨/直隔擋數目	
10. Number / Size of Buoyancy Space 浮艙數目及容量 _____ / _____ (Please show location/ 請顯示位置)	
11. Hull design / construction standards /rules adopted 應用的船殼/結構標準/規則	
Approved by 經辦審批	Date 日期

簡單圖則 Plan(Simp)-HS-01/09

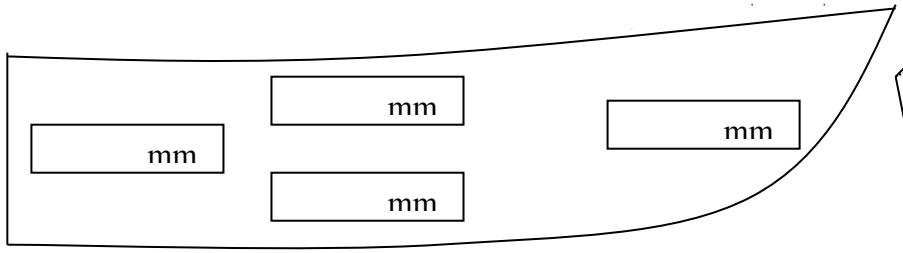
Vessel Particulars and Basic Hull and Deck Plate Thickness Diagram

船隻特別資料及基本船殼和甲板之板厚示意圖則

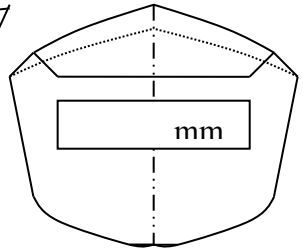
(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)

Remarks 備註:

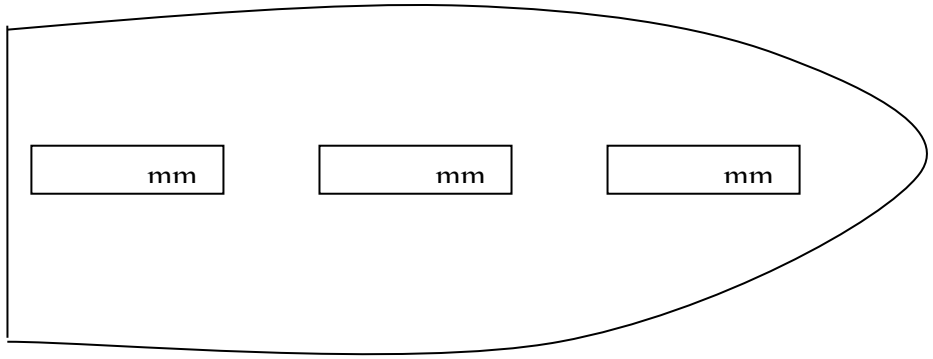
1. If there is superstructure, please indicate.
   如設有上層建築, 請標示
2. Details can be supplemented by photos or separate sheets.
   詳細可以相片補充或另加紙張.
3. Please show by dotted line long/transverse frame.
   請以虛線列出縱及橫向肋骨.
4. Not to proportion/scale. / 不按比例/標尺



船旁及船底板
SIDE & BOTTOM PLATING



船尾板圖
TRANSOM



甲板
DECK PLATING

Vessel Particulars & Basic Hull information **船隻特別資料及基本船殼資料**	**Content** **資料內容**
1. File No. 檔案號碼	
2. Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Length 長度	
5. Width 闊度	
6. Depth 深度	
7. Material 構造材料 (GRP 或 木質)	
8. Number of Transverse Frame 橫架數目	
9. Number of Long. Girder/Keelson/ Frame 縱龍骨/邊龍骨/直隔擋數目	
10. Number / Size of Buoyancy Space 浮艙數目及容量 _____ / _____ (Please show location/ 請顯示位置)	
11. Hull design / construction standards /rules adopted 應用的船殼/結構標準/規則	
Approved by 經辦審批	Date 日期

簡單圖則 ***Plan(Simp)-HS-07***

Inclining Experiment Report/Rolling Period / Simple Inclining - Test Report
傾斜試驗／橫搖週期 / 簡單傾斜- 測試報告

Remarks 備註:

1. Details can be supplemented by photos or separate sheets.
   詳細可以相片補充或另加紙張.
2. Please show by dotted line long/transverse frame.
   請以虛線列出縱及橫向肋骨.
3. Not to proportion/scale.
   不按比例/標尺

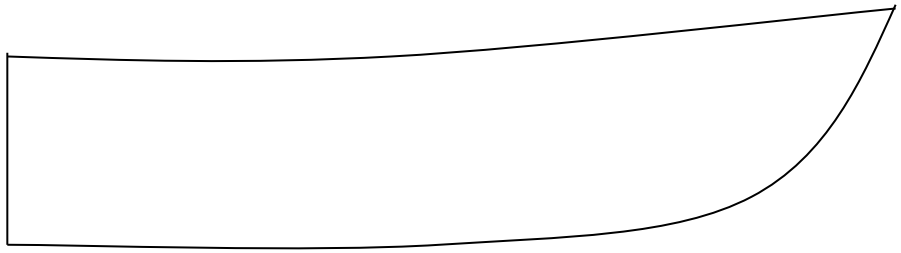
Vessel Particulars & Basic Hull information **船隻特別資料及基本船殼資料**	**Content** **資料內容**
1. File No. 檔案號碼	
2. Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Length 長度	
5. Width 闊度	
6. Depth 深度	
7. Material 構造材料 (GRP 或 木質)	
8. Number of Transverse Frame 橫架數目	
9. Number of Long. Girder/Keelson/ Frame 縱龍骨/邊龍骨/直隔擋數目	
10. Number / Size of Buoyancy Space 浮艙數目及容量 _____ / _____ (Please show location/ 請顯示位置)	
Approved by 經辦審批	Date 日期

簡單圖則 Plan(Simp)-HS –10A&B (HS-10C)

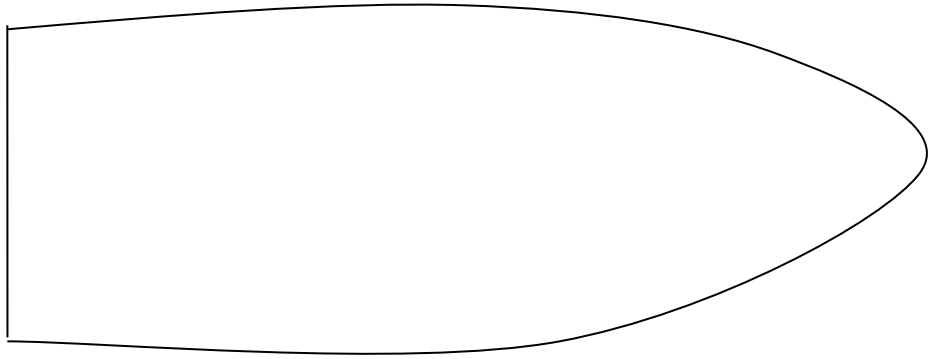
LSA & FFA Installation and Arrangement Diagram

救生及救火設備及佈置示意圖則

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)



側面圖
Side View Profile



甲板
DECK

Remarks 備註 :

1. If there is superstructure, please indicate.
   如設有上層建築, 請註明
2. May use separate sheet for each arrangement of information
   可用另外紙張顯示每種設備或佈置
3. Escape routes can be shown in this plan or in separate sheets.
   逃生佈置可顯示在本圖則上或另外紙張
4. Details can be supplemented by photos or separate sheets.
   詳細可以相片補充或另加紙張
5. Not to proportion/scale.
   不按比例/標尺

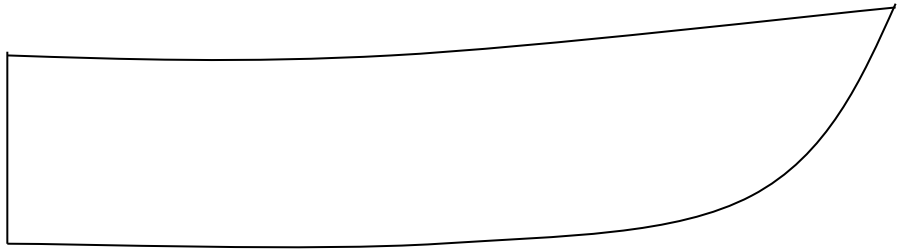
Vessel information 船隻資料		**Content 資料內容**	
1. File No. 檔案號碼			
2. Licence No. / Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼			
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類			
4. LSA & FFA installation 救生及救火設備		(Please show location/ 請顯示位置)	
Item	No		
(a)			
(b)			
(c)			
(d)			
(e)			
(f)			
Approved by 經辦審批		Date 日期	

簡單圖則 Plan(Simp)-HS –10C (Not applicable to open boat / 開敞船隻不需要)

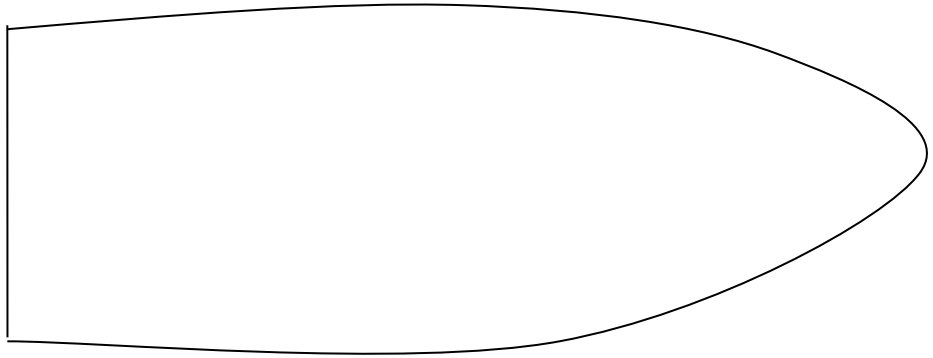
Escape Installation and Arrangement Diagram

逃生設備及佈置示意圖則

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)



側面圖
Side View Profile



甲板
DECK

Remarks 備註:

1. If there is superstructure, please indicate.
   如設有上層建築, 請標示
2. Details can be supplemented by photos or separate sheets.
   詳細可以相片補充或另加紙張
3. Not to proportion/scale.
   不按比例/標尺

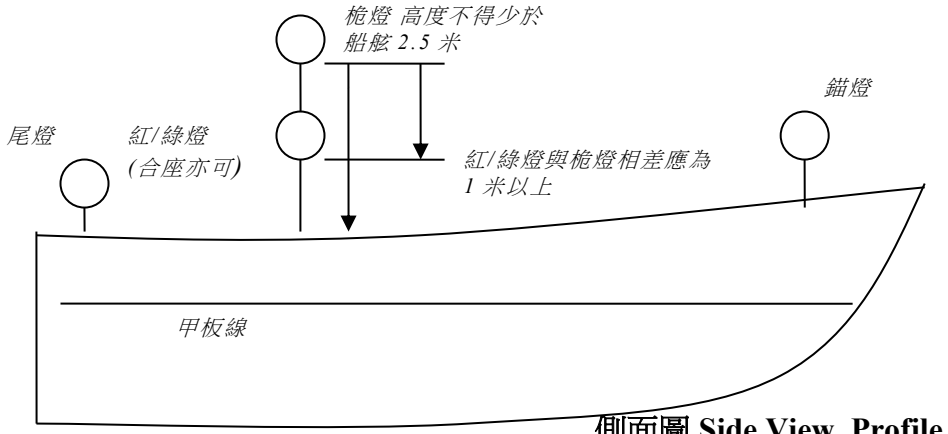
Vessel information 船隻資料	**Content 資料內容**
1. File No. 檔案號碼	
2. Licence No. / Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Escape Installation 逃生及設備 (Please show location/ 請顯示位置)	
Approved by 經辦審批	Date 日期

簡單圖則 Plan(Simp)-HS –10D

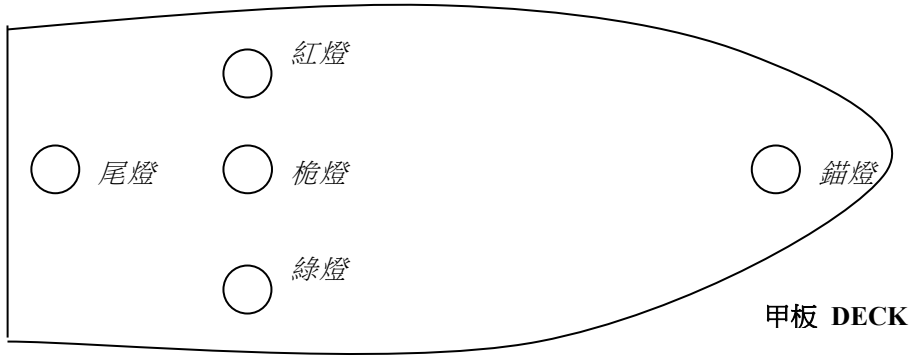
Lights, Shapes & Sound Signals Installation and Arrangement Diagram

號燈、號型、聲號設備及佈置示意圖則

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)



側面圖 Side View Profile



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註: 1) 長度未滿 7 米，最大航速不超過 7 節，只需環照白(錨燈)一盞。如條件許可，亦需裝設紅及綠燈。
2) 長度滿 7 米至小於 12 米，需加 3 個黑色球體，1 個黑色菱形體及一個能發出有效聲號器具。
3) 長度滿 12 米至小於 20 米，需加 2 支環照紅(失控燈) ，1 個黑色菱形體及 3 個黑色球體，號笛及號鐘各一個。

Remarks 備註:

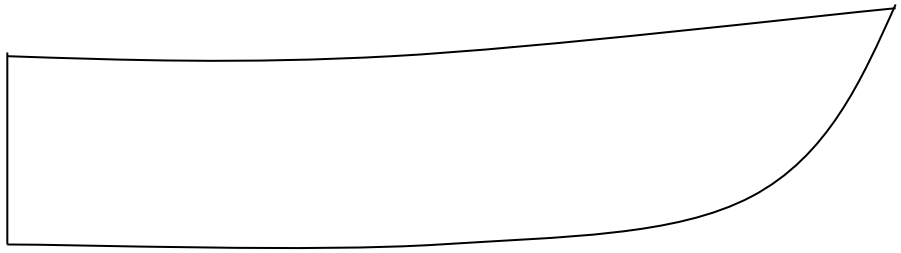
1. If there is superstructure, please indicate.
   如設有上層建築, 請標示
2. Details can be supplemented by photos or separate sheets.
   詳細可以相片補充或另加紙張
3. Not to proportion/scale.
   不按比例/標尺

Vessel information 船隻資料	**Content 資料內容**
1. File No. 檔案號碼	
2. Licence No. / Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Lights, Shapes & Sound Signals installation 號燈、號型、聲號設備 (Please show location/ 請顯示位置)	
Approved by 經辦審批	Date 日期

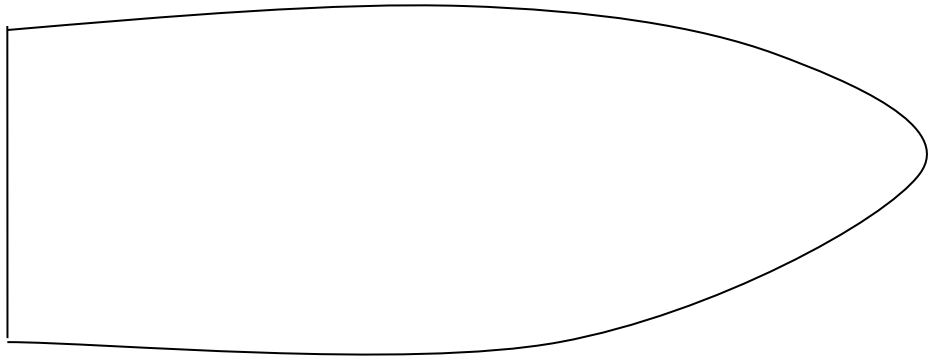
Machinery Installation Plans
機器及其系統設備圖則

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)

簡單圖則 Plan(Simp)-M-01/ / 16 etc



側面圖
Side View Profile



甲板
DECK

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Vessel information **船隻資料**	**Content** **資料內容**
1. File No. 檔案號碼	
2. Licence No. / Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. No. of Main engines/ Propellers. 主機 / 推進器 數量	
5. Main engine maker /type. 主機製造商/型類	
6. Main engine serial number. 主機號碼	
7. Total engine power (kW)/ RPM. 主機總功率 (千瓦) / 轉速	
8. Fuel type/ tank no./ total capacity 燃油類 / 油缸數量 / 總容量	
9. Generator IC engine maker /type. 發電內燃機製造商/型類	
10. Generator engine serial number. 發電內燃機號碼	
11. Fuel type/ tank no./ total capacity 燃油類 /油缸數量 / 總容量 (If not same as above / 如與上不同)	
(Please show location/ 請顯示位置)	
Approved by 經辦審批	Date 日期

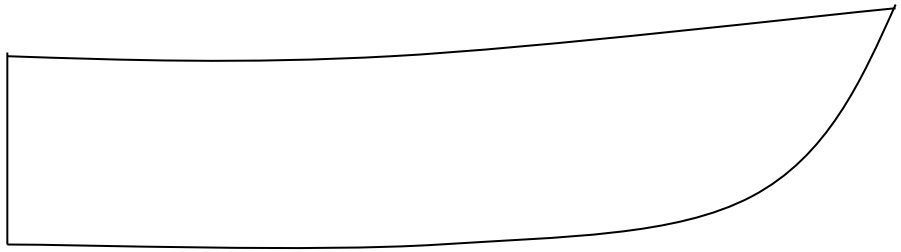
ANNEX Q

Electrical Installation Plans

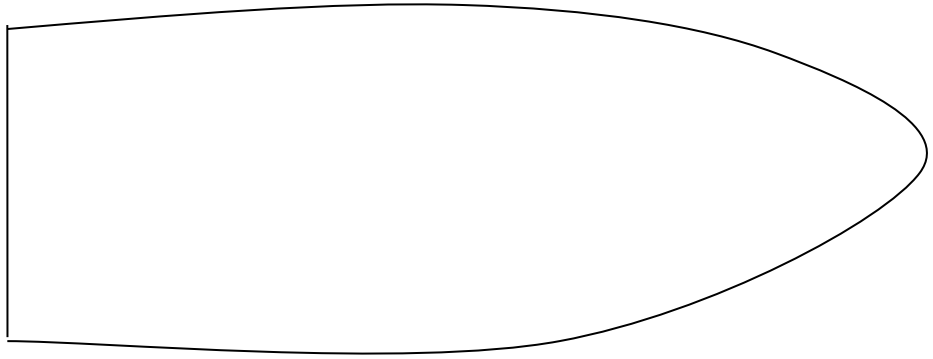
電器及其系統設備圖則

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)

簡單圖則 ***Plan(Simp)-E 01/ /05 etc***



側面圖
Side View Profile



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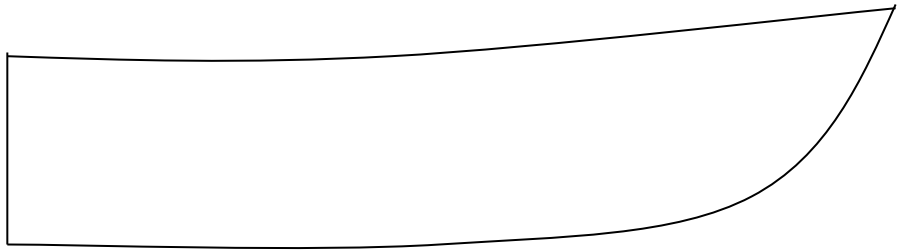
   不按比例/標尺

Vessel information **船隻資料**	**Content** **資料內容**
1. File No. 檔案號碼	
2. Licence No./ Cert of Ownership no. 牌照號碼 / 船隻擁有權證明書號碼	
3. Vessel Class / Type / Category 船隻 類別 / 類型 / 種類	
4. Generator maker /type. 發電機製造商/型類	
5. No. of Generator / serial no.. 發電機數目 / 號碼	
6. Total engine power (kW)/ RPM. 發電總功率 (千瓦) / 轉速(每分)	
7. Voltage (V) / Frequency (Hz) 電壓 (伏特) / 週頻 (轉數/每秒)	
(Please show location/ 請顯示位置)	
Approved by 經辦審批	Date 日期

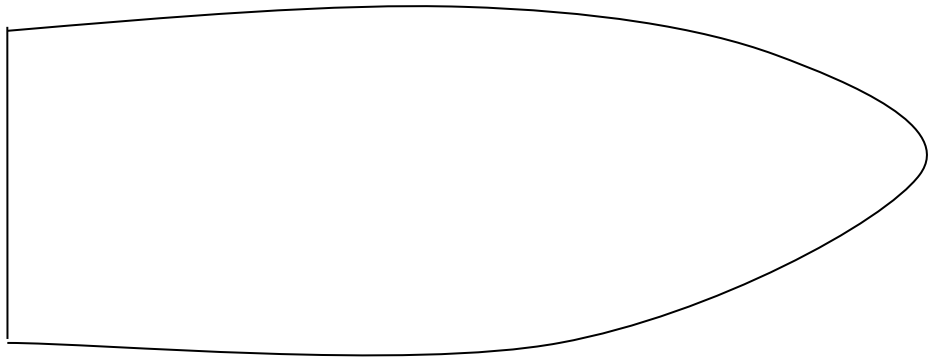
Machinery & Electrical Installation Plans
機器與電器及其系統設備圖則

(Note : A copy of this diagram shall be kept onboard)
(註 : 一份此圖則須放置在船上)

簡單圖則 Plan(Simp)-M-01/ /16 & E-01/ /05 etc



側面圖
Side View Profile



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DECK

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4. No. of Main engines/ Propellers. 主機 / 推進器 數量	
5. Main engine maker /type. 主機製造商/型類	
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8. Fuel type/ tank no./ total capacity 燃油類 / 油缸數量 / 總容量	
9. Generator IC engine maker / type. 發電內燃機製造商/型類	
10. Generator engine serial no. 發電內燃機號碼	
11. Generator maker /type. 發電機製造商/型類	
12. No. of Generator / serial no.. 發電機數目 / 號碼	
13. Total engine power (kW)/ RPM. 發電總功率 (千瓦) / 轉速(每分)	
14. Voltage (V) / Frequency (Hz) 電壓 (伏特) / 週頻 (轉數/每秒)	
(Please show location/ 請顯示位置)	
Approved by 經辦審批	Date 日期

Annex U-1

DOMESTIC LIQUEFIED PETROLEUM GAS INSTALLATION

1 Marking

1.1 Liquefied petroleum gas (LPG) cylinders shall be clearly marked of the name of their contents.

2 Properties of LPG

2.1 Possible dangers arising from the use of LPG appliances include fire, explosion and asphyxiation due to leakage of gas from the installation, etc.

2.2 LPG is heavier than air and, if released in a space with coaming, may travel some distance whilst seeking the lowest part of that space and its adjourning spaces. The accumulation of LPG probably poses dangerous consequence and fatality when triggered by inadvertent spark or ignition.

3 Storage

3.1 No more than 50 kg (or combined water capacity 130 litres) of LPG shall be carried on board.

3.2 LPG cylinders and expended cylinders shall as far as practicable be stowed on open decks. The cylinders and all valves, pressure regulators and pipes leading from such cylinders shall be properly secured, protected against mechanical damage, and excessive variations in temperature and direct rays of the sun. The cylinders shall be installed upright to prevent liquid from flowing into the pipes.

3.3 The LPG cylinder storage locker, and associated pipes and joints shall be readily accessible for the check of suspected leaks; and shall be as far away from any air pipes, ventilators, hatchways, etc. and close to the cooking appliances as practicable.

3.4 Except as necessary for service within the space, electrical wiring and fittings shall not be permitted within compartments used for the storage of LPG. Where such electrical fittings are installed, they shall be to the satisfaction of the Department for use in a flammable atmosphere. Sources of heat shall be kept clear of such spaces and "不准吸煙 No Smoking" and "不准明火No naked light" notices shall be displayed in a prominent position.

3.5 Compartments used for the storage of LPG shall not be used for storage of other combustible products nor for tools or objects nor part of the gas distribution system. The LPG locker shall be marked with “LPG” on the door of the locker.

4 Installation

4.1 LPG pipes-

(a) LPG pipes shall be of solid drawn copper alloy or stainless steel pipes, with appropriate compression or screwed fittings.

(b) Flexible connections shall be avoided. Should they be used, an approved type of synthetic rubber hose connection shall be fitted. When used with flexible connections, appliances shall be controlled from the nearest isolating valve fitted on metallic pipe.

4.2 LPG cylinder storage locker

(a) For storage above main deck-

(i) ventilation openings shall be provided on top and bottom of locker;

(ii) when LPG pipe is arranged to pass through bulkhead, the opening on bulkhead shall be of suitable size and height, to avoid the gas being leaked into the accommodation. If the LPG pipe is a synthetic rubber hose, precaution shall be taken to prevent the hose being chafed. A protecting conduit shall be fitted when necessary.

(b) For storage below main deck-

(i) the locker bulkhead shall be of gastight construction. Bulkhead piece shall be fitted when LPG pipe is arranged to pass through bulkhead;

(ii) adequate ventilation shall be provided at top and bottom of locker and be led overboard;

(iii) gas detectors shall be fitted to detect any accumulation of LPG in the bilge.

4.3 Newly fitted or replaced gas consuming appliances shall be of type approved by Gas Authority, EMSD and marked with "GU" on them. Existing Gas consuming appliances (e.g. stove, water heater etc.) are recommended to be fitted with automatic gas shut-off device to stop the gas supply in the event of flame failure.

批准氣體用具GU標誌

5 Maintenance

5.1 Changing cylinders shall be done according to instructions of gas dealers. If it is suspected that either a cylinder or valve is faulty, put it ashore as quickly as possible, and in the meantime keep it in the open air, clear of any gratings, hatches or other openings leading below decks.

5.2 Sufficient ventilation shall be provided at the cooking space to displace the products of combustion and respiration.

6 Inspection

6.1 The vessel's crew or operator shall regularly examine joints of the LPG installation. If a leakage is suspected, the cylinder stop valve shall be turned off immediately; the vessel's engine shall be stopped, no switch on/off of electrical appliances and no other means of ignition allowed until it is certain that the vessel is clear of gas. Never put an appliance back into use without the leak having been found and rectified.

SAFETY PRECAUTION ON THE PROPER STORAGE AND USE OF PETROL

1 No excessive quantity of petrol should be carried on board vessel. Refer to Ch. IIIB/9.3 on maximum permissible capacity.

2 If portable container is used to carry petrol, the container should be of a type approved by the manufacturer of petrol engine (if necessary, owner must submit supporting document issued by the manufacturer, e.g. invoice, sale receipt etc.), and fitted with air vent.

3 The portable container should be stored in a well ventilated place, if necessary, on the open deck. The containers and all valves and pipes leading from such containers should be made of suitable material and properly secured and protected against mechanical damage, excessive temperature variations and direct sunlight. The container, storage cabinet, associated valve, pipes and joints should not have any fuel leaking, and should be readily accessible for checking of suspected leaks.

4 The storage spaces should be kept clear of any heat source and caution notices "不准吸煙 No Smoking" and "不准明火 No naked light" should be displayed in a conspicuous place when necessary.

5 Petrol should not be used for other purposes, e.g. cleaning of engine parts, which may impose unnecessary fire risk.

6 Unless it is certain that the containers storage space is well ventilated, otherwise the containers and the petrol should be removed from the storage space which is expected to be unattended for a period of time.

Certificates Relevant to Local Vessels

1. Apart from the certificates listed in Chapter II, the following plan approval, surveys and/or issuance of certificates or record document, which may be for operational purpose or requirements specified under legislations outside the Ordinance, Cap 548, are also relevant to local vessels if applicable:

    (1) Minimum Safe Manning document;

    (2) International Tonnage Certificate;

    (3) International Load Line Certificate;

    (4) International Oil Pollution Prevention Certificate;

    (5) International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;

    (6) International Air Pollution Prevention Certificate or HKAPP Certificate.

2. For the issuance of items 1.(1) and (5) of the above, owners shall apply to Marine Department directly. For initial certificate, application must be enclosed with relevant application details/plans for assessment.

3. For items 1.(2), (3), (4) and (6), the indicated International Convention certificates may be issued by recognized classification societies directly to the owner, together with survey records in accordance with the requirements of the relevant Convention. A copy of such certificate and record is required to be submitted to Marine Department.

Annex Z

Alternative Survey Regime for Periodical Survey Requirements of Propeller Shafts and Propellers of Class III Vessels (Category A Steel/GRP Hull with L ≥ 24m)

1 Definition

1.1 Service records

Service records are regularly recorded data showing in-service conditions of the shaft(s) and may include, as applicable, lubricating oil temperature, bearing temperature and oil consumption records (for oil lubricated bearings).

1.2 Oil sample examination

An oil sample examination is a visual examination of the stern tube lubricating oil taken in presence of the surveyor with a focus on water contamination.

1.3 Lubricating oil analysis

Lubricating oil analysis is to be carried out at regular intervals not exceeding twelve (12) months taking into account the table below with suggestion of the upper limits of metal and water content values: *(extracted from the International Association of Classification Societies (IACS) Rec. 36 "Recommended procedure for the determination of contents of metals and other contaminants in stern tube lubricating oil)*

Contaminants	Content Values	Contaminants	Content Values
Water	1%	Nickel	10 ppm
Chromium	10 ppm	Silicon	40 ppm
Copper	50 ppm	Tin	10 ppm
Iron	30 ppm	Magnesium	30 ppm
Lead	10 ppm	Sodium	80 ppm
Chloride content in water	70 ppm (ingress of salt water)		

1.4 Keyed connection

Keyed connection is the forced coupling methodology between the shaft and the propeller with a key and keyway achieved through the interference fit of the propeller boss on the shaft tapered end.

1.5 Keyless connection

Keyless connection is the forced coupling methodology between the shaft and the propeller without achieved through the interference fit of the propeller boss on the shaft tapered end.

1.6 Propeller shaft and bearing clearance

The clearance limits between propeller shaft and bearing are tabulated below: *(extracted from Annex M of the Code of Practice – Safety Standards for Class III Vessels)*

Tail Shaft Diameter (Mm)	Bearing Material	Lignum Viatae, Layered Rubber	White Metal Alloy		Cast Rubber
	Clearance Limit (mm)		Oil lubricated	Water lubricated	
<100		4.0	1.50	2.0	3.5
100~<150		4.4	1.65	2.2	4.4
150~<200		4.8	1.80	2.4	4.8
200~<250		5.2	1.95	2.6	-

2 Periodical survey requirement for oil lubricated propeller shaft

2.1 Drawing the shaft and examining the entire shaft, seals system and bearings.

2.2 For keyed and keyless connections:

2.2.1 Removing the propeller to expose the forward end of the taper of the shaft.

2.2.2 Performing a non-destructive examination (NDE) by an approved surface crack-detection method all around the shaft in way of the forward portion of the taper section, including the key way (if fitted). For shaft provided with liners the NDE shall extend to the after edge of the liner.

2.3 Checking and recording the bearing clearances.

2.4 Verification that the propeller is free of damages which may cause the propeller to be out of balance.

2.5 Verification of the satisfactory conditions of inboard and outboard seals during re-installation of the shaft and propeller.

2.6 Recording the bearing weardown measurements (after re-installation).

3 Survey requirements for extending oil lubricated propeller shaft survey not exceeding 4 years.

3.1 For keyed and keyless connections:

3.1.1 Removing the propeller to expose the forward end of the taper of the shaft; and

3.1.2 Performing a non-destructive examination (NDE) by an approved surface crack-detection method all around the shaft in way of the forward portion of the taper section, including the key way (if fitted).

3.2 Checking and recording the bearing weardown by means of measurements or methods accepted by the Marine Department.

3.3 Visual inspection of all accessible parts of the shafting system.

3.4 Verification that the propeller is free of damages which may cause the propeller to be out of balance.

3.5 Seal liner found to be or placed in a satisfactory condition.

3.6 Verification of the satisfactory re-installation of the propeller including verification of satisfactory conditions of inboard and outboard seals.

3.7 Pre-requisites to satisfactorily verify in order to apply extension up to 4 years:

3.7.1 Review of the previous weardown measurements and/or clearance readings;

3.7.2 Review of service records;

3.7.3 Review of test records of lubricating oil analysis;

3.7.4 Oil sample examination;

3.7.5 Verification of no reported repairs by grinding or welding of shaft and/or propeller; and

3.7.6 The vessel owner is required to submit a declaration to declare that the propeller shaft system is maintained in good working condition.

3.8 The following matters must be noted for the requirements of propeller shaft system lubricating oil analysis:

3.8.1 The analysis of the lubricating oil shall be carried out by an institution accepted by the MD (including the institutions recognized by the State, the Recognized Authorities or the Classification Societies recognized by MD) within a period of not exceeding twelve months. Vessel owners must note that the metal and water content of the lubricating oil should not exceed the recommended limits in the table attached to Section 1.3;

3.8.2 Vessel owners shall properly keep the lubricating oil analysis report and submit it to the inspecting officer during annual survey to verify the condition of the propeller shaft system; and

3.8.3 If the lubricating oil of the propeller shaft system is to be replaced, the vessel owner shall record in details (including causes, quantity, date and the follow-up of the replacement of the lubricating oil), and submit it to the inspecting office at the time of the survey to verify the condition of the propeller shaft system.

3.9 For keyed and keyless connections, the interval between two consecutive surveys may be extended after the execution of the extension survey with satisfactory results. The extension is up to a maximum of 4 years and no further extension can be granted. Before the expiration of the extension, the vessel owner shall arrange for propeller shaft survey on slipway.

3.10 For vessels at their 4^{th} anniversary have been granted for extending the periodical survey for “propeller shaft – drawn out for inspection” to not exceeding 1 year, no further extension will be granted. Instead, before the expiration of the extension, the vessel owner shall arrange for propeller shaft survey on slipway.

3.11 If the propeller shaft system is abnormal, the vessel owner shall arrange for inspection and repairing as soon as possible, and put it on record.