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**ClassNK**

[English]

# **GOOD MAINTENANCE ON BOARD SHIPS**

**Maintenance Checklist  
for the Master**

## FOREWORD

Since the first edition of “Good Maintenance On Board Ships” was published in June 1994 and revised subsequent dates, in order to upgrade the maintenance standards of your ships, many ideas and comments from ship owners and parties concerned have been received.

Based on these ideas, comments and our database of detained ships, the Society has prepared this revised edition.

Shipmasters are expected to make proper arrangements for maintenance and always keep their ships in a safe and seaworthy condition.

We hope that this booklet will be helpful and useful for the shipmaster, as well as for ship owners. Any comments, questions and/or advice regarding further improvements to this publication would be highly appreciated.

1. “ Checklist I ” : For routine maintenance
2. “ Checklist II ” : For PSC inspection (the typical deficiencies)
3. “ Checklist III ” : For Safety Management System
4. “ Checklist IV ” : For International Ship and Port Facility Security
5. “ Checklist V ” : For Maritime Labour Convention, 2006
6. “ Appendix ” : Photos of the typical deficiencies

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## ADVICE TO MASTERS

The masters of cargo ships are kindly advised to use the checklist effectively, taking notice of the following matters:

1. The masters should check the condition of the ships in accordance with “Checklist I” regularly, e.g. once every month or every few months depending upon the ship’s operating conditions, but at least once every three months.
2. In addition to 1. above, the masters should check the condition of the ships in accordance with “Checklist II”(Check list for the typical deficiencies pointed out by Port State Control (hereinafter, PSC)) at periodically.
3. In case where the ships comply with the requirements of International Safety Management Code (ISM Code), International Ship and Port Facility Security Code (ISPS Code), and Maritime Labour Convention, 2006(MLC, 2006), the masters should check these systems in accordance with “Checklist III, IV, and V” respectively at the same interval as mentioned 1. above.
4. The masters and crews shall fully understand the operating procedures for launching lifeboats including engine starting, emergency fire pumps, and other emergency equipment for safety, health and protection of the environment, through regular training of the crew and drills conducted on board the ships. The masters and crews in charge should also be thoroughly familiar with the operation of the main engine, steering gear and other essential machinery, in addition to the operating procedures for equipment relating to MARPOL convention, such as the oily water separator, 15 ppm alarm and oil discharge monitoring system.
5. In the case of crews consisting of different nationalities, a smooth communication system should be established for use with and among the crews.
6. When deficiencies are observed during voyages, the masters should remedy them or take proper actions without delay.
7. When deficiencies on board the ships are pointed out by PSC, the masters must obtain a copy of the written reports of such deficiencies from the PSC. Our survey offices are always ready to attend ships in order to facilitate the resolution of detainable deficiencies, therefore if necessary, please contact the nearest our branch office.

## Abbreviations in the checklist

SS	Special Survey
IS	Intermediate Survey
AS	Annual Survey
MAS	Mandatory Annual Survey
HSSC	Harmonized System of Survey and Certification
DOC	Document of compliance
SOC	Statement of compliance
ATS	Annual Thorough Survey
COW	Crude Oil Washing System
ODM	Oil Discharge Monitoring and Control System
GMDSS	Global Maritime Distress and Safety System
ECDIS	Electronic Chart Display and Information Systems
BNWAS	Bridge Navigational Watch Alarm System
DSC	Digital Selective Calling
EGC	(INMARSAT) Enhanced Group Calling
GOC	General Operator's Certificate for GMDSS
COLREG	International Convention for Preventing Collisions at Sea 1972 (COLREG 72)
ILO	International Labour Organization
PLI	Periodical Load Line Inspection
IMDG	International Maritime Dangerous Goods Code
IMSBC	International Maritime Solid Bulk Cargoes Code
BWMC	International Convention for the Control and Management of Ship's Ballast Water and Sediments
ITU	International Telecommunications Union – Radio Regulations
ISM	International Safety Management (SOLAS Chapter IX, Regulation 1)
ISPS	International Ship and Port Facility Security (SOLAS Chapter XI-2)
MARPOL	International Convention for the Prevention of Pollution from Ship's 1973, as modified by the Protocol of 1978 (MARPOL 73/87)
MLC,2006	Maritime Labour Convention,2006
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
MSB	Main Switchboard
ESB	Emergency Switchboard
N.A.	Not Applicable
P & A	Procedure and Arrangement Manual
VOCs	Volatile Organic Compounds
REC	Radio Electronic Certificate
NS	New Ship
ES	Existing Ship
	81 ES : Existing ships constructed before 1 September 1984 (81 Amend.)
	81 NS : New ships constructed on or after 1 September 1984 (81 Amend.)

- 83 NS : New ships constructed on or after 1 July 1986 (83 Amend.)
- 88 ES : Existing ships constructed before 1 February 1992 (88 Amend.)
- 88 NS : New ships constructed on or after 1 February 1992 (88 Amend.)
- 00 ES : Existing ships constructed before 1 July 2002 (00 Amend.)
- 00 NS : New ships constructed on or after 1 July 2002 (00 Amend.)
- 02 ES : Existing ships constructed before 1 July 2004 (02 Amend.)
- 02 NS : New ships constructed on or after 1 July 2004 (02 Amend.)
- 04 ES : Existing ships constructed before 1 July 2006 (04 Amend.)
- 04 NS : New ships constructed on or after 1 July 2006 (04 Amend.)
- 08 ES : Existing ships constructed before 1 July 2010 (08 Amend.)
- 08 NS : New ships constructed on or after 1 July 2010 (08 Amend.)
- 09 ES : Existing ships constructed before 1 July 2011 (09 Amend.)
- 09 NS : New ships constructed on or after 1 July 2011 (09 Amend.)

**Checklist I****(For Routine Maintenance)****Table 1. Certificate & Documents****1. General**

Item	Issued date	Expiry date	Last endorsement	Remarks
Flag Registry Certificate				
Radio Station License				
Class Certificate			AS	
			IS	

**2. Statutory Certificates (HSSC)**

Item	Issued date	Expiry date		Last endorsement	Remarks
		Conditional	Final		
Load Line Certificate					
Safety Construction Certificate					Especially, endorsement at In-Water Survey carried out independently
Safety Equipment Certificate					
Safety Radio Certificate					
International Oil Pollution Prevention Certificate					
International Sewage Pollution Prevention Certificate				N.A.	MARPOL Annex IV
International Air Pollution Prevention Certificate					MARPOL Annex VI
Engine International Air Pollution Prevention Certificate					For each diesel engine with a power output of more than 130kW which is installed on a ship constructed on or after 1 January 2000
International Energy Efficiency Certificate		N.A.	N.A.	N.A.	
International Ballast Water Management Certificate or (SOC)					BWM Convention enter into force on 8 September 2017

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Item	Issued date	Expiry date		Last endorsement	Remarks
		Conditional	Final		
Bulk Chemical Fitness Certificate					For chemical tankers
Gas Fitness Certificate					For liquid gas carries
Noxious Liquid Substances Certificate					For carriage of Noxious Liquid Substance
Polar Ship Certificate		N.A.	N.A.		Operating in polar water
Tonnage Certificate		N.A.	N.A.	N.A.	
Safety Management Certificate (SMC)				Intermediate Audit	
Copy of Document of Compliance (DOC)				Annual Audit	
International Ship Security Certificate					
Maritime Labour Certificate (MLC) or Statement of Compliance (SOC)				Intermediate inspection and Additional inspection where it has been done.	MLC,2006 Reg5.1.3.3 and Standard A5.1.3.1 and 5.1.3.10
DMLC Part I					Ditto
DMLC Part II				Initial inspection and Additional inspection where it has been done.	Ditto
Crew Accommodation Certificate					For Belize, Liberia, Panama, Singapore flag ships
Document of Compliance with the Special Requirements for Ships Carrying Dangerous Goods				N.A.	- For 81NS-00ES to be complied with SOLAS 74/88 Reg.II-2/54 - For 00NS to be complied with SOLAS 74/00 Reg. II -2/19
Certificate of Compliance with the International Maritime Solid Bulk Cargoes (IMSBC) Code					For carriage in bulk cargoes listed in the IMSBC Code
International Anti-Fouling System Certificate		N.A.	N.A.		Only endorsement (except initial, change of ship's name/flag and etc.)
Exemption Certificate				N.A.	If any



**3. Miscellaneous Certificates**

Item	Issued date	Expiry date	Remarks
Minimum Manning Certificate			SOLAS 74/00 V/14

**4. Certificate required by STCW(\*1)  
for All ships**

Item	Endorsement by flag State	Issued date	Expiry date	Regulation
Certificate of competence				
Master & C/O ( $\geq 500$ GT)	Yes			II/2
Officer	Yes			II/1
Chief engineer & 2/E ( $\geq 3000$ kW)	Yes			III/2
Engineer	Yes			III/1
GMDSS radio operator	Yes			IV/2
Certificate of proficiency				
Deck rating watch-keeping	No			II/4
Engine rating watch-keeping	No			III/4
Basic training for all crew	No			VI/1
Survival craft, rescue boat and fast	No			VI/2
Advanced fire fighting	No			VI/3
Medical first aid and medical care	No			VI/4
Ship security officer (SSO)	No			VI/5
Security awareness of all crews	No			VI/6-1
Security training for crews designated security duties	No			VI/6-4
Medical certificate for all crews				I/9

\*1: Special requirements of Flag State should be confirmed

**for oil tankers , chemical tankers and Gas carrier**

Item	Endorsement	Issued date	Expiry date	Regulation
Certificate of proficiency				
Master, C/O, C/E and 2/E Advanced training on tankers	Oil tanker	Yes		V/1-1 Para 4
	Chemical tanker	Yes		V/1-1 Para 6
	Gas carrier	Yes		V/1-2 Para 4

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Item		Endorsement	Issued date	Expiry date	Regulation
Officers and rating Basic training on tankers	Oil/Chemical tanker	Yes for officer No for rating			V/1-1 Para 2
	Gas carrier	Yes for officer No for rating			V/1-2 Para 2

**5. Documents and Manuals  
for All ships**

Item	Approved by	Language	Understood by crew	Remarks
Stability information booklet				All Ships ILLC II, 10 (1)
Loading manual				- Ships contracted on or after 1 July 1998, ≥65m Lf - Ships constructed before 1 July 1998, ≥100m Lf ILLC II, 10 (2)
Loading, unloading and stowage booklet (for Solid Bulk Cargoes)				For ships carriage of solid bulk cargoes SOLAS 74/00 VI/7-2
Shipboard oil pollution emergency plan (SOPEP)				Or SMPEP
Sewage discharge rate table				In case of sewage are stored in holding tank
Technical file for verification for control of NOx emission				
Towing and mooring fitting arrangement plan				For all cargo ships constructed on or after Jan 2007, 500GT or over SOLAS 74/05 Reg.II-1/3-8
Emergency towing booklet (procedure)	Not required			For all cargo ship 500GT or over SOLAS 74 Reg.II-1/3-4
Damage control plan (including damage control booklet)				- For dry cargo ships constructed on or after 1 Feb. 1992 SOLAS 74/88 Reg. II -1/23-1 - For all cargo ships constructed on or after 1 Jan 2009 SOLAS 74/05 Reg. II-1/19

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Item	Approved by	Language	Understood by crew	Remarks
Damage stability information				For all cargo Ships (except tanker, gas carrier, chemical tanker, and bulk carrier with B-60 or B-100 freeboard) > 500 GT, and 80m Lf constructed on or after 1 January 2009
Coating technical file for BWTs and double side skin spaces in bulk carrier				<ul style="list-style-type: none"> <li>- Ships applied CSRs contracted for construction on or after 8 December 2006; or</li> <li>- Ships contracted for building on or after 1 January 2008; or</li> <li>- In the absence of a building contract, ships constructed on or after 1 January 2009; or</li> <li>- Irrespective of presence or absence of building contract, ships delivered on or after 1 July 2012.</li> </ul>
Coating Technical File and/or Corrosion Resistance Steel Technical File for COTs of Crude Oil Tanker (5,000 DWT and above)				<ul style="list-style-type: none"> <li>- Ships contracted for building on or after 1 January 2013; or</li> <li>- In the absence of a building contract, ships constructed on or after 1 January 2013; or</li> <li>- Irrespective of presence or absence of building contract, ships delivered on or after 1 January 2016.</li> </ul>
Ship energy efficiency management plan (SEEMP)	Not required (except Japanese ships)			<ul style="list-style-type: none"> <li>- For new ships at new building stage</li> <li>- For existing ships at first intermediate or renewal survey of IAPP Certificate, whichever is first after 1 Jul 2013 *1</li> </ul>

\*1 “New ship” means a ship  
 - for which the building contract is placed on or after 1 January 2013; or  
 - in the absence of a building contract, constructed on or after 1 July 2013; or  
 - the delivery of which is on or after 1 July 2015.  
 “Existing ship” means a ship which is not a new ship

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Item	Approved by	Language	Understood by crew	Remarks
Ballast Water Management Plan (BWMP)				- Ships applied with only Reg. D-1 - Ships applied with Reg. D-1 and D-2
Polar water operation manual	Not required (except Japanese ships)			Operating in polar water
The related manual in case it is referred to DMLC Part II				MLC,2006
A copy of complaint procedure				MLC,2006
A copy of national law and regulations regarding repatriation				MLC,2006

Item	Properly recorded	Remarks
Oil record book, parts I and II		(For reference) MEPC.1/Circ.736
Log book		SOLAS 74 II, III, V
Garbage record book		Reg. MARPOL Annex V/10
Garbage management plan		Reg. MARPOL Annex V/10
Continuous Synopsis Record (CSR)		SOLAS 74/00 XI/5
Record book of engine parameters		

Item	Issued by	Surveyed by	Last endorsement	Remarks
Cargo gear booklet				

**for oil tankers**

Item	Approved by	Language	Understood by crew	Remarks
Damage stability booklet				
Document of approval (for stability instrument)				- For ships constructed on or after 1 Jan 2016 at new building stage - For ships constructed before 1 Jan 2016 at first renewal survey of IOPP Certificate, whichever is first after 1 Jan 2016 but not later than 1 Jan 2021 MARPOL I
ODM manual				MARPOL I/31
COW manual				If any
VOC management plan				MARPOL VI/15

Good Maintenance On Board Ships

Item	Approved by	Language	Understood by crew	Remarks
Operation manual for emergency towing arrangement (ETA)	Not required			For 20,000 DWT or over Reg. SOLAS 74/88 II-1/3-4
Transfer of oil cargo between oil tankers at sea (STS) operation plan				For oil tanker 150GT or over involved STS operation Reg. MARPOL I/41
Ship structure access manual				For 500GT or over, constructed on or after 1 Jan. 2006 Reg. SOLAS II-1/3-6

**for bulk carriers**

Item	Approved by	Language	Understood by crew	Remarks
Ship structure access manual				For 20,000GT or over, constructed on or after 1 Jan 2006 Reg. SOLAS II-1/3-6

**for chemical tankers**

Item	Approved by	Language	Understood by crew	Remarks
Damage stability booklet				
Chemical operation manual				
P & A manual				MARPOL II/14
Document of approval (for stability instrument)				- For ships constructed on or after 1 Jan 2016 at new building stage - For ships constructed before 1 Jan 2016 at first renewal survey of Chemical Certificate, whichever is first after 1 Jan 2016 but not later than 1 Jan 2021 IBC/BCH Code
Operation manual for emergency towing arrangement (ETA)	Not required			For 20,000 DWT or over Reg. SOLAS 74/88 II-1/3-4
Ship structure access manual				For 500GT or over, constructed on or after 1 Jan. 2006 Reg. SOLAS II-1/3-6

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Item	Properly recorded	Remarks
Cargo record book		MARPOL II/15

**for ships carrying Noxious Liquid Substances**

Item	Approved by	Language	Understood by crew	Remarks
Shipboard Marine Pollution Emergency Plan (SMPEP)				MARPOL II/17
P&A manual				MARPOL II/14

**for liquid gas carriers**

Item	Approved by	Language	Understood by crew	Remarks
Gas operation manual				
Damage stability booklet				
Document of approval (for stability instrument)				<ul style="list-style-type: none"> <li>- For ships constructed on or after 1 July 2016 at new building stage</li> <li>- For ships constructed before 1 July 1986 at first renewal survey of Gas Certificate, whichever is first after 1 Jan 2016 but not later than 1 Jan 2021</li> <li>- For ships other than the above at first renewal survey of Gas Certificate, whichever is first after 1 July 2016 but not later than 1 July 2021</li> </ul> IGC/GC/EGC Code
List of loading/filling limits				
Operation manual for emergency towing arrangement (ETA)	Not required			Reg. SOLAS 74/88 II-1/3-4 For 20,000 DWT or over
P&A manual				For gas carries carrying MARPOL II cargoes MARPOL II/14

**for carriage grain ships**

Item	Issued by	Expiry date	Remarks
Document of authorization			Reg. SOLAS 74/91 VI/8-9

Item	Approved by	Language	Understood by crew	Remarks
Grain loading booklet				Reg. SOLAS 74/91 VI/8-9

**Other necessary documents**

Item	Check	Remarks
Record of ODM		For oil tankers
Cargo securing manual		SOLAS 74/88 Reg.VI/5 and VII/5
Bulk cargoes other than grain		SOLAS 74/88 Reg.VI/6-7

Item	Check	Remarks
Reports of previous PSC inspection		
Loading instrument (computer)		- For bulk carriers with length above 150m : to be capable of information on hull girder shear forces and bending moments. SOLAS 74/00 Reg. XII/11.1 & 2 - For bulk carrier of 04NS with length less than 150m : to be capable of information on the ship's stability in the intact condition. SOLAS 74/00 Reg. XII/11.3
Service record of liferafts		
Service record of EPIRB		
Service record of lifeboat and rescueboat		
Service record of launching arrangement of life boat, rescue boat and liferaft		
Service record of AIS		
Service record of VDR/S-VDR		
Long Range Identification Tracking (LRIT) conformance test report		SOLAS V/19-1
Service record of fire extinguisher (CO2 gas cylinder, air foam, etc)		
Maintenance plan and record of hatch covers		For bulk carrier Reg. SOLAS XII/7
15ppm bilge alarm recorded data		At least 18 months apply to Res. MEPC.107(49) equipment
Calibration certificate for the 15ppm bilge alarm		Every 5 years (Renewal survey) or within the term specified in the manufacturer's instruction apply to Res. MEPC.107(49) equipment

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Item	Check	Remarks
ESP documents (ESP file, thickness measurement record)		<ul style="list-style-type: none"> <li>- ESP Bulk Carrier defined SOLAS IX/1.6</li> <li>- Self-unloading vessel affixed ESP notation</li> <li>- Oil tanker</li> <li>- Chemical Tanker (with integral tanks)</li> </ul>
Plans and procedure for recovery of persons from water		<ul style="list-style-type: none"> <li>- For new ships constructed on or after 1 Jul 2014 at new building stage</li> <li>- For existing ships constructed before 1 Jul 2014 by the first periodical survey or renewal survey, whichever comes first after 1 Jul 2014</li> </ul>
Noise survey report		<ul style="list-style-type: none"> <li>- For which the building contract is placed on or after 1 July 2014</li> <li>- In the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 January 2015</li> <li>- the delivery of which is on or after 1 July 2018</li> </ul>
Ballast water record book		Maintained onboard for a minimum period of two years after the last entry has been made and thereafter in the company's control for minimum period of three years.
Calibration certificate of control and monitoring device for BWMS		



**Table 2. Nautical Publications and International Conventions**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Charts	Up-to date (Properly corrected) and not copies or counterfeit charts			SOLAS 74/88 Reg. V/20, 21  SOLAS 74/00 Reg. V/21, 27  MLC,2006 Standard A5.1.1.2
	Availability of operating areas			
Sailing directions	Up-to date (the last editions)			
List of lights	Up-to date (the last editions)			
Notice to mariners	Up-to date (the last editions)			
Tide tables	Up-to date (the last editions)			
International code of signals	Up-to date (the last editions)			
International Aeronautical and Maritime Search and Rescue (IAMSAR Vol. III)	Up-to date (the last editions)			
International conventions SOLAS COLREG MARPOL ILLC STCW MLC,2006	Available on board			
Maritime laws of flag administration	Available on board			

**Other Necessary Publications\*1**

Item		Remarks
Medical guide		MLC,2006

\*1: Publications required to be kept on board by Flag State should be confirmed (i.e. Panama, MMC-107, -108, -215).

**Table 3. Logbook Entries**

Item	Check Points	Entry/Not	Remarks	Reg.
Steering gear testing and drills	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. V/19-2 SOLAS 74/00 Reg. V/26
Abandon ship drills	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. III/19. 5
Fire drills	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. III/19. 5
Drills of other life-saving appliances and on board training	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. III/19. 5
Enclosed space entry and rescue drills	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. III/19. 5
On-board training and instructions	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. III/19. 5
Weekly inspection of survival craft, rescue boat and etc.	To be recorded the date and detail in the logbook		To be refer Table 5	SOLAS 74/88 Reg. III/20. 6
Monthly inspection of life-saving appliances and lifeboat equipment	To be recorded the date and detail in the logbook		To be referred Table 5	SOLAS 74/88 Reg. III/20. 7
Working language	To ensure effective crew performance in safety matters			SOLAS 74/00 Reg. V/14

**Table 4. Safety in General**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Fire control plans	Permanently exhibited in accommodation spaces			SOLAS 74/00 Reg. II-2/15
	Permanently stored in watertight cases outside the accommodation main entrances. (Port & Starboard)			
	Language understood by crews			
	Kept up-to-date			
Muster list	Exhibited in W/H, E/R and crew accommodation spaces			SOLAS 74/88 Reg. III/8, 37
	To show duties according to Reg. III/37			
	Language understood by crews			
Training manual	Provided in each crew mess room and recreation room, or in each crew cabin, complying with requirements of SOLAS 74/00 Reg. III/35 and II-2/15			SOLAS 74/88 Reg. III/35 SOLAS 74/00 Reg. II-2/15
	Language understood by crews			
	Contents to be coincident with present system/equipment			
Instructions for on-board maintenance	Available on board and including all items showed by Reg. III/36			SOLAS 74/88 Reg. III/36
	Language understood by crews			
Posters or signs	Provided on or in the vicinity of lifeboats, liferafts, rescue boats and their launching controls			SOLAS 74/88 Reg. III/9
	Use of symbols according to IMO Res.A760(18)			
Marking of stowage locations	Provided position of lifesaving appliances			SOLAS 74/88 Reg. III/20.10
	Use of symbols according to IMO Res.A760(18)			
Pilot ladders	Condition in good order, side ropes, rubber steps, wooden steps			SOLAS 74/88 Reg. V/17 SOLAS 74/00 Reg. V/23
	Proper handholds available			
Fire safety operational booklet	Provided in each crew mess room and recreation room, or in each crew cabin, complying with requirements of Reg. II-2/16			SOLAS 74/00 Reg. II-2/16
	Written in the working language			
	Contents to be coincident with present system/equipment			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Maintenance plan	Kept onboard, complying with requirements of Reg.II-2/14			SOLAS 74/00 Reg.II-2/14
	Contents to be coincident with present system/equipment			
Accommodation ladder and gangway	Condition in good order, step, platforms, all support point, marking, etc.			SOLAS 74 Reg.II-1/3-9, MSC.1/Circ. 1331
	Load test every 5 years (Renewal survey)	When tested _____		
	Condition of marking at each end, max. and min. permitted design angle of inclination, designed load, max. load on bottom end plate			
	Maintenance record including all inspections, maintenance work, and repair			
	Condition of lighting arrangement			
	Arrangement of lifebuoy equipped with self-igniting light and buoyant line when in use			
Portable instrument for measuring oxygen and flammable vapour concentrations	Condition in good order		For tanker	SOLAS 74 Reg. II-2/4.5.7
Portable atmosphere testing instrument	Calibrated in accordance with the manufacturer's instruction		For entering enclosed space	SOLAS XI-1 Reg. 7 MSC.1/Circ. 1561
Portable gas detectors for vehicle carrier			For vehicle carrier	SOLAS II-2/ Reg.20.3.1.2 Reg.20-1.5

**Table 5. Testing and drills**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Communication system between W/H and E/R, W/H and steering gear room,	Testing between each compartment			SOLAS 74/88 Reg. II -1/29.10, 37, V/12(f), SOLAS 74/00 Reg.V/19.2.1.9
Emergency generator	Periodical operational test including automatic starting arrangements			SOLAS 74/88 Reg. II -1/43-44
	Confirmation of F.O. tank level			
	Testing of quick closing FO tank valve if fitted			
	Condition of starting devices including second source (batteries, etc.)			
	Ease of operation by crews			
Discharge test of fire fighting system by operation of main fire pumps/emergency fire pump separately	Operational test of main fire pump/emergency fire pump separately			SOLAS 74/88 Reg. II -2/4 SOLAS 74/00 Reg. II -2/10
	Sufficient delivery pressure 6000 GT and over : 0.27 N/mm <sup>2</sup> under 6000 GT : 0.25 N/mm <sup>2</sup>		reaching distance 12m or over	
	Isolation valves operable			
	No leakage of fire lines			
	Confirmation of F.O. tank level for emergency fire pump engine			
	Ease of operation by crews			
Steering gear (S/G) system (Within 12 hours before departure)	Operation of main and Aux. S/G (full movement of the rudder).			SOLAS 74/88 Reg. V/19-2 SOLAS 74/00 Reg. V/26
	Remote control system			
	Emergency power supply			
	Rudder angle indicators in relation to actual position			
	Testing of alarms			
	Automatic isolating arrangement (if any)			
	Visual inspection of S/G and connecting linkage			
	Operating instructions with block diagram in W/H, S/G room			
	No oil leakage from ram cylinder			
Emergency steering gear drill (every 3 months)	Practice of emergency steering procedure (including direct control, communication, alternative power)			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
<p>Abandon ship drills (every month and within 24 hours of departure if 25% of the crew have not participated on board the ship in the previous month)</p>	Summoning of the crew to muster stations with emergency alarm according to the muster list			
	Confirmation of the duties stated in the muster list			
	Lifejackets worn correctly by crews			
	Lowering of at least one boat (Different boats shall be lowered in turn at successive drills)			
	Starting & operating the engine(s)			
	Emergency lighting test			
	Each boat to be launched and manoeuvred in the water by its assigned operating crews, at least once every 3 months		For free-fall launching, to be carried out drill in accordance with Reg. III/19.3.3.4 of SOLAS 74/00	
<p>Fire drills (every month and within 24 hours of departure if 25% of the crew have not participated on board the ship)</p>	Summoning of the crew to stations according to the muster list			<p>SOLAS 74/88 Reg. III/19</p>
	Starting a main and emergency fire pump in turn, and discharging test using the two jets of water			
	Checking fireman's outfits and other personal equipment, including fitting on crew member in turn			
	Checking the communication equipment			
	Checking the operation of fire door, watertight door, fire dampers and main inlets/outlets of ventilation system			
	Operating shut-off valves of F.O. tanks and emergency stop of fans			
<p>Enclosed space entry and rescue drill (every 2 months)</p>	Checking and use of personal protective equipment required for entry			
	Checking and use of communication equipment and procedures			
	Checking and use of instruments for measuring the atmosphere in enclosed spaces			
	Checking and use of rescue equipment and procedures			
	Instructions in first aid and resuscitation techniques			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Weekly inspections	Visual inspection of all survival craft, rescue boats and launching Appliances			SOLAS 74/88 Reg. III/20. 6
	All engines in lifeboats and rescue boats to be run ahead and astern for 3 min.			
	Lifeboats except free-fall lifeboats to be moved from stowed position			
	Testing of the general emergency alarm			
Monthly inspection	Inspection of life-saving appliances and lifeboat equipment to be carried out using the check list required by Reg. III/20.7			SOLAS 74/88 Reg. III/20. 7
SOPEP/SMPEP drill	Ship-related persons should be involved in the drill covering all parts of SOPEP/SMPEP which should be carried out at regular intervals			SOPEP SMPEP

**Table 6. Navigational Equipment / Safety Navigation**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Magnetic compass	Clearly readable by the helmsman at the main steering position			SOLAS 74/88 Reg. V/12 (b) SOLAS 74/00 Reg. V/19.2.1
	Communication between the standard compass position and the main steering position			
	Bubbles are not in the compass			
	Table/curve of residual deviation (every 1 year) is available			
	Bearing device is provided			
	Spare Magnetic Compass (or Heading Gyro Repeater) is provided			
Gyro compass	Clearly readable by the helmsman at the main steering position			SOLAS 74/88 Reg. V/12 (d) SOLAS 74/00 Reg. V/19.2.1 and.2.5.1
	Condition of the master gyro, and gyro repeaters for bearing with bearing device			
	No excessive course defence between Master Gyro and gyro repeater			
Heading information to emergency steering position	Gyro compass repeater at emergency steering position is available for 00NS			SOLAS 74/88 Reg. V/12 (f) SOLAS 74/00 Reg. V/19.2.1.9, 19.2.3
	Arrangement of portable repeater is available			
	Communication system between the main steering position and emergency steering position			
Heading Control System (HCS) (Auto pilot)	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.8
	Versatile change-over between manual and automatic			
Track Control System (TCS, instead of HCS)	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.8
	Versatile change-over between manual and automatic			
Radar	Working satisfactorily			SOLAS 74/88 Reg. V/12 (g), (I) SOLAS 74/00 Reg. V/19.2.3, 19.2.7
	Plotting facilities are available. (00ES)			
ARPA	Working satisfactorily			SOLAS 74/88 Reg. V/12 (j) SOLAS 74/00 Reg. V/19.2.8
ATA (Automatic Tracking Aid)	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.5, 19.2.7
EPA (Electronic Plotting Aid)	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.3



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Item	Check Points	Satisfied/Not	Remarks	Reg.
Echo sounder	Working satisfactorily			SOLAS 74/88 Reg. V/12 (k) SOLAS 74/00 Reg. V/19.2.3
Speed and distance log through the water	Working satisfactorily			SOLAS 74/88 Reg. V/12 (l) SOLAS 74/00 Reg. V/19.2.3
Speed and distance log over the ground	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.9
Indicators for rudder angle, Propeller RPM (Pitch & operational mode for CPP & side thrusters)	Working satisfactorily			SOLAS 74/88 Reg. V/12 (m) SOLAS 74/00 Reg. V/19.2.5
Rate-of-turn indicator	Working satisfactorily			SOLAS 74/88 Reg. V/12(n) SOLAS 74/00 Reg. V/19.2.9
ECDIS	Installation of latest version of IHO standards software for Electronic Navigation Charts (ENC) and displayed official ENC			SOLAS 74/00 Reg. V/19.2.1.4
	Capable of displaying position information from a GPS receiver, heading information from gyro compass and speed information from speed log			
	Capable of displaying nautical charts around its own ship's position			
	Capable of displaying of given an alarm when a route across the own ship's preset safety contour is planned			
	Capable of displaying planned routes			
	Update of ENC			
	Provided operation and maintenance manual			
When nautical charts are prepared as the back up arrangement, update of the nautical charts				
GPS receiver	Working satisfactorily			SOLAS 74/00 Reg. V/19/2.1.6
AIS (Automatic Identification System)	Working satisfactorily			SOLAS 74/00 Reg. V/19/2.4
	Annual test to be carried out by approved service station and record kept on board	When tested		
VDR (Voyage Data Recorder)	Working satisfactorily			SOLAS 74/00 Reg. V/19.20
	Annual test to be carried out by approved service station and record kept on board	When tested		

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Item	Check Points	Satisfied/Not	Remarks	Reg.
S-VDR (Simplified Voyage Data Recorder)	Working satisfactorily		For 00ES( $\geq$ 3000G/T)	SOLAS 74/00 Reg. V/20.2
	Annual test to be carried out by approved service station and record kept on board	When tested		
LRIT (Long Range Identification & Tracking)	Working satisfactorily			SOLAS 74/06 Reg. V/19-1
	Conformance test report issued by administration or testing ASP to be kept on board			
Sound reception system (when the bridge is totally enclosed)	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.1.8
Transmitting Heading Device (THD) (ships of 300 GT to 500 GT)	Working satisfactorily			SOLAS 74/00 Reg. V/19.2.3.5
Maintenance records	Available on board (including VDR/S annual test and compliance statement for 00NS )			SOLAS 74/00 Reg. V/16 & 18.8
Pilot card (All ship)	Available on board			Resolution A.601(15)
Wheelhouse poster ( $L \geq 100$ m )	Available on board			
Daylight signal lamp	Working satisfactorily			SOLAS 74/88 Reg. V/11 SOLAS 74/00 Reg. V/19.2.2
	Supplied from emergency power.			
	Battery & charger for 00NS			
	Spare bulbs (3 pcs) (00NS)			
Voyage plan	Planned the whole of voyage, from berth to berth		For next Voyage	SOLAS 74/00 Reg. V/34 IMO Res. A.893(21)
Record of navigation activities	In case where ship's engaged on international voyage exceeding 48 hours, to be submitted a daily report to company, and to be kept on board			SOLAS 74/00 Reg. V/28
BNWAS	Working satisfactorily		For 150GT or over	SOLAS 74 Reg. V/19

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Navigation lights	Fore & aft masthead lights			COLREG
	Side lights			
	Stern light			
	Anchor light			
	Not under command light			
	Control panel			
	Spare lights or bulbs			
Forecastle bell	Available on board			
Gong (Ships of 100m and upwards in length)	Available on board			
Whistle	Working satisfactorily			
Black ball shapes	At least 3 sets available			
Black diamond shape	for tug boat			
Black cylinder shape	For deep draft ships			

**Table 7. Lifesaving Appliances**

Item	Check Points	Satisfied/Not	Remarks	Reg.	
Lifeboat and/or rescueboat	Condition of hull inside & outside (no rust, no doublers)			SOLAS 74/88 Reg. III/20,34 to 36	
	Condition of windows (if fitted)				
	Grab lines on both side in order				
	Hand rails/Grip in good condition				
	Bilge keel rails on both side				
	Rudder stock, rudder and tiller and stern frame in order				
	Thwarts, side benches, clutch holes, gunwales in good condition				
	Condition of safety belts (if fitted)				
	Engine, foundation, exhaust pipe including condition of insulation and prevent water flap (if fitted)				
	Engines starting easily				
	Propeller and shafting with clutch				
	Reflective tape on hull				
	Marking (Ship's name, No of persons, Port of registry etc.), retro-reflective tapes				
	Plug with packing and a chain with indication of position				
	Lifeboat inventory	Verification according to inventory list			
	Validity of provisions, pyrotechnics, portable fire extinguisher				
Watertight container					
Cover and stanchions (if any)					
Stowage of lifeboat and/or rescueboat	Visual condition of stowage				
Operation of limit switch or air cut-off valves					
Condition of lifting arrangement					

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Lifeboat Release and Retrieval System (LRRS)	Hook locking position and hydrostatic inter lock position			SOLAS 74/00 Reg. III/1.5
	Damage and corrosion of parts in unsheltered position			
	External damage of release cables			
Launching arrangement of lifeboat, rescueboat and liferaft	Condition of davits			SOLAS 74/88 Reg. III/20
	Condition of blocks, falls, padeyes, links, fastening and all other fittings			
	Fall to be renewed at intervals not exceeding 5 years	When renewed:		
	Condition of brake (Winch)			
	Annual through examination for Launching appliance and on-load release gear shall be conducted by approved service firms	When examined		
	Brake (Winch) to be thorough examined at intervals not exceeding 5 years by approved service station	When examined:		
	On-load release gear to be overhauled and tested under a load at intervals not exceeding 5 years by approved service station	When overhauled & tested:		
	Condition of release gear			
	Condition of skates and fenders			
	Condition of embarkation ladders, handholds, side ropes, steps and fitting shackles/padeyes			
	Condition of boat lights by emergency power			
	Maintenance records of accumulator gas (N <sub>2</sub> ) pressure of rescue boat davit(Jib type)			
Inflatable liferafts	To be serviced at intervals not exceeding 12 months with release gear except by approved service station (including hydrostatic release units)	When serviced:		SOLAS 74/88 Reg. III/20,34
	Container to be marked with ; maker's name, serial No., last service date, No. of persons, etc.			
	Fitting retro-reflective tapes			
	Type and capacities			
	Condition of stowage			
Stowage of liferafts	Proper fitting of weak link (in case of a type without weak link, notice to be posted)			
	Hydrostatic release unit date of expired (if disposable type)	Expiry date:		
	Condition of embarkation ladder			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Distress flares	At least 12 parachute rocket signals available on board			SOLAS 74/88 Reg. III/6.3
	Validity			
Lifebuoys for ships of 83 ES	At least 8 lifebuoys with marking and retro-reflective tapes available			SOLAS 74/88 Reg. III/21
	- Two buoys on bridge wings with quick release gear provided for self-igniting lights(SIL) & smoke signals - Illumination of SILs - Validity of smoke signals - Operation of release gear			
	A buoys with SILs on each side Illumination of SILs			
	A buoy with buoyant line of 27.5 meters in length on each side			
	A buoy without attachment on each side			
Lifebuoys for ships of 83 NS  L(m) No. of buoys less than 100m 8 less than 150m 10 less than 200m 12 200m and over 14	Proper No. of lifebuoys with marking and retro-reflective tapes			SOLAS 74/88 Reg. III/7.1, 32
	- Two buoys with self-igniting lights (SIL) and smoke signals being capable of released by release gear, having a mass of at least 4kg on bridge wings - Illumination of SILs - Validity of smoke signals - Operation of release gear			
	- At least half of the total number of buoys to be provided with SILs - Illumination of SILs			
	At least one buoy with a buoyant line on each side (30m or twice the height at stowage position above water level, whichever is the greater.)			
	The remaining buoys without attachment on both sides			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Lifejackets	A lifejacket for every person on board with retro-reflective tapes			SOLAS 74/88 Reg. III/7.2, 32
	Additional lifejackets for persons on watch and for use at survival craft stations		For 83 NS	
	Each lifejacket with a whistle & light			
Immersion suits	Condition of Immersion suits Provided for every person and as additional		For 04ES: to be supplied by first SE Survey after 1 July 2006	SOLAS 74/88 Reg. III/32
	Ship to supply immersion suits of appropriate size for all crew members			
Thermal protective aids	For persons on board not provided with immersion suits, and ready for immediate use			SOLAS 74/88 Reg. III/32, 34
Two-way VHF radio-telephone apparatus	At least three (3) sets complying with the standards			SOLAS 74/88 Reg. III/6.2.1
	Operation of the apparatus			
	Lithium battery	Expired date _____		
	Rechargeable battery: Charging arrangement, condition of battery			
Radar transponders	At least one (1) radar transponder on each side of wheelhouse			SOLAS 74/88 Reg. III/6.2.2
	In case of free-fall lifeboat, one is stowed in a free-fall lifeboat and the other one is fitted in the wheelhouse			
	Validity of battery			
On-board communications	Operation of two-way communications between emergency control station, muster and embarkation stations and strategic positions			SOLAS 74/88 Reg. III/6.2.4
General emergency alarm	Operation of alarm for summoning the crew to muster stations			
Public address system	Operation of the system			
Line-throwing appliances	Four (4) rockets capable of carrying line at least 230m			SOLAS 74/88 Reg. III/18
	Proper instruction available			
	Validity of rockets			

**Table 8. Fire Fighting Appliances**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Fire integrity	Insulation on “A” class bulkheads and decks in good condition			SOLAS 74/88 Reg. II-2/42 SOLAS 74/00 Reg.II-2/9
	Penetrations of ventilation ducts cable penetration and pipes through “A” class bulk heads and decks in good order			
	Cable penetration in “A” or “B” class division in good condition			SOLAS 74/88 Reg. II-2/9.2
Fire doors	Operate satisfactorily			SOLAS 74/88 Reg. II-2/47 SOLAS 74/00 Reg.II-2/9
	Self-closing doors not to be fitted with hold-back hooks, rope or wedge		For 81 NS	
	Condition of door, door frame and door hinge			
Skylights	Closing arrangements in good order			SOLAS 74/88 Reg. II-2/11.2.2, SOLAS 74/00 Reg. II-2/9.5.2.2
	Skylights to be of steel and not contain glass panels		For 81 NS	
Fire dampers	Operate satisfactorily			SOLAS 74/88 Reg. II-2/5.1.4 SOLAS 74/00 Reg. II-2/5.2
	Cargo holds			
	Engine room			
	Accommodation spaces			
	Control stations			
	Other spaces			
	Clear marking of “Close-Open” No hole/defection of dampers			
Main fire pumps	Operate satisfactorily			SOLAS 74/88 Reg. II-2/4 SOLAS 74/00 Reg.II-2/10.2
	Proper pressure maintained			
	Pressure gauges in good order			
Emergency fire pump	Operates satisfactorily			
	Proper pressure maintained			
	Pressure gauges in good order			
	Prime mover in good condition			
	Exhaust gas piping in good order			
Fire main piping	No leakage, heavy wastage in lines			
	No doublers, clamps, soft patches in lines			
Isolation valves	Operate satisfactorily			
Hydrants	Fire hoses easily coupled to hydrants			
	Satisfactory operation of valves			
	Valve handles not broken			



Item	Check Points	Satisfied/Not	Remarks	Reg.
Fire hoses	All hoses in good condition, without leakage			SOLAS 74/88 Reg. II-2/4 SOLA74/00 Reg.II-2/10.2
	Length of fire hoses in machinery spaces not more than 15 m			
	Length of fire hoses in other spaces and open deck not more than 20m			
	Length of fire hoses for open deck not more than 25m; on ship with a max. breadth in excess of 30m			
	Checking the number of hoses acc. to the fire control plan			
	Complete with nozzle and couplings			
Nozzles	All nozzles in good condition, without leakage			SOLAS 74/88 Reg. II-2/4 SOLA74/00 Reg.II-2/10.2
	- Jet type nozzles, and jet/spray dual type in engine room - Operation of easy change mode		For 81 ES	
	- Jet/spray dual type with shut-off device for all nozzles - Operation of easy change mode and shut-off devices		For 81 NS	
Stowage boxes of fire hoses and nozzles	Stowed in good condition and easily usable			SOLAS 74/88 Reg. II-2/6 SOLAS 74/00 Reg.II-2/10
	Clearly painted (red color) boxes			
Portable fire extinguishers (foam, dry power, CO <sub>2</sub> )	Checking the number of portable fire extinguishers of each type according to the fire control plan			SOLAS 74/88 Reg. II-2/6 SOLAS 74/00 Reg.II-2/10
	Cylinders in good condition, without serious corrosion/damage			
Portable foam applicator unit	Checking the air-foam nozzle, portable tank of foam making liquid, and one spare tank		For 81 NS	SOLAS 74/88 Reg. II-2/6 SOLAS 74/00 Reg.II-2/10
	Testing the connection to fire main by a fire hose			
	Condition of stowage container in good order			
	Validity of foam making liquid: three years			
Foam type fire extinguisher of 135 liters capacity or equivalent in firing space of boiler and in spaces of fuel oil system	Visual condition in good order, without wastage		For 81NS	SOLAS 74/88 Reg. II-2/7.1.3 SOLAS 74/00 Reg.II-2/10.5
	Easily usable condition			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Foam type fire extinguishers of 45 liters capacity or equivalent in engine room	Visual condition in good order			SOLAS 74/88 Reg. II-2/7.2
	Easily usable condition			SOLAS 74/00 Reg.II-2/10.5
Fixed fire extinguishing arrangement in E/R, cargo spaces and cargo pump room* (CO <sub>2</sub> or Halon, foam, water spray)	Piping in lines in good order, without leakage or no heavy corrosion			SOLAS 74/88 Reg. II-2/7.1.1, 53 SOLAS 74/00 Reg.II-2/10.5.1, 1, 10.7  *Cargo pump R/M:(For 00NS) SOLAS 74/00 Reg.II-2/10.9
	Regular checking of lines by air blow or water flow test			
	CO <sub>2</sub> or Halon cylinders to be level/weight measured. Proper test certificate on board			
	Effectiveness of foam or dry chemical extinguishing medium (Proper quantity, sample analysis)			
	Testing the audible alarm for the release of gas (CO <sub>2</sub> or Halon)			
	Water mist system is not manual mode and water supply valve to be opened			
Fire detection	Regular checking of the detection system and fire alarm			SOLAS 74/88 Reg. II-2/13 SOLAS 74/00 Reg.II-2/7
Fuel oil tank shut-off valves; Over 500L: ships built on and after 1 July 1995 Over 1000L: ships built before 1 July 1995	- All valves to be closed by remote control from outside of E/R - Satisfactory operation of valves			SOLAS 74/88 Reg. II-2/15.2 SOLAS 74/00 Reg.II-2/4.2.2
	- In case that shut-off valves are operated by air, the air cylinder is always charged with correct pressure - Pressure gauge in good condition			
Emergency stop of fans and fuel oil pumps	Satisfactory operation of emergency stop			SOLAS 74/88 Reg. II-2/11.4 SOLAS 74/00 Reg.II-2/5.2
Means of isolating the fuel supply to individual engines	Satisfactory operation of means to isolate the fuel supply		For 00NS	SOLAS 74/00 Reg.II-2/4.2.2

Item	Check Points	Satisfied/Not	Remarks	Reg.
Fireman's outfit	Two (2) sets for cargo ships Four (4) sets for tankers			SOLAS 74/88 Reg. II-2/17 SOLAS 74/00 Reg. II-2/10.10 Res.MSC.338 (91) and Res. MSC.339(91)
	Stowage condition in good order according to the fire control plan			
	Protective clothing, boots and gloves, helmet, electric safety lamp, axe are easily usable condition			
	Breathing apparatus with a smoke helmet or smoke mask and air pump, with proper length of air hose, or a self-contained breathing apparatus			
	200 % spare air cylinders available on board or 100 % + Air compressor			
	- A fireproof lifeline of sufficient length for each breathing apparatus with a snaphook. - Storage position is clearly marked (00NS)			
	Emergency lights in stowage positions			SOLAS 74/88 Reg. II-1/43
	1 set of spare cylinders for each mandatory breathing apparatus for fire drill if air compressor (means of recharging) is not provided		For all ships; By 1 January 2017.	SOLAS 74/00 Reg.II-2/15.2
	Fire-fighter's communication (Two-way explosion-proof portable radio)		For new ship 1 July 2014. For Exist. ship By 1 July 2018.	SOLAS 74/00 Reg.II-2/10
	Type of fire-fighter's outfits (Audible alarm and visual device of remaining cylinder air)		For new ship 1 July 2014. For Exist. ship By 1 July 2019.	FSS Code Chap.3, 2.1.2.2
Fire extinguishing arrangement in paint lockers	Fire fighting system in good order (Type of arrangement is in accordance with the requirements of the flag state. e.g. portable fire extinguisher is acceptable for ships flying flag of Panama, Japan, etc. (00ES))			SOLAS 74/88 Reg. II-2/19 SOLAS 74/00 Reg. II-2/10.2
International shore connection	At least one (1) shore connection with standard flange dimensions available on board			SOLAS 74/88 Reg. II-2/19 SOLAS 74/00 Reg. II-2/10.2
	Four (4) sets of bolts and nuts, each of 16 mm in diameter, 50 mm in length available on board			
	One (1) gasket packing available on board			
Inert gas system	Operates satisfactorily			SOLAS 74/88 Reg. II-2/62
	Alarms in the control panel function properly			SOLAS 74/00 Reg. II-2/4.5.5

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Emergency lights	Satisfactory lighting condition in engine room, corridors in accommodation, wheel house, control stations, outside passage			SOLAS 74/88 Reg. II-1/43
	Bulbs and glasses without damage			
Means of escapes	Ready for immediate use			SOLAS 74/88 Reg. II-2/45 SOLAS 74/00 Reg. II-2/13
	Steps and handrails without damage			
	Lighting operates satisfactorily			
Emergency Escape Breathing Devices (EEBD)	- Stowage condition in good order according to the fire control plan - Easily usable condition			SOLAS 74/00 Reg. II-2/13
	Suitable maintenance according to the Manufacturer's instruction			
	Confirmation of Air-pressure			
	Expiry date or Shelf life	Expiry (Shelf) date _____		
Fixed local application fire-fighting system	Piping, pump, valves and nozzles in good order, without leakage, heavy corrosion or damage		For 00NS	SOLAS 74/00 Reg. II-2/10.5.6
	Regular checking of lines by air blow or water flow test		For 00NS	
	Operate satisfactorily		For 00NS	
	Suction valve opened properly		For 00NS	
	Select automatic release mode		For 00NS and UMS	
Fire-fighting devices for deep fat cooking equipment	Visual condition in good order		For new installation on or after 1 July 2002	SOLAS 74/00 Reg. II-2/10.6.4
	Operate satisfactorily			
Protection of cargo pump room	Operate satisfactorily			SOLAS 74/00 Reg. II-2/4.5.10
Helicopter facilities	Arranged in accordance with the plan for Helicopter Facilities			SOLAS 74/88 Reg. II-2/18.8 SOLAS 74/00 Reg. II-2/18
	Fire-fighting appliances in good order			SOLAS 74/00 Reg. II-2/18
Fixed fire extinguishing system for exhaust ducts from galley ranges	Visual condition in good order			SOLAS 74/88 Reg. II-2/16.7
	Operate satisfactorily			SOLAS 74/00 Reg. II-2/9.7.5

\* Maintenance, testing and inspections for fire fighting appliances (SOLAS 74/00 Reg. II-2/14.2.2.1) are to be carried out in accordance with the maintenance plan (SOLAS 74/00 Reg. II-2/14.2.2.2) including the Flag special requirements prepared by company.

**Table 9. Radio Installation**

Item	Check Points	Satisfied/Not	Remarks	Reg.
VHF installation	Function satisfactorily (DSC to be checked)			SOLAS 74/88 Reg. IV/7
MF installation	Function satisfactorily (DSC to be checked)			SOLAS 74/88 Reg. IV/8,9,10, 11
MF/HF installation	Function satisfactorily (DSC to be checked)			
INMARSAT-C	Function satisfactorily (Include EGC receiver)			
NAVTEX receiver	Function satisfactorily			SOLAS 74/88 Reg. IV/7.1.4
Satellite EPIRB	Function satisfactorily			SOLAS 74/00 Reg. IV/15.9
	Validity of battery			
	Expiry date of free float sensor			
	Annual onboard test	Last date _____	Shall be conducted by approved service firms.	
	Shore based maintenance	Last date _____	Shall be conducted by approved service station, at intervals not exceeding 5 years.	
Sources of energy	Main source in good order			SOLAS 74/88 Reg. IV/13
	Emergency source in good order			
	Reserve source in good order (Batteries in good condition as a result of measuring specific gravity of acid, liquid level and terminal voltage)			
	AC-DC change-over in good order			
Antenna	Satisfactory condition, without damage or missing components			SOLAS 74/88 Reg. IV/6
	Antenna masts and brackets in good condition, without heavy corrosion or wastage			
Tools and spares	Available on board			SOLAS 74/88 Reg. IV/15
Maintenance records	Available on board (including EPIRB on-board annual maintenance and shore based maintenance)			
Radio log book	Proper records in the log books Daily/Weekly/Monthly check			SOLAS 74/88 Reg. IV/17
List of call signs	Up-to date (the last editions)			ITU RR S20

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Item	Check Points	Satisfied/Not	Remarks	Reg.
List of coast stations	Up-to date (the last editions)			
List of radio determination and special service station	Up-to date (the last editions)			
Manual for use by the maritime mobile and maritime satellite station	Up-to date (the last editions)			
Clock	Operates satisfactorily			
Lighting in radio space	Normal and emergency lights in good condition			SOLAS 74/88 Reg .IV/6

**Table 10. Load Line**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Freeboard marks	Clearly marked on shell plating each side			ILLC AX I Reg.5, 6
Triangular mark (for bulk carrier of alternate loading)	Condition of Triangular mark			SOLAS 74/00 Reg. XII/8
Superstructure end bulkhead	No heavy wastage exceeding permissible limit			ILLC AX I Reg.11
Doors of all access openings in bulkhead at ends of enclosed superstructures.	Effective weathertightness			ILLC AX I Reg.12
	No heavy corrosion, holes			
	Condition of gaskets and clamping devices in good order			
Access hatches	Effective weathertightness			ILLC AX I Reg.13,14
	Hatch coamings in good condition without heavy wastage or holes			
	Condition of gaskets and clamping devices in good order			
Cargo hatches	Effective weathertightness			ILLC AX I Reg.13 to 16
	Hatch coamings and stays in good condition without heavy wastage or holes			
	Hatch covers in good condition without heavy wastage or holes			
	Condition of gaskets and clamping devices in good order			
	Where rod cleat are fitted; Condition of rod, washer or cushions			
	Condition of U brackets for quick acting cleats			
	Battens and wedges available on board in good order			
Tarpaulins in good condition without holes				
Owner's inspection and maintenance of bulk carrier hatch covers	The Hatch Cover shall be inspected in accordance with requirement of IMO Res. MSC.169(79)			SOLAS 74/00 Reg. X/7.2
Machinery space openings	Effective weathertightness			ILLC AX I Reg.17
	Covers, casings and coamings in good condition without heavy wastage or holes			
Manholes, flush scuttles	Effective weathertightness			ILLC AX I Reg.18
	Covers and bolts in good condition without heavy wastage			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Deckhouses, companionways with openings in freeboard deck	Effective weathertightness			ILLC AX I Reg.18
	Bulkhead plating in good condition without heavy corrosion or holes			
	Doors in good condition without heavy corrosion or holes Gaskets and clamping devices in good order			
Ventilators	Coamings and head in good condition without heavy corrosion, holes			ILLC AX I Reg.19
	Closing covers in good condition efficient weathertightness			
	Gaskets, clamping devices in order			
	Fire damper in good condition without heavy corrosion and holes			
Air pipes	Coamings and head in good condition without heavy corrosion or holes			ILLC AX I Reg.20
	Air pipe heads in good condition without heavy corrosion or holes			
	Floats in pipe heads in good order			
	Wire gauzes (mesh) in good condition		For oil tanks only	
Cargo ports and similar openings	Effective weathertightness			ILLC AX I Reg.21
	Steel plating and attachments in good condition without heavy wastage			
Scuppers, inlets, discharges	Distance pieces in good condition without heavy corrosion or holes			ILLC AX I Reg.22
	Non-return valves in good order without heavy corrosion or holes			
Side scuttles	Effective watertightness			ILLC AX I Reg.23
	Deadlights in good order			
Freeing ports	Draining arrangements in good order			ILLC AX I Reg.24
Bulwarks and stays, guard rails	Condition in good order without heavy corrosion, holes or cracks			ILLC AX I Reg.25
Life lines, gangways, passages	Condition in good order without heavy corrosion, missing components or holes			
Uprights, lashings	Sockets, eye plates, stanchions in good condition without heavy corrosion, holes or cracks		For timber carriers only	ILLC AX I Reg.44



**Table 11. Hull Construction and piping on deck**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Main deck plating Cross deck plating	Condition in good order (No heavy wastage, corrosion, cracks)			SOLAS 74/88 Ch.II-1 Part B
F'cle deck plating, Poop deck plating	Condition in good order (No heavy wastage, corrosion, cracks)			
All piping on deck with valves	Condition in good order (No heavy wastage, corrosion, cracks)			
Electric cable conduit	Condition in good order (No heavy wastage, corrosion, cracks)			
Cargo holds	Bulkheads, frames, tanktop plating in good condition (No heavy corrosion, wastage, holes or cracks)			SOLAS 74/88 Ch. II-1 Part B
	Access ladders, piping in good condition. (No heavy wastage, holes)			
Ballast tanks	No leakage, damage			
	Bulkheads (trans/longl.), longitudinals, transverse rings, horizontal girders, other members in good condition (No heavy corrosion, wastage, holes or cracks)			
	Access ladders, piping in good condition. (No heavy wastage, holes)			
	Permanent means of access (PMA) in line with ship structure access manual (*if applicable)			
Cargo tanks	No leakage, damage			
	Bulkheads (trans/longl.), longitudinals, transverse rings, horizontal girders, other members in good condition (No heavy corrosion, wastage, holes or cracks)			
	Access ladders, piping in good condition. (No heavy wastage, holes)			
	Permanent means of access (PMA) in line with ship structure access manual (*if applicable)			
Fuel oil tanks	No leakage, damage			
	Bulkheads (trans/longl.), longitudinals, transverse rings, horizontal girders, other members in good condition (No heavy corrosion, wastage, holes or cracks)			
	Access ladders, piping in good condition. (No heavy wastage, holes)			
Remarks*: To be applied for oil tanker of 500 G/T and over and bulk carriers of 20,000 G/T and over, which are constructed on or after 1 January 2006.				

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Other compartments (Bos'n store, deck stores, etc.)	Bulkheads (trans/longl.), longitudinals, transverse rings, horizontal girders, other members in good condition (No heavy corrosion, wastage, holes or cracks)			SOLAS 74/88 Ch.II-1 Part B
Pump room	Bulkheads, longitudinals, web frames, other members in good condition (No heavy corrosion, wastage, holes or cracks)			
	Access ladders, piping in good condition (No heavy wastage, holes)			
	Particular care to be taken to ensure electrical equipment in good order, lights (explosion proof)			
	Protection of cargo pump room (bilge alarm, gas monitoring system, temperature sensor, inter-lock system) working satisfactorily			SOLAS 74/00 Ch.II-2 Reg.4.5.10
Water ingress alarm system	Working satisfactorily			- For Bulk Carrier SOLAS 74/0Reg. XII-12 - For Cargo Ship SOLAS 74/00 Reg.II-1/23.3
Remote pump control system (F.P.T, bos'n store) (for bulk carrier)	Working satisfactorily			
Ship identification number				SOLAS 74/00 Reg. XI-3
High velocity P/V valve	Working satisfactorily (No sticking/clogging by solidifying substances)			

**Table 12. Machinery in Engine room**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Main engines	Operate satisfactorily			SOLAS 74/88 Ch.II-1 Part C
	Safety and alarm devices function properly			
	Remote control functions properly			
	No leakage of oil/water			SOLAS 74/88 Ch. II-2/15.2 SOLAS 74/00 Ch. II-2/4
	Jacketed High Press. FO pipes in good order			
	FO leak alarm in good order			
Generator engines	Operate satisfactorily			SOLAS 74/88 Ch.II-1 Part C
	Safety and alarm devices function properly			
	Remote and automatic control functions properly			
	No leakage of oil/water			SOLAS 74/88 Ch. II-2/15.2 SOLAS 74/00 Ch. II-2/4
	Jacketed High Press. FO pipes in good order			
	FO leak alarm in good order			
Boilers	Operate satisfactorily			
	Safety and alarm devices function properly			
	Remote and automatic control function properly			
	Pressure gauges in good order, and calibration is made every year			
	No leakage of steam/water/oil			
	Water level gauges in good order			
Stern tube seal	No leakage of oil/Sea water			SOLAS 74/88 Ch.II-1 Part C
Essential machinery	Operate satisfactorily			
	Safety and alarm devices function properly			
	Remote and automatic control function properly			
	No leakage from pump grand			
	Meters and gauges in good order			
Piping	No heavy corrosion or leakage			
	No soft patches/doublers/cement box			
	All valves operate satisfactorily			

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Item	Check Points	Satisfied/Not	Remarks	Reg.
Bilge lines	Bilge pumps, pipings in good order			SOLAS 74/88 Ch.II-1 Part C
	Emerg. Bilge suction Valve operate satisfactorily			
Insulation of pipes	Condition in good order			
Overall of E/R	Cleanliness of E/R (Must be clean without rubbish or waste oil)			SOLAS 74/00 Ch. II-2/4
	Guards and fencing (Protection covers and/or guards)			
	All Meters and Gauges in good condition			
	Self-closing device for sounding pipe of FO tank in good condition			SOLAS 74/88 Ch. II-2/15.2
	Insulation for all surfaces of machinery with high temp. above 220°C			SOLAS 74/00 Ch. II-2/4
Automatic control system	Engine Telegraph			SOLAS 74/88 Ch.II-1 Part C Part E:UMS
	Alarm printer		(UMS)	
	Engine Console			
	Extension alarm		(UMS)	
	M/E operation from Bridge		(UMS)	

**Table 13. Electrical Equipment**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Lighting in E/R	All lights in good order			SOLAS 74/88 Ch.II-1 Part D
	Protection covers or guards in good order			
Lighting in accommodation spaces	All lights in good order			
	Protection covers or guards in good order			
Lighting in control station, working room, steering room and other spaces	All lights in good order			
	Protection covers or guards in good order			
Emergency cables	Condition in good order (No exposed wire, heavy corrosion, especially on weather deck)			
Emergency lights	All lights in good order without damage			
Anti-explosion lights in dangerous spaces, pump room, battery room, paint locker etc.	All lights in good order			
	No broken covers and guards			
	Tightening handles available on board			
Insulating mats around MSB, ESB	Insulating mats available on board or insulation cement permanently laid up on the floor			
Insulation resistance	No alarm of low insulation			
Penetration in fire –resisting divisions	Filling material in good order (no clearance)			SOLAS 74/88 Ch.II-2 Part C
Emergency or common batteries	All batteries in good order (Specific gravity of acid, liquid level and terminal voltage)			SOLAS 74/88 Ch.II-1 Part D
	Maintenance records to be updated			
Emergency generator	Operate satisfactorily			SOLAS 74/88 Ch.II-1 Part D
	1 <sup>st</sup> , 2 <sup>nd</sup> starting arrangement in good order			

**Table 14. Mooring Arrangements**

Item	Check Points	Satisfied/Not	Remarks	Reg.	
Anchor & chain cables	Condition in good order, no heavy wastage, missing components or damage				
	Stowage condition in good order				
Windlass	Winches in good condition				
	Brake bands in good condition, no abnormal wear				
	Foundations, grating plates in good condition, no wastage, missing or broken sections				
	No any leaking oil from windlass				
Mooring system	Winches in good condition				
	Brake bands in good condition, no abnormal wear				
	Foundations, grating plates in good condition, no wastage, missing or broken sections				
	Sufficient ropes available on board and no fray or damage				
	Capstans operate satisfactorily				
Emergency Towing Arrangements (ETA)	Arrangements in good condition		For tankers gas, chemical of not less than 20,000 DWT		SOLAS 74/88 Reg. II-1/3-4
Towing and mooring fitting arrangement	Marking (SWL) on mooring, towing fittings and the fittings in good condition		For ships on or after 1 Jan 2007		SOLAS 74 Reg. II-1/3-8

**Table 15. Marine Pollution**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Oily water separator with pump	Operates satisfactorily			
	No visible oil in discharged water			
	No heavy corrosion, holes on the outer casing			
	Operation of valves in good order			
	Pressure gauges in good order			
	Sampling test for filtered water from test cock			
Discharge piping	No heavy corrosion, holes in lines			MARPOL I Reg.16, 17, 19
	All valves operate satisfactorily			
	No discharge pipes installed without approval of ClassNK			
	No oil trace in piping			
Sludge pump	Operates satisfactorily			
Standard discharge connection	Fitted in good condition			
15 PPM alarm	Operates satisfactorily		For ships of 10,000G/T and above	
	Alarm functions properly			
	Automatic stopping device functions properly			
ODM	Operates satisfactorily		For tankers only	MARPOL I Reg. 15(3) (b)
	Regularly check by the service engineers			
Oil/water interface detector	Available on board			
COW	Operation effective			MARPOL I Reg.13
	COW machine and piping lines in good order			
Garbage management	Pollution placard			MARPOL V
	Garbage management plan on board			
	Properly separate			
	Maintain a garbage log		Garbage Record Book shall be complied with IMO Res.MEPC.116 (51)	
Sewage treatment Plant/Sewage Holding Tank with pump	Operates satisfactory		400G/T and above or carry more than 15 persons	MARPOL IV
	Overboard valve in good order			
Standard discharge connection	Fitted in good condition			
Ozone-depleting substance	There is no substance on board except for listing on IAPP Cert			MARPOL VI

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Item	Check Points	Satisfied/Not	Remarks	Reg.
NOx	Engine parameters shall be corresponded to NOx Technical Files		For more than 130kW of diesel engine installed on ship constructed on or after 1 Jan. 2000	MARPOL VI
	Other			
SOx	Fuel oil change-over procedure for entering a SOx emission control area		If applicable	MARPOL VI Reg.14
	Record of the changeover to and from low sulphur content fuel during transit through a SOx emission control area		If applicable	
	Bunker receipts and the sample has been kept on board properly		Sulphur <3.5% (Cont. Area <0.1%) For ships 400GT and above	MARPOL VI Reg.18
	Record of the changeover to and from low sulphur content fuel during transit through a SOx emission control area		If applicable	
	Exhaust gas cleaning system operates satisfactory		If applicable	
Incinerator	Satisfactory installation and operation		For installed on or after 1 Jan. 2000	MARPOL VI Reg.16
	Alarm/Interlock			
	Warning and instruction plate are placed			
	Insulation			
	Training record of responsible personal for the operation of incinerator			
Hatch cover jack up hydraulic cylinder	No any oil leaking			MARPOL I



**Table 16. Cargo Handling Gear**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Masts, posts, booms, jibs including attachments (eye plates, heel pieces, gooseneck)	Condition in good order (No serious wear, heavy corrosion or damage)			ILO 152
Loose gear (blocks, sheaves, hooks, shackles, wire ropes, etc.)	Condition in good order (No heavy wear, corrosion or damage)			
	Distinguishing numbers stamped on loose gear			
	Test certificates available			
Periodical inspection by a competent person (NK surveyors)	The annual thorough survey (every year) is not over due	Last survey date:		
	The 5 yearly load test is not over due	Last survey date:		
	Correct endorsement of cargo gear booklet			
Marking SWL on Boom/hook	Condition in good order			

**Table 17. Accommodation**

Item	Check Points	Satisfied/Not	Remarks	Reg.
Toilets	- Flushing of toilets in good condition. - Toilets to be clean			ILO(including MLC,2006) STCW
	- Floor tiles in good condition without broken tiles - Floor to be clean			
	Floor drainage in good condition			
Shower rooms, washbasins, laundry room	- Spaces in good condition - Rooms to be clean			
	Hot water available for use			
Air ventilating in accommodation spaces	Ventilation heating/cooling spaces in good condition			
Medical equipment	Proper medical equipment available on board			
	Proper medicines available and within validity dates			
Sick bay	Clean and ready for emergency use			
Galley	Clean and with no rubbish			
	Floor tiles clean and not broken			
	Range hoods, ventilating opening with wire net to be clean of oil			
Mess rooms, recreation room and crew cabins	Clean and with no rubbish			
Provisions	Quantity and quality in good condition			
	Cold room temperature & cleanliness in good condition			
Cold room	Clean and cold temperature in good condition			
Lighting	Condition in good order			

# Checklist II

(For PSC inspection ---Checklist for the typical deficiencies---)

## Checklist for Port State Control

Typical deficiencies which were pointed out during Port State Control inspection have been identified and listed in the attached checklist.

The contents of the checklist are very simple and can be easily checked by crew during the voyage or before entering ports.

We sincerely hope this checklist will contribute to decreasing the number of detentions.

Remarks)

- 1) 'Activity of the recent Port State Control' or the detail of 'Statistical analysis of detained ships registered to ClassNK' are introduced in the Annual Report on Port State Control published by ClassNK which can be downloaded in ClassNK website as below address.  
(URL: [http://www.classnk.or.jp/hp/en/info\\_service/psc/](http://www.classnk.or.jp/hp/en/info_service/psc/))
- 2) Items on the checklist do not cover the whole scope of a Port State Control inspection. Therefore, you are recommended to also use other checklists such as Checklist I, III, IV and V on 'GOOD MAINTENANCE ON BOARD SHIPS' during the shipboard maintenance.

**Check list for most common deficiencies**

**Fire Safety Measures**

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action	
Fire-Dampers, Valves, Quick Closing Devices, Remote Control, etc.	Inoperable closing devices, wasted fire damper,	No corrosion or wastage on the casing of ventilator for engine room/funnel damper?			
	Seized Emergency shut-off valves on FO tanks	Is the internal fire damper operating normally?			
	LO tanks closing valve disable in the open position	Are Emergency shut-off valves on FO tanks operating normally?			
	Inoperable or low pressure emergency fire pumps	Are closing valves on LO tanks properly closed?			
	Fire Pumps	Wastage or leaking of Fire main	Are Emergency fire pumps operating normally?		
			Is delivery pressure normal?		
			Is priming pump operating normally?		
		Inoperable isolating valve	No corrosion or wastage of the Fire main?		
			No leakage from Fire main in running condition?		
			Is isolating valve operating normally?		
Prevention (Fire protection)	Damage to fire proof door	No damaged Fire door including door packing on door frame?			
	Damage to self-closing proof door	Is self-closing device of Fire doors operating normally?			
	Damage to fire protection on Escape trunk	No damaged fire protection for Escape trunk or door?			
	Damage/missing to cable penetration material	No damaged/missing of insulation material for fire division bulkhead/deck?			
	Damage/missing to fire protection material	No damaged/missing parts of fire protection material in Engine room?			
	Defective explosive proof lamp	No damaged explosive proof lamp?			
	Fixed Fire Extinguishing system	Inoperative CO2 F.F.E. system	No disconnected CO2 cylinder pilot lines?		
		Wastage of CO2 pipeline	No wasted CO2 pipeline?		
		Wasted/holed CO2/Foam fixed fire extinguishing system	Is CO2/Foam tested by air blow or water flow?		
		Inoperative of hyper mist F.F.E. system	Is hyper mist system switched on and suction valve opened?		

Fire Fighting Equipment	Missing service report of Fire Extinguishers	Is there an effective service report kept onboard?		
	Defective hose/nozzle	No damaged Fire hose/nozzle?		
Jacketed piping system for high pressure fuel lines	Improper modification of drain line, leakage alarm system	Are the prevention measures correctly constructed? Are leakage alarm systems operating normally?		
Ready availability of Fire Fighting Equipment	Improper arrangement of portable fire extinguishers	Is a portable fire extinguisher arranged as shown in the drawing?		
	Seized valve of fire main hydrant	Are all hydrants operating normally?		
Personal equipment	Defective Fireman's outfit	No wasted Fireman's outfit?		
	Unserviceable Breathing Apparatus	Is the cylinder for Breathing Apparatus serviced properly?		
Emergency escape breathing device (EEBD)	Inoperative of EEBD	Are all EEBD with sufficient pressure?		
Fire detection	Inoperative Fire Detection System	Is fire detection system operating normally?		

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action
Lifeboats	Inoperable lifeboat engine	Is Lifeboat engine operating normally?		
	Wasted/holed shell	No damage/wastage of shell or equipment?		
	Inoperative of steering system	Is steering system operating normally?		
	Inoperable/inadequate resetting 'on-load' release gear	Is on-load release gear operating normally? Is on-load release gear properly resettled?		
	Equipment missing/expired	No expired Lifeboat inventory or missing equipment?		
	Embarkation Arrangements for Survival Craft	Wastage of Embarkation ladder	No wastage of Embarkation ladder?	
Damaged light		No damaged lights or cables?		
Wasted/holed davit		No corrosion or wastage of Lifeboat davit?		
Launching Arrangements for Survival Craft	Wasted sheaves	No corrosion or wastage of sheaves or hooks?		
	Service certificate expired	Is there an effective service report kept onboard?		
	Unsatisfactory storage	Are Liferafts properly stowed?		
Inflatable Liferafts	Incorrectly installed hydrostatic release and painter on float free liferaft	Are hydrostatic release and painter on float-free liferaft properly stowed?		
	Defective attachment	No wasted Lifebuoys(including mark/line/refractive tape)?		
	Smoke signal expired/Self-igniting light out of work	No expired smoke signal and Self-igniting light properly work?		

**MARPOL-ANNEX I**

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action
Oil filtering equipment (Oily-Water Separating Equipment)	Inoperable separator	Is Oil filtering equipment operating normally?		
	Wasted and holed separator casing	No corrosion or wastage of the casing of Oil filtering equipment?		
	Wasted discharge line	No corrosion or wastage of the discharge line from Oil filtering equipment?		
	Oily and dirty inside discharge pipe			
	Fitting of by-pass line	No by-pass line fitted to oil filtering equipment?		
15ppm alarm arrangement	Failure of alarm	Is the 15ppm-alarm arrangement operated normally?		
	Inoperable automatic stopping device	Is the automatic stopping device for 15ppm-alarm arrangement operating normally?		
SOPEP	Not updated	Are list of coastal state contacts updates?		

**Propulsion & Auxiliary Machinery**

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action
Cleanliness of Engine Room	Excessive oil in Engine Room	Is the engine room dirty?		
Propulsion main engine/Auxiliary engine	Leakage of fuel oil	No leakage of fuel oil or lubricating oil from main engine / auxiliary engine or other piping's?		
	Auxiliary engine	Are stand by auxiliary engines ready to use?		

**Structure Conditions**

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action
Beam, Frames, Floors-Corrosion	Wasted frames in cargo holds	No wastage of hold frames, beams, etc.?		
	Wasted longitudinal and transverse webs in WBTs	No wastage of longitudinals, transverse webs in WBT?		
	Bulkheads - Corrosion	Wasted/holed bulkheads	No wastage/holes of bulkheads in each compartment?	

**Emergency Systems**

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action
Emergency Lighting, Batteries & Switches	Deficient battery/emergency generator	Is emergency generator/battery operating normally?		
	Inoperable emergency lighting	Are all emergency lights operating normally?		

(Checked by : )

**Load Lines**

Item	Typical deficiencies	Check items	Condition	Action
Ventilators, Air Pipes, Casings	Wasted/holed ventilator, air pipes	No wastage/holes in air pipes or ventilators?		
	Damaged float of air pipe head and closing device	No damage/stuck floats of air pipe head and closing device?		
Hatch cover, Tarpaulins, Hatch coaming	Wasted/holed hatch cover, hatch coaming	No corrosion or wastage of hatch covers/coamings?		
	Securing device defective/missing	No excessive wear/damaged or missing cargo securing device including cleat-support brackets?		
	Rubber packing damaged/missing	No damaged or missing rubber packing?		
Weather tight doors	Defective weather tightness	Does the weather tight doors maintain weather tightness?		
	Wastage/defective doors & packings	No corrosion or wastage of doors or packings?		
Multiple Load Line Certificates	Different and valid LL certificates kept onboard	Are LL certificates not in use kept in a sealed envelope in the Master's safe?		

(Checked by : )

**Safety of Navigation**

Item	Typical deficiencies	Check items	Condition	Action
Navigation equipment	Inoperative of navigation equipment	Are navigation equipment operating normally?		
	Charts	Are the latest navigation charts provided onboard?		
Nautical Publications	Navigation charts not updated/correct	Are navigation charts for the intended voyage provided onboard?		
	Navigation charts for intended voyage not available	Are latest nautical publications (tide table, list of lights, list of radio signals, etc.) provided onboard?		
	Nautical publications (tide table, list of lights, list of radio signals, etc.) not updated/correct	Are latest corrected supplements of nautical publications provided onboard?		
	Nautical publications incomplete / missing	Are navigation lights properly fitted as shown in the drawings?		
Lights, shape, sound-signals	Miss-fitting of navigation lights	Is daylight signaling light operating normally?		
	Failure of daylight signaling light			

(Checked by : )

Item	Typical deficiencies	Check items	Condition	Action
MF/HF Radio Installation	Not operable	Is MF/HF Radio operating normally?		
	Poor knowledge of GMDSS officer	Is GMDSS officer familiar with operation (including function test) of GMDSS equipment?		
Reserve source of energy	Low voltage of batteries	Is DC power operating normally?		

(Checked by : )

**Certification and Documentation - Crew Certificate**

Item	Typical deficiencies	Check items	Condition	Action
Endorsement by flag states	Missing of endorsement on STCW certificates by flag states	Are STCW certificates endorsed properly by the flag states?		
Certification of Master & Officers	Invalid certificates onboard	Do all crew have valid certificates?		
	Validity of certificates expired	No expired officers certificates?		

(Checked by : )

**SOLAS Related Operational Defects**

Item	Typical deficiencies	Check items	Condition	Action
Abandon ship drills	Not familiar with the drill	Is the abandon ship drill and education, etc. executed?		
Fire drills	Not familiar with the drill	Is the fire drill and education, etc. executed?		
Enclosed space entry and rescue drills	Not familiar with the drill	Is the enclosed space entry and rescue drill and education, etc. executed?		
MARPOL equipment operation	Not familiar with operation of OWS/Incinerator/ Sewage treatment plant	Is demonstrate operation of OWS/Incinerator/Sewage treatment plant and education, etc. executed?		



### Checklist III (for Safety Management System)

Item	Check points	ISM Code	Satisfied	
			Yes	No
A copy of DOC	DOC is effective for ship. - Type of ship - Flag state - Company name - Due date and Annual Verification within 3 months before and after the anniversary date	13	<input type="checkbox"/>	<input type="checkbox"/>
Policy	Ship's personnel are familiar with a Company safety and environmental protection policy.	2.2	<input type="checkbox"/>	<input type="checkbox"/>
Resources & Training	The ship is manned with qualified, certified and medically fit seafarers in accordance with STCW 2011 Edition & Flag requirements. (Refer to CHECKLIST I – Table 3. <b>Miscellaneous Certificates</b> ).	6.2	<input type="checkbox"/>	<input type="checkbox"/>
	On board training in support of the SMS have been followed according to Procedures.	6.5	<input type="checkbox"/>	<input type="checkbox"/>
	Onboard Communication Where the multi-national crew members are onboard: 1. Working language onboard is established. 2. Master's order or job instructions in working language are clearly understood by crew. 3. All members of crew can communicate effectively in the execution of their duties. 4. Poster / Placard / Relevant documentation on the SMS in a working language or language understood by the ship's personnel.	6.6 / 6/7	<input type="checkbox"/>	<input type="checkbox"/>
Key Shipboard Operation [Common]	The watch-keeping and rest hours has been kept as required.	7	<input type="checkbox"/>	<input type="checkbox"/>
	All officers are conversant with the documented procedures on their assigned duties.	7	<input type="checkbox"/>	<input type="checkbox"/>
	The crew is familiar with the garbage collection and disposal procedure.	7	<input type="checkbox"/>	<input type="checkbox"/>
	Personnel are familiar with procedure requirements for works onboard such as enclosed space entry which may create hazardous situations.	7	<input type="checkbox"/>	<input type="checkbox"/>
[Deck]	All officers are familiar with following equipment available onboard. - Navigation, GMDSS, AIS, BNWAS, ECDIS	7	<input type="checkbox"/>	<input type="checkbox"/>
	Corrections of charts and Nautical Publications are up to date to the latest Notice to Mariners.	7	<input type="checkbox"/>	<input type="checkbox"/>
	Voyage planning is prepared with appropriate large scale chart.	7	<input type="checkbox"/>	<input type="checkbox"/>
[Engine]	Insufficient skills for smooth function test for 15ppm Bilge alarm	7	<input type="checkbox"/>	<input type="checkbox"/>
	The engineers are familiar with FO/DO Change-over for SOx Emission CA & Bunkering procedures.	7	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Preparedness	All crewmembers were familiar with their designated muster stations.	8.2	<input type="checkbox"/>	<input type="checkbox"/>
	The crews know the position of isolation valve on Fire main line	8.2	<input type="checkbox"/>	<input type="checkbox"/>
	The crew are familiar with boat drill	8.2	<input type="checkbox"/>	<input type="checkbox"/>
	The Emergency Contact Numbers are updated.	8.3	<input type="checkbox"/>	<input type="checkbox"/>
	Crew can start the engine of lifeboat / rescue boat.	8.2	<input type="checkbox"/>	<input type="checkbox"/>

	Crew are familiar with fire drill including the usage of fireman's outfit	8.2	<input type="checkbox"/>	<input type="checkbox"/>
Non-conformity, Accident	Any non-conformities have been reported to the Company	9.1	<input type="checkbox"/>	<input type="checkbox"/>
	The Company has taken corrective action for the reported non-conformities	9.2	<input type="checkbox"/>	<input type="checkbox"/>
	The deficiencies pointed out by last PSC have been reported, investigated and analyzed for avoidance of recurrence. All Non-conformities and findings in order	9.1/ 9.2	<input type="checkbox"/>	<input type="checkbox"/>
Maintenance (Grounds for ISM deficiencies)	(a)Hull structure and Hatch cover, etc. Corroded or fractured hold frames and brackets, Wasted hatch cover packing and cleat, Wasted or deformed watertight /weather tight door, windlass /winch brake lining worn-out	10.2. 1	<input type="checkbox"/>	<input type="checkbox"/>
	(b) Equipment in Engine room Oil Leakage, Broken pressure gauge, Malfunctioned sewage treatment/Emergency Generator, Insufficient function oil filtering unit& 15ppm alarm, corroded /holed sea water pipe, , of oily water separating plant, In-operable emergency shut off valves for oil tanks,	10.2. 1	<input type="checkbox"/>	<input type="checkbox"/>
	(c) Navigation equipment Malfunctioned VDR, AIS, Echo Sounder, Radar, GMDSS Navigation light, Dropped emergency power source of GMDSS, Overdue or missing record of VDR Annual Maintenance	10.2. 1	<input type="checkbox"/>	<input type="checkbox"/>
	(d) Lifesaving appliances Life boat – engine not start(incl. dropped battery), damaged hull and outfitting, missed / expired equipment/ accessory , Launching appliance – no good condition of on-load-release, boat falls & hanging device and davit. Insufficient maintenance of life buoy, radar transponder, etc..	10.2. 1	<input type="checkbox"/>	<input type="checkbox"/>
	(e) Firefighting equipment/facilities Insufficient maintenance of Main/emergency fire pump, fire dampers, Fireman's outfit, Hydrant, Fire extinguisher, Leakage of F.O & L.O. etc. Tied-opened self-closing device of fire door	10.2. 1	<input type="checkbox"/>	<input type="checkbox"/>
	(f) Ventilators, Air vent. pipes Corrosion or holed coaming/vent/pipe head. Poor or no operation due to sticking, Corroded / broken closing device.	10.2. 1	<input type="checkbox"/>	<input type="checkbox"/>
Document Control	Valid Documents are available onboard the Vessel (Certificates, Inspection Reports ,SOLAS, MARPOL, STCW, etc.,)	11.2	<input type="checkbox"/>	<input type="checkbox"/>
	Obsolete documents have been removed from areas of work.	11.2	<input type="checkbox"/>	<input type="checkbox"/>
	In case Safety Management Manual is provided in both languages, both language Manuals were up to date together.	11.2	<input type="checkbox"/>	<input type="checkbox"/>
Review, verification	Office personnel carry out internal audit the vessel at intervals not exceeding 12 months, except exceptional circumstances.	12.1	<input type="checkbox"/>	<input type="checkbox"/>
External audit / PSC/ FSC	Records of external audit are available on board. Corrective actions have been taken timely, if any.	9.2	<input type="checkbox"/>	<input type="checkbox"/>

## Checklist IV (For International Ship and Port Facility Security)

	Items to be checked before entering port	Reference	Check	
			OK	NA
<b>Certificates &amp; Significant Documents</b>				
	Latest ISPS Code		<input type="checkbox"/>	<input type="checkbox"/>
	Valid ISSC (or Interim ISSC)	XI-2/9.2.1.1	<input type="checkbox"/>	<input type="checkbox"/>
	Latest approved SSP	A/9.1	<input type="checkbox"/>	<input type="checkbox"/>
	Current Security Level onboard & at the next port of call	XI-2/9.2.1.2	<input type="checkbox"/>	<input type="checkbox"/>
	Documentary evidence of declaration of the CSO for the vessel	A/11.1	<input type="checkbox"/>	<input type="checkbox"/>
	Documentary evidence for assignment of the SSO by the CSO	A/12.1	<input type="checkbox"/>	<input type="checkbox"/>
	SSO Certificate	STCW VI/5	<input type="checkbox"/>	<input type="checkbox"/>
	Certification in security awareness training or training on designated security duties	STCW VI/6	<input type="checkbox"/>	<input type="checkbox"/>
	Exchange of DoS (Declaration of Security) with port authority of next call	A/5	<input type="checkbox"/>	<input type="checkbox"/>
<b>Records</b>				
	All records shall be kept in the working language or language of the ship If languages used are not English, French or Spanish, a translation into one of those languages shall be included.	A/10.2	<input type="checkbox"/>	<input type="checkbox"/>
	Trainings	A/10.1.1	<input type="checkbox"/>	<input type="checkbox"/>
	Drills	A/10.1.1	<input type="checkbox"/>	<input type="checkbox"/>
	Drills when more than 25% of crew have been changed	B/13.6	<input type="checkbox"/>	<input type="checkbox"/>
	Exercises	A/10.1.1	<input type="checkbox"/>	<input type="checkbox"/>
	Change in security level	A/10.1.4	<input type="checkbox"/>	<input type="checkbox"/>
	Communications relating to the direct security of the ship	A/10.1.5	<input type="checkbox"/>	<input type="checkbox"/>
	Internal audits	A/10.1.6	<input type="checkbox"/>	<input type="checkbox"/>
	Periodic review of the SSA	A/10.1.7	<input type="checkbox"/>	<input type="checkbox"/>
	Periodic review of the SSP	A/10.1.8	<input type="checkbox"/>	<input type="checkbox"/>
	Maintenance & calibration of SSAS	A/10.1.10	<input type="checkbox"/>	<input type="checkbox"/>
	Testing of SSAS	A/10.1.10	<input type="checkbox"/>	<input type="checkbox"/>
	Last 10 calls at port facility	XI-2/9.2.3	<input type="checkbox"/>	<input type="checkbox"/>

	Items to be checked before entering port	Reference	Check	
			OK	NA
<b>Crew Familiarity</b>				
	Who is Company Security Officer	A/11.1	<input type="checkbox"/>	<input type="checkbox"/>
	Who is Ship Security Officer	A/12.1	<input type="checkbox"/>	<input type="checkbox"/>
	Where is the Designated access point during the port stay		<input type="checkbox"/>	<input type="checkbox"/>
	How does assigned crew control all visitors onboard (include stevedore) and made log		<input type="checkbox"/>	<input type="checkbox"/>
	How often does assigned crew check effects of visitor and made log		<input type="checkbox"/>	<input type="checkbox"/>
	Where the vessel restricted area		<input type="checkbox"/>	<input type="checkbox"/>
	How these restricted area to be controlled	B/9	<input type="checkbox"/>	<input type="checkbox"/>
	When does assigned crew conduct monitoring of deck & ship surrounding		<input type="checkbox"/>	<input type="checkbox"/>
	How loading of cargoes, ship's stores & spare parts to be controlled		<input type="checkbox"/>	<input type="checkbox"/>
	There are the persons whose are not subject to check of their effects		<input type="checkbox"/>	<input type="checkbox"/>
	When & How stowaway search to be conducted		<input type="checkbox"/>	<input type="checkbox"/>

## Checklist V (For Maritime Labour Convention, 2006)

Check points		Req. (MLC, 2006)	Check	Remark
<b>1</b>	<b>Minimum Age (Regulation 1.1)</b>			
1	The age is not lower than 16 or the minimum age specified in the DMLC Part II (whichever is the higher).	A1.1.1	<input type="checkbox"/>	at embarkation
<b>2</b>	<b>Medical Certification (Regulation 1.2)</b>			
1	Medical certificate contains the following information (in case they are required on the medical certificate form)	A1.2.1	<input type="checkbox"/>	at embarkation
-a	Full Name	-	<input type="checkbox"/>	
-b	Date of birth	-	<input type="checkbox"/>	
-c	Date of examination	-	<input type="checkbox"/>	
-d	Name, address, contact information and/or official stamp of the duly qualified medical practitioner and/or of a vision certificate, a person recognized by the national authority	-	<input type="checkbox"/>	
-e	Signature of the duly qualified medical practitioner or if a vision certificate, the person recognized by the national authority	-	<input type="checkbox"/>	
-f	Position/occupation : (deck, ,engineer, others to be specified)	-	<input type="checkbox"/>	
2	Medical certificate is dated prior to the seafarers beginning work on board	A1.2.1	<input type="checkbox"/>	
3	Medical certificate states that sight, hearing (color vision if applicable) are satisfactory	A1.2.6a	<input type="checkbox"/>	
4	Medical certificate clearly states that	A1.2.1 A1.2.6b	<input type="checkbox"/>	
-a	Seafarer is medically fit to perform the duty he/she is to carry out on board the ship	-	<input type="checkbox"/>	
-b	Seafarer is not suffering from any medical condition that is likely to be aggravated by service at sea or to render the seafarer unfit for such service or to endanger the health of other persons on board .	-	<input type="checkbox"/>	
5	Medical certificate is valid. If it is expired during a voyage, the duration of such condition is not more than 3 months.	A1.2.7a, A1.2.7b A1.2.8a, A1.2.8b A1.2.9	<input type="checkbox"/>	Before entering port
6	If seafarer without a valid medical certificate works on board the ship (e.g. for urgent cases). The permission for working on board the ship has been obtained.	A1.2.8	<input type="checkbox"/>	
7	Medical certificate is provided in English (in case International voyages)	A1.2.10	<input type="checkbox"/>	
<b>3</b>	<b>Qualifications of Seafarers (Regulation 1.3)</b>			
1	All seafarers have all required certification, qualification and certificate of training which are valid.	R.1.3.1 R.1.3.3	<input type="checkbox"/>	at embarkation
<b>4</b>	<b>Seafarers' employment agreements</b>			
1	The copy of valid SEA for all seafarers is available on board.	A5.1.5.4	<input type="checkbox"/>	at embarkation
2	All seafarers have a document containing a record of their employment. (such as a discharge book which does not contain statements as to the quality of the seafarer's work and payment of the seafarers' wages. ).	A2.1.1e A2.1.3	<input type="checkbox"/>	

	Check points	Req.(MLC,2006)	Check	Remark
3	A copy of standard form of SEA is available on board.	A2.1.2a	<input type="checkbox"/>	
4	The SEA is in English otherwise translation in English is attached (for ships engaged on international voyages).	A2.1.2a	<input type="checkbox"/>	
5	Seafarers have a complete employment agreements including following contents required.	A2.1.4		
-a	Seafarer's details: full name, date of birth or age, and birthplace.	A2.1.4a	<input type="checkbox"/>	
-b	The shipowner's name and address.	A2.1.4b	<input type="checkbox"/>	
-c	Start date of the employment agreements and the place where it was entered into.	A2.1.4c	<input type="checkbox"/>	
-d	The capacity in which the Seafarers is to be employed.	A2.1.4d	<input type="checkbox"/>	
-e	The amount of the Seafarer's wages or, where applicable, the formula used to calculate the wages.	A2.1.4e	<input type="checkbox"/>	
-f	The amount of paid annual leaves or, where applicable, the formula used to calculate it.	A2.1.4f	<input type="checkbox"/>	
-g	Termination conditions of the agreements and condition included regards minimum notice period (not to be less than 7 days).	A2.1.4g A2.1.5 A2.1.6	<input type="checkbox"/>	
-h	The health and social security protection benefits to be provided to the seafarers by the shipowner.	A2.1.4h	<input type="checkbox"/>	
-i	The Seafarer's entitlement to repatriation.	A2.1.4i	<input type="checkbox"/>	
-j	Reference to any relevant collective bargaining agreement, if applicable.	A2.5.2	<input type="checkbox"/>	
5	<b>Use of any licensed or certified or regulated private recruitment and placement service (SRPS) (Regulation 1.4)</b>	A2.1.4j	<input type="checkbox"/>	at embarkation
1	In case, the SRPS is located in the country ratified the Convention, there is documented evidence such as a valid license or certificate issued by the country.	R1.4.2 A1.4.2 A1.4.6	<input type="checkbox"/>	
2	In case, the SRPS is located in countries not ratified the Convention, there is the document (such as certificate issued by third party or flag state concerned or internal audit report prepared by the shipowner) showing that the shipowner has verified (as far as practicable) that the SRPS is operated in compliance with the requirements of MLC, 2006	R1.4.3 A1.4.9	<input type="checkbox"/>	
6	<b>Hours of work or rest (Regulation 2.3)</b>			regularly
1	A copy of the record of daily hours of work or rest is provided to all seafarers.	A2.3.12	<input type="checkbox"/>	
2	The records of daily hours of work or rest are endorsed by master or a parson authorized by master and the seafarers concerned properly.	A2.3.12	<input type="checkbox"/>	
8	<b>Accommodation (Regulation 3.1)</b>			regularly
1	Crew accommodation inspections have been conducted by the master or designated officer at appropriate interval. The inspections record has been maintained appropriately.	A3.1.18	<input type="checkbox"/>	
9	<b>On-board recreational facilities (Regulation 3.1)</b>			regularly
1	Recreational facilities inspections have been conducted by the master or designated officer at appropriate interval. The inspections record has been maintained appropriately.	A3.1.18	<input type="checkbox"/>	
10	<b>Food and catering (Regulation 3.2)</b>			regularly
1	Inspections have been conducted by or under the authority of the master at appropriate interval with respect to:	A3.2.7		
-a	Supplies of food and drinking water.	A3.2.7	<input type="checkbox"/>	
-b	All spaces and equipment used for the storage and handling of food and drinking water.	A3.2.7	<input type="checkbox"/>	

	Check points	Req.(MLC,2006)	Check	Remark
-c	Galley and other equipment for the preparation and the service of meals.	A3.2.7	<input type="checkbox"/>	
2	The inspections record has been maintained appropriately.	A3.2.7	<input type="checkbox"/>	
<b>11</b>	<b>Health and safety and accident prevention (Regulation 4.3)</b>			regularly
1	Living, working and training environment have been maintained safe and hygienic.	R4.3.1	<input type="checkbox"/>	
2	Seafarers are informed about the OSH policy and program.	A4.3.1a	<input type="checkbox"/>	
3	Reasonable precautions have been maintained appropriately.	A4.3.1b	<input type="checkbox"/>	
4	Special measures for occupational safety and health protection have been taken appropriately for seafarers of the under 18 years of age.	A4.3.2b	<input type="checkbox"/>	
5	Ship safety committee (for ships with 5 or more seafarers) is held at appropriate interval.	A4.3.2c A4.3.2d	<input type="checkbox"/>	
6	The minutes are recorded.	A4.3.2c A4.3.2d	<input type="checkbox"/>	
7	Issues are raised by the ship safety committee and safety inspections have been addressed in a timely manner.	A4.3.2c A4.3.2d	<input type="checkbox"/>	
8	On board occupational accidents, injuries and diseases are adequately inspected and reported.	A4.3.5	<input type="checkbox"/>	
9	Information concerning particular hazards on board ships is brought to attention of all seafarers by posting official notices and/or by providing training videos and/or brochures etc. containing relevant information.	A4.3.7	<input type="checkbox"/>	regularly
<b>12</b>	<b>On board medical care (Regulation 4.1)</b>			
1	Seafarers are received medical care and health protection services free of charge on board the ship or in a foreign port.	A4.1.1.d	<input type="checkbox"/>	
2	A medicine chest, medical equipment and medical guides have been maintained appropriately.	A4.1.4.a	<input type="checkbox"/>	
<b>13</b>	<b>On board complaint procedures (Regulation 5.1.5)</b>			at embarkation
1	All seafarers are given a copy of the onboard complaints procedures.	A5.1.5.4	<input type="checkbox"/>	
<b>14</b>	<b>Payment of wages (Regulation 2.2)</b>			regularly
1	All seafarers receive their wages in full accordance with their employment agreements at no greater than monthly intervals.	R2.2.1 A2.2.1	<input type="checkbox"/>	
2	All seafarers are given a monthly account of the payments due and the amounts paid, including wages, any additional payments, and any the rate of exchange used if applicable.	A2.2.2	<input type="checkbox"/>	
3	All seafarers are provided by the shipowner with a means to transmit all or part of their earnings to their families or dependants or legal beneficiaries.	A2.2.3 A2.2.4	<input type="checkbox"/>	
4	Any charge directed to the seafarers for such transmission of wages, including the currency exchange rates, is in accordance with the flag state requirements specified in the DMLC Part I.	A2.2.5	<input type="checkbox"/>	

# Appendix

(Photos of the typical deficiencies)

## 1. Mechanical Ventilator

Mechanical ventilators are to be properly maintained in good working condition and checked internally and externally. Check points are as follows:

### (1) Corrosion Holes and/or Wastage of the Casing of Ventilators

How to check:

Visual inspection and chipping/hammering

Check items:

Are there corrosion holes or wastage of the casing of ventilators?

Action to be taken:

Deteriorated casing of ventilators are to be cropped and renewed. (Repair by doubling plate and/or tape is not acceptable.)



Corrosion holes in the casing of ventilator



Wastage of the casing of ventilator



Corrosion holes in the casing of ventilator



Inappropriate temporary repair by tape



(2) Corrosion Holes and/or Wastage of Fire Dampers

- How to check: Operation test of fire dampers  
Open up inspection
- Check item: Are damper flaps structurally sound?  
Are there wastage and/or corrosion holes of fire dampers?
- Action to be taken: Deteriorated fire dampers are to be renewed.



Wastage/Corrosion holes in fire damper flap



After repair

(3) Marking of “Open-Shut” and Operation of Fire Dampers

- How to check: Visual inspection  
Operation test of fire damper
- Check item: Are “Open-Shut” clearly marked?  
Are the internal dampers operating normally?
- Action to be taken: “Open-Shut” are to be clearly marked.  
Inoperable handles are to be greased up.



No marking of “Open-Shut”



Clear marking of “Open-Shut”

## 2. Air Pipe and Natural Ventilator

Air pipes and natural ventilators are to be properly maintained in good condition and checked internally and externally. Check points are as follows:

### (1) Corrosion Holes and/or Wastage of Air Pipes

How to check:

Visual inspection and chipping/hammering  
Open up inspection

Check item:

Are there excess corrosion and/or wastage of air pipes and their heads?

Action to be taken:

Deteriorated air pipes and air pipe heads are to be renewed.  
(Repair by putty is not acceptable.)



Corrosion holes in air pipe head



Inappropriate temporary repaired by putty



Excess Corrosion of inside of air pipe head



Wastage of air pipe

### Damage and/or Stuck Disc Floats

How to check:

Open up inspection

Check item:

Are there damage and/or stuck of disc floats?

Action to be taken:

Damaged disk floats are to be renewed.

Stuck disk floats are to be adjusted.



Damage of disk float

### (2) Corrosion Holes and/or Wastage of Natural Ventilators

How to check:

Visual inspection and chipping/hammering

Check item:

Are there corrosion holes and/or wastage of ventilators?

Action to be taken:

Deteriorated ventilators are to be renewed.



Hole with inappropriate repair with tapes



Wasted gooseneck ventilator

(3) Missing Nuts and/or Bolts

How to check:

Visual inspection

Check item:

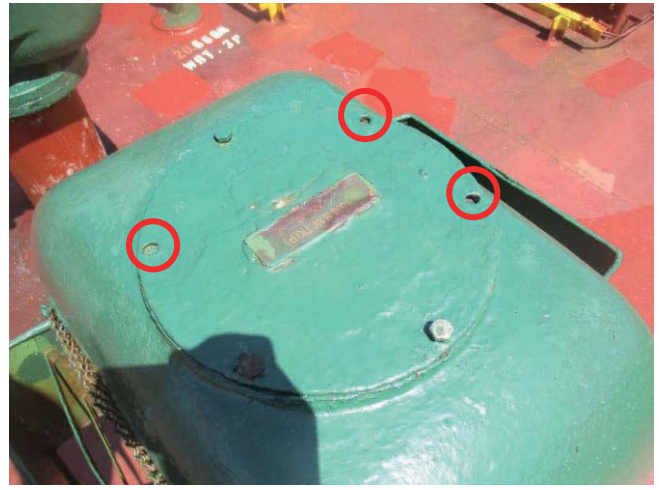
Are there missing nuts and/or bolts?

Action to be taken:

Missing nuts and/or bolts are to be provided.



Missing butterfly nut of gooseneck ventilator



Missing bolts of air pipe head

### 3. Accommodation Doors

Accommodation doors are to be properly maintained in good working condition. Check points are as follows:

#### (1) Wastage of External Doors (not weather tight doors)

How to check:

Visual inspection

Check item:

Are there wastage of doors and door frames?

Action to be taken:

Wasted part of doors and door frames are to be repaired or renewed. (Repair by doubling plate and/or tape is not acceptable.)



Wastage of door and door frame



Wastage of door frame

#### (2) Inappropriate Condition of Internal Doors

How to check:

Visual inspection

Check item:

Are there unacceptable hold-back hooks for doors (required to be self-closing)?

Action to be taken:

Unacceptable hold-back hooks for doors (required to be self-closing) are to be removed.



Unacceptable hold-back hook for door (required to be self-closing)!

#### 4. Lifeboat and Lifeboat Davit

Lifeboats and lifeboat davits including their equipment are to be properly maintained in good condition. Check points are as follows:

##### (1) Damage and/or Wastage of Lifeboat Shells

How to check: Visual inspection  
Check item: Are there damage and/or wastage of lifeboats?  
Action to be taken: Deteriorated lifeboats are to be repaired/renewed in accordance with instruction by authorized service supplier.



Damaged lifeboat shell



After repair

##### (2) Damaged Windows of Lifeboats

How to check: Visual inspection  
Check item: Are there debase, scratches, and cracks?  
Action to be taken: Damaged windows are to be repaired/renewed in accordance with instruction by authorized service supplier.



Poor visibility through window



hair cracks

(3) Damaged Safety Belts and/or Seats of Lifeboats

How to check:

Visual inspection

Check item:

Are there damage safety belts and/or seats of lifeboats?

Action to be taken:

Damaged safety belts and/or seats are to be repaired/renewed in accordance with instruction by authorized service supplier.



Broken safety belt



Damaged lifeboat seat

(4) Wasted of Lifeboat Davits

How to check:

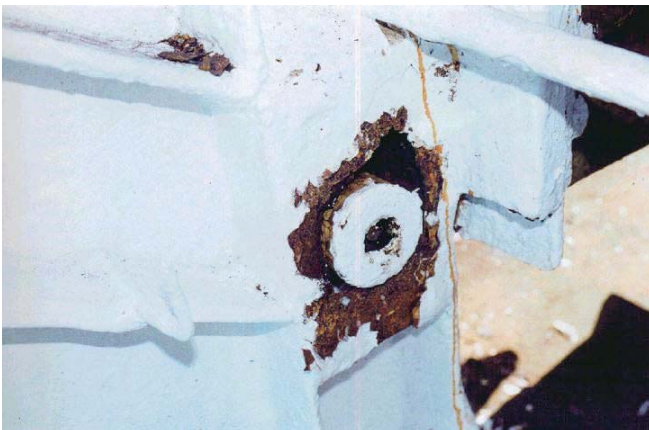
Visual inspection and chipping/hammering

Check item:

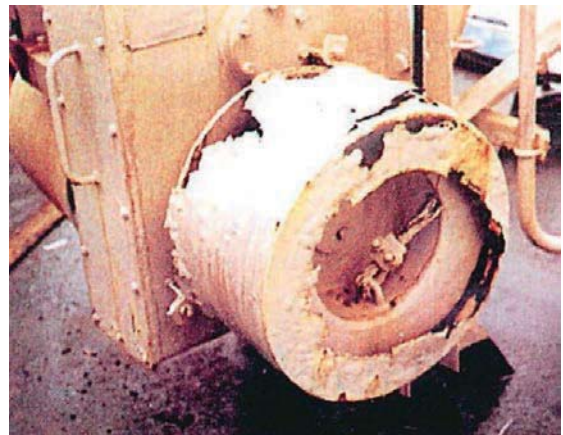
Are there corrosion of lifeboat davits?

Action to be taken:

Wasted lifeboat davits are to be repaired/renewed in accordance with instruction by authorized service supplier.



Housing wasted around carrying hinge pin



Wasted davit winch

(5) Wastage of Sheaves and/or Hooks

How to check:

Visual inspection and chipping/hammering

Check item:

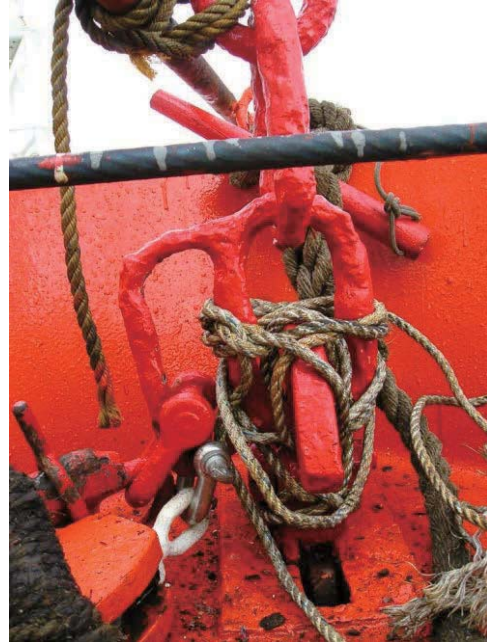
Are there wastage of sheaves and/or hooks?

Action to be taken:

Wasted sheaves and/or hooks are to be repaired/renewed in accordance with instruction by authorized service supplier.



Wastage of boat fall block



Wastage of hook and ring

(6) Seize of On-load Release Gears

How to check:

Visual inspection

Check item:

Are there seize of on-load release gears?

Action to be taken:

The paint causing seize of on-load release gears are to be removed.



Side view →



Seize of on-load release gear by excessive paint



### Inadequate Resetting of On-load Release Gears

How to check:

Visual inspection

Check item:

- Are on-load release gears properly reset?
- Are turn buckles and releasing cables in a straight line?
- Are both ends of turn buckles alternate direction?
- Are there damage of release cables?

Action to be taken:

Inadequate resetting on-load release gears are to be rectified in accordance with maker's Manual.



Inadequate resetting



Adequate resetting



Incorrect condition of turn buckle



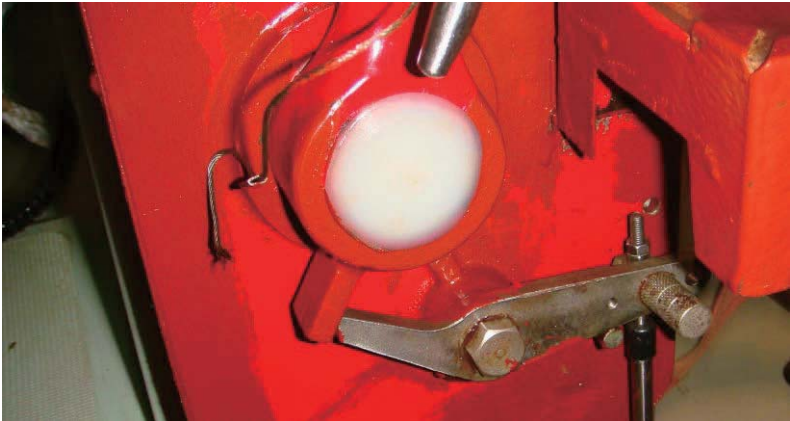
Correct condition of turn buckle



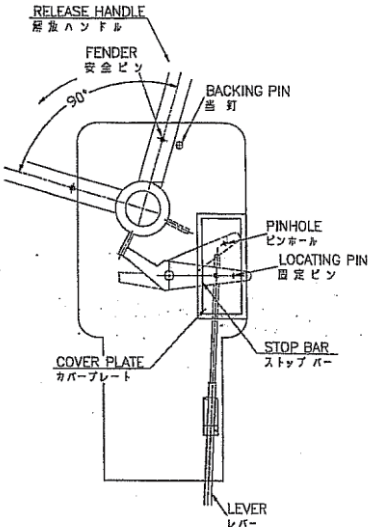
Bent release cable and bracket



Incorrect position of the lever



Correct position of the lever



Incorrect position of the lever



Correct position of the lever



Defective release cable

(7) Damage and/or Missing of Equipment

How to check:

Visual inspection

Check item:

Are there damage and/or missing of equipment?

Action to be taken:

Damaged equipment are to be renewed.

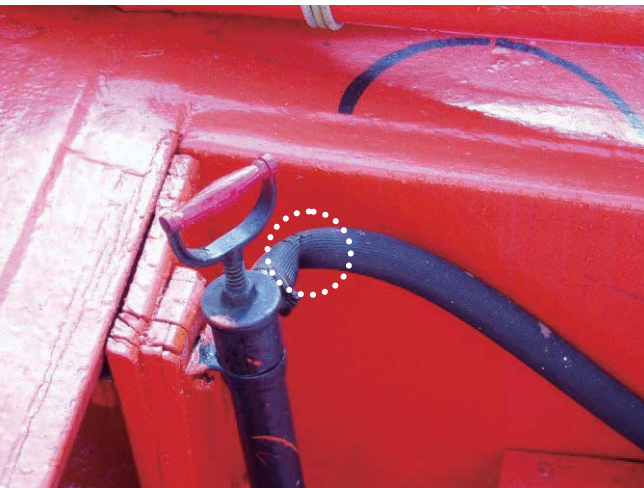
New equipment are to be provided.



Broken thwarts



Broken oars



Cracked hose of bilge pump



Worn canopy cover

## 5. Lifebuoys

Lifebuoys are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage of life buoys?

Are there fading/missing of markings

Action to be taken:

Damaged lifebuoys are to be renewed.

Markings are to be properly painted.



Damaged lifebuoy



Fading of marking

## 6. Handrails

Handrails are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage of handrails?

Action to be taken:

Damaged handrails are to be repaired.



Damaged handrails

## 7. Oil Filtering Equipment

Oil filtering equipment and 15ppm alarm are to be operationally tested in good working condition. Check points are as follows:

### (1) Sampling Test

How to check:

Periodical sampling test for the filtered water from the test cock of the oil filtering equipment or the outlet of the oil content meter in a cup

Check item:

Are there visible traces of oil in sampling water?

Action to be taken:

Oil water separators and discharge pipes are to be cleaned.



Oily sampling water



Clean sampling water (after flushing)



Oily inside of oil water separator



After cleaning



Oily inside of discharge pipe



After cleaning



Oily coalescer



After cleaning

(2) Illegal Piping

How to check:

Visual inspection

Check item:

Are there any by-pass line fitted to oil filtering equipment?

Action to be taken:

By-pass line is to be removed.



Flange connection to by-pass line



After rectification

### 8. Maintenance of Engine room

Engine room is to be maintained in good condition. Check point is as follows:

How to check:

Visual Inspection

Check item:

Are there lack of any parts of pipes and/or machines?

Are there oil and/or garbage in Engine room?

Action to be taken:

Pipes and/or machines are to be maintained properly

Oil and garbage are to be removed and Engine room is to be kept clean.



Partial lack of a high-pressure fuel oil pipe doubling jacket



Dirty Engine room tank top



Inappropriate repairs by rubber patch and plastic putty



Inappropriate repairs by rubber patch on SW pipe for G/E



Bucket filled with oily mixture bilges in E/R



Oil leakage of M/E

## 9. Lighting fittings

Lighting fittings are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage/missing of lighting fittings?

Action to be taken:

Damaged/missing lighting fittings are to be renewed.



Missing of guard of lighting fittings in E/R



## 10. Accommodation Ladder/Pilot Ladder

Accommodation Ladders/Pilot Ladders are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage of side ropes, rubber steps and wooden steps?

Are there missing bolts and nuts?

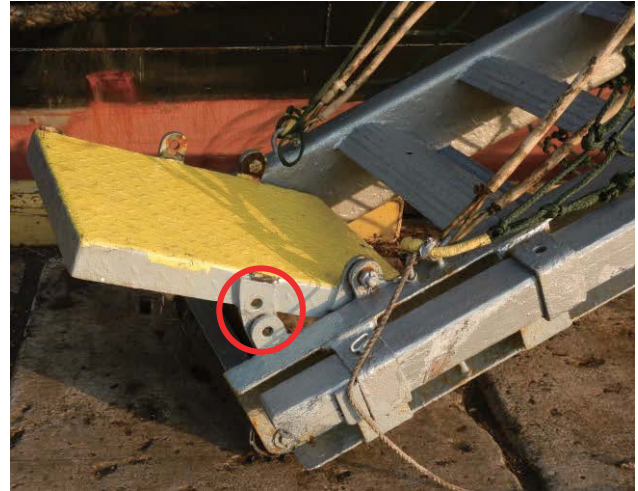
Action to be taken:

Damaged accommodation/pilot ladders are to be repaired/renewed.

New bolts and nuts are to be provided.



Wasted wooden step



Missing bolt and nut



Damaged rope

### 11. Draft mark/LL mark

Draft mark/LL mark are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there fading of marks and miss-marking?

Action to be taken:

Draft marks and LL marks are to be painted properly.



Faded marks



Double marks (Not acceptable)

## 12. Cargo Hatch and Small Hatch

Cargo hatches and small hatches are to keep weathertight condition adequately. Check points are as follows:

### (1) Corrosion Holes and/or Wastage of Cargo Hatch Covers and Small Hatches

How to check:

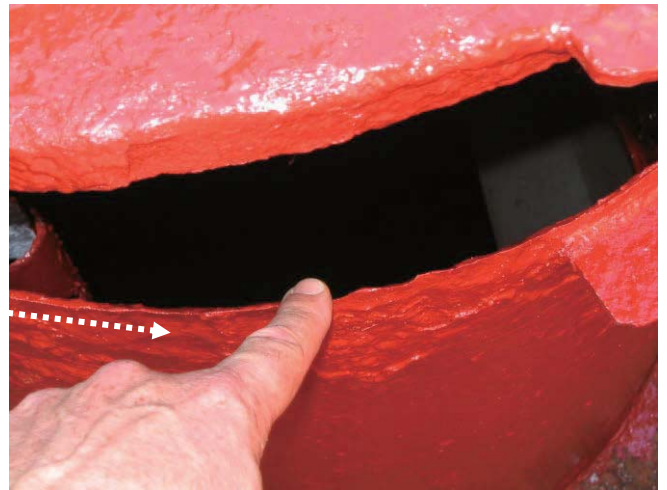
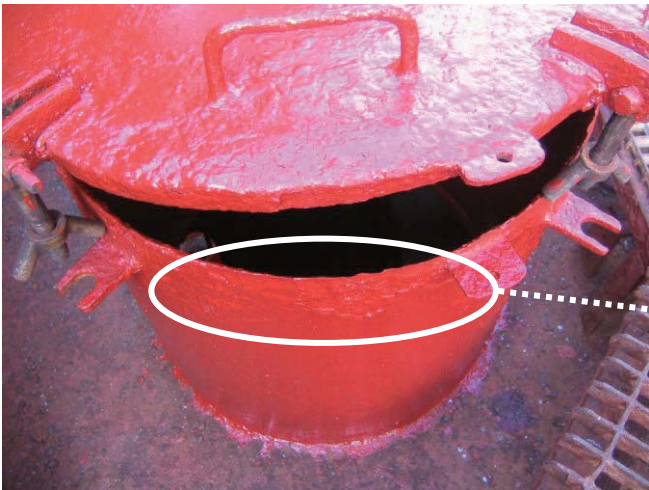
Visual inspection and hammering

Check item:

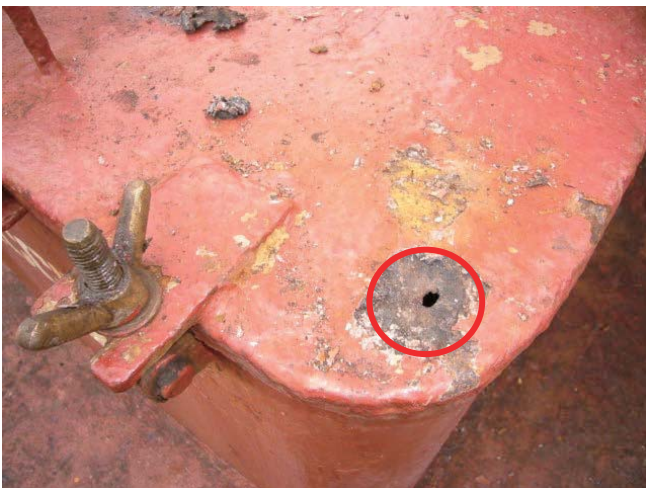
Are there corrosion and/or wastage of hatch covers and small hatches?

Action to be taken:

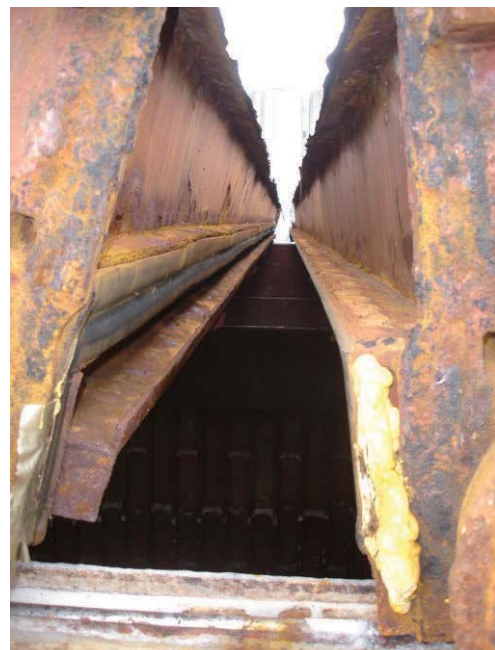
Corrosion holed and/or wasted hatch covers and small hatches are to be renewed.



Wastage of small hatch coaming



Corrosion hole in access hatch



Wastage of cargo hatch covers

(2) Missing Nuts and Brackets

How to check:

Visual inspection

Check item:

Are there missing nuts and brackets?

Action to be taken:

New nuts and brackets are to be provided.



Missing nut of small hatch



Missing nut and bracket with bolt

(3) Deteriorated and/or Cracked Rubber Packings

How to check:

Visual inspection

Check item:

Are rubber packings deteriorated, cracked and/or partly missing?

Action to be taken:

Deteriorated, cracked and/or partly missing rubber packings are to be renewed.



Partly missing rubber packing



Deteriorated and cracked rubber packing

(4) Damage and/or Wastage of Securing Devices with Supports

How to check:

Visual inspection

Check item:

Are there damage and/or wastage of securing devices with crutches?

Are there missing securing devices with crutches?

Action to be taken:

Damaged and/or wasted securing device with supports are to be replaced with new one.



Wasted securing device



After repair

(5) Excessive Gaps of Hatch Covers

How to check:

Visual inspection

Check item:

Are there excessive gaps of hatch covers?

Action to be taken:

Gaps are to be kept in accordance with maker's instruction



Excessive gap of hatch cover side cleat



Excessive gaps of hatch cover

### 13. Fire Integrity

Fire insulations are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage and/or missing fire insulations?

Are there holes on the bulkheads/decks?

Action to be taken:

Fire insulations are to be renewed.

Hole are to be sealed with fire insulations.



Partly missing A-60 class insulation



A hole on the A-60 class bulkhead

### 14. Fire Detector

Fire insulations are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage of fire detectors?

Are test kits missing?

Action to be taken:

Fire detectors are to be renewed.

Test kits are to be provided.



Defective of fire detector



Inadequate test method

## 15. Emergency Fire Pump

Emergency fire pumps are to be tested periodically with adequate pressure and the ship's crews are to be familiar with operation of emergency fire pump. Check points are as follows:

### (1) Inadequate Operation

How to check:

Check item:

Periodical performance test

Are delivery pressures normal?

Required pressure at hydrants:

6000 GT and over :  $0.27 \text{ N/mm}^2$

under 6000 GT :  $0.25 \text{ N/mm}^2$

Action to be taken:

Deficient emergency fire pumps including vacuum pumps are to be repaired.



Performance test of emergency fire pump



Adequate pressure



Emergency fire pump



Vaccum pump

## 16. Fire Line

Fire lines are to be properly maintained in good condition. Check point is as follows:

How to check:

Check item:

Action to be taken:

Visual inspection and hammering

Are there corrosion, wastage and/or leakage of fire lines?

Corroded and/or wasted holed fire lines are to be renewed.  
(Repair by doubling plate and/or tape is not acceptable.)



Leakage of fire line



Inappropriate repair by cloth



## 17. Fire hose and/or Hydrant

Fire hoses and/or hydrant are to be properly maintained in good working condition. Check points are as follows:

### (1) Missing of Nozzles and/or Couplings

<u>How to check:</u>	Visual inspection
<u>Check item:</u>	Are there missing nozzles and/or couplings?
<u>Action to be taken:</u>	New nozzles/couplings are to be provided.



Missing of fire nozzle



Missing of coupling

### (2) Length of Fire Hoses

<u>How to check:</u>	Visual inspection
<u>Check item:</u>	Are length of fire hoses properly?
<u>Action to be taken:</u>	Fire hoses are to be renewed properly.



Length of fire hoses in E/R is not to be more than 15m

(3) Damage of fire hoses

How to check: Visual inspection and hose test  
Check item: Are there leakage of fire hoses?  
Action to be taken: Damaged fire hoses are to be renewed.



Damaged fire hoses

**18. IMO Symbol**

IMO symbols are to be properly maintained in good condition. Check point is as follows:

How to check: Visual inspection  
Check item: Are there damage/missing of IMO symbol marks?  
Action to be taken: Damaged marks are to be renewed.  
New marks are to be provided.



Deteriorated symbols



Peeled symbols

## 19. Navigation light

Navigation lights are to be properly maintained in good condition. Check point is as follows:

How to check:

Visual inspection

Check item:

Are there damage of Navigation lights?

Action to be taken:

Damaged navigation lights are to be renewed.



Damaged navigation light

## 20. MF/HF Radio Installation

MF/HF radio installations are to be operationally tested in good working condition by using both AC and DC power and the GMDSS officers are to be familiar with operation of MF/HF radio installation. Check points are as follows:

### (1) Inoperable MF/HF Radio Installations

How to check:

Check item:

Operation test using AC and DC power

Are MF/HF radio operating normally?

Are GMDSS officers able to switch the power from AC to DC?

Are specific gravity of acid, liquid level and terminal voltage of batteries sufficient?

Action to be taken:

Inoperable MF/HF radio installations are to be repaired.

Radio technicians are to be arranged if necessary.



GMDSS communication console



Reserve source battery



Switch Panel for MF/HF radio



Switch of AC and DC power

## 21. Mooring Arrangement

Mooring arrangements are to be properly maintained in good condition. Check point is as follows:

<u>How to check:</u>	Visual inspection
<u>Check item:</u>	Are there damage of mooring ropes?
<u>Action to be taken:</u>	Deteriorated mooring ropes are to be renewed.



Deteriorated mooring ropes

## 22. Garbage Management

Ship's crews are to be familiar with garbage management. Check point is as follows:

<u>How to check:</u>	Visual inspection
<u>Check item:</u>	Are garbage properly stored?
<u>Action to be taken:</u>	Garbage are to be properly stored.



Garbage bags are left with unattended in rope store



Ventilator is obstructed by garbage

