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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, Certifiction and Watchkeeping for Seafares |
| 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<br>81 ES : Existing ships constructed before 1 September 1984 (81 Amend.)<br>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 |

| 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<br>- 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 (≧500GT) | Yes | | | II/2 |
| Officer | Yes | | | II/1 |
| Chief engineer & 2/E (≧3000kW) | 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 |

| Item | | Endorsement | Issued date | Expiry date | Regulation |
|---|---|---|---|---|---|
| Officers and rating Basic training on tankers | Oil/Chemical tanker | Yes for officer<br>No for rating | | | V/1-1 Para 2 |
| | Gas carrier | Yes for officer<br>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<br>ILLC II, 10 (1) |
| Loading manual | | | | - Ships contracted on or after 1 July 1998, ≧65m Lf<br>- Ships constructed before 1 July 1998, ≧100m Lf<br>ILLC II, 10 (2) |
| Loading, unloading and stowage booklet<br>（for Solid Bulk Cargoes） | | | | For ships carriage of solid bulk cargoes<br>SOLAS 74/00<br>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,<br>500GT or over<br>SOLAS 74/05<br>Reg.II-1/3-8 |
| Emergency towing booklet (procedure) | Not required | | | For all cargo ship<br>500GT or over<br>SOLAS 74<br>Reg.II-1/3-4 |
| Damage control plan (including damage control booklet) | | | | - For dry cargo ships constructed on or after 1 Feb. 1992<br>SOLAS 74/88 Reg. II -1/23-1<br>- For all cargo ships constructed on or after 1 Jan 2009<br>SOLAS 74/05 Reg. II-1/19 |

| 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 | | | | - Ships applied CSRs contracted for construction on or after 8 December 2006; or<br>- Ships contracted for building on or after 1 January 2008; or<br>- In the absence of a building contract, ships constructed on or after 1 January 2009; or<br>- Irrespective of presence or absence of building contract, ships delivered on or after 1 July 2012. |
| Coating Technical File and/or Corrosion Resistance Steel Technical File for COTs of Crude Oil Tanker (5,000 DWT and above) | | | | - Ships contracted for building on or after 1 January 2013; or<br>- In the absence of a building contract, ships constructed on or after 1 January 2013; or<br>- Irrespective of presence or absence of building contract, ships delivered on or after 1 January 2016. |
| Ship energy efficiency management plan (SEEMP) | Not required (except Japanese ships) | | | - For new ships at new building stage<br>- For existing ships at first intermediate or renewal survey of IAPP Certificate, whichever is first after 1 Jul 2013 *1 |

*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

| Item | Approved by | Language | Understood by crew | Remarks |
|---|---|---|---|---|
| Ballast Water Management Plan (BWMP) | | | | - Ships applied with only Reg. D-1<br>- 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<br>- 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<br>MARPOL I |
| ODM manual | | | | MARPOL I/31 |
| COW manual | | | | If any |
| VOC management plan | | | | MARPOL VI/15 |

| Item | Approved by | Language | Understood by crew | Remarks |
|---|---|---|---|---|
| Operation manual for emergency towing arrangement (ETA) | Not required | | | For 20,000 DWT or over<br>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<br>Reg. MARPOL I/41 |
| Ship structure access manual | | | | For 500GT or over, constructed on or after 1 Jan. 2006<br>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<br>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<br>- 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<br>IBC/BCH Code |
| Operation manual for emergency towing arrangement (ETA) | Not required | | | For 20,000 DWT or over<br>Reg. SOLAS 74/88 II-1/3-4 |
| Ship structure access manual | | | | For 500GT or over, constructed on or after 1 Jan. 2006<br>Reg. SOLAS II-1/3-6 |

| 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) | | | | - For ships constructed on or after 1 July 2016 at new building stage<br>- 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<br>- 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<br>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<br>For 20,000 DWT or over |
| P&A manual | | | | For gas carries carrying MARPOL II cargoes<br>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<br>- 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 | | |
| Sevice record of launching arrangement of life boat, rescure 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<br>Reg. SOLAS XII/7 |
| 15ppm bilge alarm recorded data | | At least 18 months<br>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<br>apply to Res. MEPC.107(49) equipment |

| Item | Check | Remarks |
|---|---|---|
| ESP documents<br>(ESP file, thickness measurement record) | | - ESP Bulk Carrier defined SOLAS IX/1.6<br>- Self-unloading vessel affixed ESP notation<br>- Oil tanker<br>- Chemical Tanker (with integral tanks) |
| Plans and procedure for recovery of persons from water | | - For new ships constructed on or after 1 Jul 2014 at new building stage<br>- For existing ships constructed before 1 Jul 2014 by the first periodical survey or renewal survey, whichever comes first after 1 Jul 2014 |
| Noise survey report | | - For which the building contract is placed on or after 1 July 2014<br>- 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<br>- the delivery of which is on or after 1 July 2018 |
| 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<br>SOLAS 74/00 Reg. V/21, 27<br>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 | | | |

| 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 sauce (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<br>6000 GT and over : 0.27 N/mm²<br>under 6000 GT : 0.25 N/mm² | | 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) | | | |

| Item | Check Points | Satisfied/Not | Remarks | Reg. |
|---|---|---|---|---|
| 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) | Summoning of the crew to muster stations with emergency alarm according to the muster list | | | SOLAS 74/88 Reg. III/19 |
| | 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 | |
| Fire drills (every month and within 24 hours of departure if 25% of the crew have not participated on board the ship) | Summoning of the crew to stations according to the muster list | | | |
| | 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 | | | |
| Enclosed space entry and rescue drill (every 2 months) | 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 | | | |

| 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 |

| 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 | | |

| Item | Check Points | Satisfied/Not | Remarks | Reg. |
|---|---|---|---|---|
| S-VDR (Simplified Voyage Data Recorder) | Working satisfactorily | | For 00ES(≧ 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≧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 | Planed 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 |

| 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 | | | |
| | Bilge pump with hose (testing) | | | |
| | Condition of self-contained air support system (if fitted) | | | |
| | Condition of water spray system (if fitted) | | | |
| 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 | | | |

| 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 ($N_2$) 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 | | | |

| 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<br>- Illumination of SILs<br>- Validity of smoke signals<br>- Operation of release gear | | | |
| | A buoys with SILs on each side<br>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<br><br>L(m) No. of buoys<br>less than 100m 8<br>less than 150m 10<br>less than 200m 12<br>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<br>- Illumination of SILs<br>- Validity of smoke signals<br>- Operation of release gear | | | |
| | - At least half of the total number of buoys to be provided with SILs<br>- 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 | | | |

| 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 | | | |
| | - Jet type nozzles, and jet/spray dual type in engine room<br>- Operation of easy change mode | | For 81 ES | |
| | - Jet/spray dual type with shut-off device for all nozzles<br>- 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 | | | |
| | Clearly painted (red color) boxes | | | |
| Portable fire extinguishers (foam, dry power, $CO_2$) | 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 | |
| | 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 litters 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 | | | |

| Item | Check Points | Satisfied/Not | Remarks | Reg. |
|---|---|---|---|---|
| Foam type fire extinguishers of 45 litters capacity or equivalent in engine room | Visual condition in good order | | | SOLAS 74/88 Reg. II-2/7.2 SOLAS 74/00 Reg.II-2/10.5 |
| | Easily usable condition | | | |
| Fixed fire extinguishing arrangement in E/R, cargo spaces and cargo pump room* ($CO_2$ 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 | | | |
| | $CO_2$ 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 ($CO_2$ 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<br>- 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<br>- 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<br>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.<br>- 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<br>(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<br>(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<br>(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 | | | |
| | Four (4) sets of bolts and nuts, each of 16 ㎜ in diameter, 50 ㎜ in length available on board | | | SOLAS 74/88 Reg. II-2/19 SOLAS 74/00 Reg. II-2/10.2 |
| | One (1) gasket packing available on board | | | |
| Inert gas system | Operates satisfactorily | | | SOLAS 74/88 Reg. II-2/62 SOLAS 74/00 Reg. II-2/4.5.5 |
| | Alarms in the control panel function properly | | | |

| 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<br>- 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 SOLAS 74/00 Reg.II-2/9.7.5 |
| | Operate satisfactorily | | | |

* 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 |

| 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 | | | |

| 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<br>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<br>Cross deck plating | Condition in good order<br>(No heavy wastage, corrosion, cracks) | | | SOLAS 74/88<br>Ch.II-1 Part B |
| F'cle deck plating,<br>Poop deck plating | Condition in good order<br>(No heavy wastage, corrosion, cracks) | | | |
| All piping on deck with valves | Condition in good order<br>(No heavy wastage, corrosion, cracks) | | | |
| Electric cable conduit | Condition in good order<br>(No heavy wastage, corrosion, cracks) | | | |
| Cargo holds | Bulkheads, frames, tanktop plating in good condition<br>(No heavy corrosion, wastage, holes or cracks) | | | |
| | Access ladders, piping in good condition.<br>(No heavy wastage, holes) | | | |
| Ballast tanks | No leakage, damage | | | SOLAS 74/88<br>Ch. II-1 Part B |
| | Bulkheads (trans/longl.), longitudinals, transverse rings, horizontal girders, other members in good condition<br>(No heavy corrosion, wastage, holes or cracks) | | | |
| | Access ladders, piping in good condition.<br>(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<br>(No heavy corrosion, wastage, holes or cracks) | | | |
| | Access ladders, piping in good condition.<br>(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<br>(No heavy corrosion, wastage, holes or cracks) | | | |
| | Access ladders, piping in good condition.<br>(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. | | | | |

| 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<br>- 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 | | | |
| | Jacketed High Press. FO pipes in good order | | | SOLAS 74/88 Ch. II-2/15.2 SOLAS 74/00 Ch. II-2/4 |
| | 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 | | | |
| | Jacketed High Press. FO pipes in good order | | | SOLAS 74/88 Ch. II-2/15.2 SOLAS 74/00 Ch. II-2/4 |
| | FO leak alarm in good order | | | |
| Boilers | Operate satisfactorily | | | SOLAS 74/88 Ch.II-1 Part C |
| | 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 | | | |
| 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 | | | |

| Item | Check Points | Satisfied/Not | Remarks | Reg. |
|---|---|---|---|---|
| Bilge lines | Bilge pumps, pipings in good order | | | |
| | Emerg. Bilge suction Valve operate satisfactorily | | | |
| Insulation of pipes | Condition in good order | | | |
| Overall of E/R | Cleanliness of E/R<br>(Must be clean without rubbish or waste oil) | | | SOLAS 74/88<br>Ch.II-1 Part C |
| | Guards and fencing<br>(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 74/00<br>Ch. II-2/4 |
| | Means to prevent oil spray provided on flange/joint in oil piping | | | SOLAS 74/88<br>Ch. II-2/15.2<br>SOLAS 74/00<br>Ch. II-2/4 |
| | Insulation for all surfaces of machinery with high temp. above 220℃ | | | |
| Automatic control system | Engine Telegraph | | | SOLAS 74/88<br>Ch.II-1 Part C<br>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 |
| | $1^{st}$, $2^{nd}$ 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 | | | MARPOL I Reg.16, 17, 19 |
| | 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 | | | |
| | 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 | | | MARPOL I Reg. 15(3)(b) |
| 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 |

| 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.<br>- Toilets to be clean | | | ILO(including MLC,2006) STCW |
| | - Floor tiles in good condition without broken tiles<br>- Floor to be clean | | | |
| | Floor drainage in good condition | | | |
| Shower rooms, washbasins, laundry room | - Spaces in good condition<br>- 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 typucal 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/)
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? | | |
| | | Is the internal fire damper operating normally? | | |
| | Seized Emergency shut-off valves on FO tanks | Are Emergency shut-off valves on FO tanks operating normally? | | |
| | LO tanks closing valve disable in the open position | Are closing valves on LO tanks properly closed? | | |
| Fire Pumps | Inoperable or low pressure emergency fire pumps | Are Emergency fire pumps operating normally? | | |
| | | Is delivery pressure normal? | | |
| | | Is priming pump operating normally? | | |
| | Wastage or leaking of Fire main | No corrosion or wastage of the Fire main? | | |
| | | No leakage from Fire main in running condition? | | |
| | Inoperable isolating valve | 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?<br>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? | | |

**Life Saving Appliances** (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?<br>Is on-load release gear properly resettled? | | |
| Lifeboat Inventory | 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? | | |
| Launching Arrangements for Survival Craft | Wasted/holed davit | No corrosion or wastage of Lifeboat davit? | | |
| | Wasted sheaves | No corrosion or wastage of sheaves or hooks? | | |
| Inflatable Liferafts | Service certificate expired | Is there an effective service report kept onboard? | | |
| | Unsatisfactory storage | Are Liferafts properly stowed? | | |
| | Incorrectly installed hydrostatic release and painter on float free liferaft | Are hydrostatic release and painter on float-free liferaft properly stowed? | | |
| Lifebuoys | 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 | Not ready to use | 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 longitudinals 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? | | |

**Load Lines** (Checked by : )

| 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? | | |

**Safety of Navigation** (Checked by : )

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

**Radio Communications** (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? | | |

**Certification and Documentation - Crew Certificate** (Checked by : )

| 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? | | |

**SOLAS Related Operational Defects** (Checked by : )

| 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.<br>- Type of ship<br>- Flag state<br>- Company name<br>- Due date and Annual Verification within 3 months before and after the anniversary date | 13 | ☐ | ☐ |
| Policy | Ship's personnel are familiar with a Company safety and environmental protection policy. | 2.2 | ☐ | ☐ |
| 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. **Miscellaneous Certificates**). | 6.2 | ☐ | ☐ |
| | On board training in support of the SMS have been followed according to Procedures. | 6.5 | ☐ | ☐ |
| | Onboard Communication<br>Where the multi-national crew members are onboard:<br>1. Working language onboard is established.<br>2. Master's order or job instructions in working language are clearly understood by crew.<br>3. All members of crew can communicate effectively in the execution of their duties.<br>4. Poster / Placard / Relevant documentation on the SMS in a working language or language understood by the ship's personnel. | 6.6 / 6/7 | ☐ | ☐ |
| Key Shipboard Operation [Common] | The watch-keeping and rest hours has been kept as required. | 7 | ☐ | ☐ |
| | All officers are conversant with the documented procedures on their assigned duties. | 7 | ☐ | ☐ |
| | The crew is familiar with the garbage collection and disposal procedure. | 7 | ☐ | ☐ |
| | Personnel are familiar with procedure requirements for works onboard such as enclosed space entry which may create hazardous situations. | 7 | ☐ | ☐ |
| [Deck] | All officers are familiar with following equipment available onboard.<br>- Navigation, GMDSS, AIS, BNWAS, ECDIS | 7 | ☐ | ☐ |
| | Corrections of charts and Nautical Publications are up to date to the latest Notice to Mariners. | 7 | ☐ | ☐ |
| | Voyage planning is prepared with appropriate large scale chart. | 7 | ☐ | ☐ |
| [Engine] | Insufficient skills for smooth function test for 15ppm Bilge alarm | 7 | ☐ | ☐ |
| | The engineers are familiar with FO/DO Change-over for SOx Emission CA & Bunkering procedures. | 7 | ☐ | ☐ |
| Emergency Preparedness | All crewmembers were familiar with their designated muster stations. | 8.2 | ☐ | ☐ |
| | The crews know the position of isolation valve on Fire main line | 8.2 | ☐ | ☐ |
| | The crew are familiar with boat drill | 8.2 | ☐ | ☐ |
| | The Emergency Contact Numbers are updated. | 8.3 | ☐ | ☐ |
| | Crew can start the engine of lifeboat / rescue boat. | 8.2 | ☐ | ☐ |

| | | | | |
|---|---|---|---|---|
| | Crew are familiar with fire drill including the usage of fireman's outfit | 8.2 | ☐ | ☐ |
| Non-conformity, Accident | Any non-conformities have been reported to the Company | 9.1 | ☐ | ☐ |
| | The Company has taken corrective action for the reported non-conformities | 9.2 | ☐ | ☐ |
| | The deficiencies pointed out by last PSC have been reported, investigated and analyzed for avoidance of recurrence.<br>All Non-conformities and findings in order | 9.1 / 9.2 | ☐ | ☐ |
| Maintenance (Grounds for ISM deficiencies) | (a)Hull structure and Hatch cover, etc.<br>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 | ☐ | ☐ |
| | (b) Equipment in Engine room<br>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 | ☐ | ☐ |
| | (c) Navigation equipment<br>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 | ☐ | ☐ |
| | (d) Lifesaving appliances<br>Life boat – engine not start(incl. dropped battery), damaged hull and outfitting, missed / expired equipment/ accessory ,<br>Launching appliance – no good condition of on-load-release, boat falls & hanging device and davit.<br>Insufficient maintenance of life buoy, radar transponder, etc.. | 10.2.1 | ☐ | ☐ |
| | (e) Firefighting equipment/facilities<br>Insufficient maintenance of Main/emergency fire pump, fire dampers, Fireman's outfit, Hydrant, Fire extinguisher, Leakage of F.O & L.O. etc.<br>Tied-opened self-closing device of fire door | 10.2.1 | ☐ | ☐ |
| | (f) Ventilators, Air vent. pipes<br>Corrosion or holed coaming/vent/pipe head. Poor or no operation due to sticking, Corroded / broken closing device. | 10.2.1 | ☐ | ☐ |
| Document Control | Valid Documents are available onboard the Vessel<br>(Certificates, Inspection Reports ,SOLAS, MARPOL, STCW, etc.,) | 11.2 | ☐ | ☐ |
| | Obsolete documents have been removed from areas of work. | 11.2 | ☐ | ☐ |
| | In case Safety Management Manual is provided in both languages, both language Manuals were up to date together. | 11.2 | ☐ | ☐ |
| Review, verification | Office personnel carry out internal audit the vessel at intervals not exceeding 12 months, except exceptional circumstances. | 12.1 | ☐ | ☐ |
| External audit / PSC/ FSC | Records of external audit are available on board.<br>Corrective actions have been taken timely, if any. | 9.2 | ☐ | ☐ |

# Checklist IV

***(For International Ship and Port Facility Security)***

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

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

# Checklist V

*(For Maritime Labour Convention,2006)*

| | Check points | Req.(MLC,2006) | Check | Remark |
|---|---|---|---|---|
| **1** | **Minimum Age (Regulation1.1)** | | | at embarkation |
| 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 | ☐ | |
| **2** | **Medical Certification (Regulation 1.2)** | | | at embarkation |
| 1 | Medical certificate contains the following information (in case they are required on the medical certificate form) | A1.2.1 | ☐ | |
| -a | Full Name | - | ☐ | |
| -b | Date of birth | - | ☐ | |
| -c | Date of examination | - | ☐ | |
| -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 | - | ☐ | |
| -e | Signature of the duly qualified medical practitioner or if a vision certificate, the person recognized by the national authority | - | ☐ | |
| -f | Position/occupation : (deck, ,engineer, others to be specified) | - | ☐ | |
| 2 | Medical certificate is dated prior to the seafarers beginning work on board | A1.2.1 | ☐ | |
| 3 | Medical certificate states that sight, hearing (color vision if applicable) are satisfactory | A1.2.6a | ☐ | |
| 4 | Medical certificate clearly states that | A1.2.1<br>A1.2.6b | ☐ | |
| -a | Seafarer is medically fit to perform the duty he/she is to carry out on board the ship | - | ☐ | |
| -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 . | - | ☐ | |
| 5 | Medical certificate is valid.<br>If it is expired during a voyage, the duration of such condition is not more than 3 months. | A1.2.7a, A1.2.7b<br>A1.2.8a,<br>A1.2.8b<br>A1.2.9 | ☐ | Before entering port |
| 6 | If seafarer without a valid medical certificate works on board the ship (e.g. for urgent cases).<br>The permission for working on board the ship has been obtained. | A1.2.8 | ☐ | |
| 7 | Medical certificate is provided in English (in case International voyages) | A1.2.10 | ☐ | |
| **3** | **Qualifications of Seafarers (Regulation 1.3)** | | | at embarkation |
| 1 | All seafarers have all required certification, qualification and certificate of training which are valid. | R.1.3.1<br>R.1.3.3 | ☐ | |
| **4** | **Seafarers' employment agreements** | | | at embarkation |
| 1 | The copy of valid SEA for all seafarers is available on board. | A5.1.5.4 | ☐ | |
| 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<br>A2.1.3 | ☐ | |

| | Check points | Req.(MLC,2006) | Check | Remark |
|---|---|---|---|---|
| 3 | A copy of standard form of SEA is available on board. | A2.1.2a | ☐ | |
| 4 | The SEA is in English otherwise translation in English is attached (for ships engaged on international voyages). | A2.1.2a | ☐ | |
| 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 | ☐ | |
| -b | The shipowner's name and address. | A2.1.4b | ☐ | |
| -c | Start date of the employment agreements and the place where it was entered into. | A2.1.4c | ☐ | |
| -d | The capacity in which the Seafarers is to be employed. | A2.1.4d | ☐ | |
| -e | The amount of the Seafarer's wages or, where applicable, the formula used to calculate the wages. | A2.1.4e | ☐ | |
| -f | The amount of paid annual leaves or, where applicable, the formula used to calculate it. | A2.1.4f | ☐ | |
| -g | Termination conditions of the agreements and condition included regards minimum notice period (not to be less than 7 days). | A2.1.4g<br>A2.1.5<br>A2.1.6 | ☐ | |
| -h | The health and social security protection benefits to be provided to the seafarers by the shipowner. | A2.1.4h | ☐ | |
| -i | The Seafarer's entitlement to repatriation. | A2.1.4i<br>A2.5.2 | ☐ | |
| -j | Reference to any relevant collective bargaining agreement, if applicable. | A2.1.4j | ☐ | |
| **5** | **Use of any licensed or certified or regulated private recruitment and placement service (SRPS) (Regulation 1.4)** | | | 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<br>A1.4.2<br>A1.4.6 | ☐ | |
| 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<br>A1.4.9 | ☐ | |
| **6** | **Hours of work or rest (Regulation 2.3)** | | | regularly |
| 1 | A copy of the record of daily hours of work or rest is provided to all seafarers. | A2.3.12 | ☐ | |
| 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 | ☐ | |
| **8** | **Accommodation (Regulation 3.1)** | | | regularly |
| 1 | Crew accommodation inspections have been conducted by the master or designated officer at appropriate interval.<br>The inspections record has been maintained appropriately. | A3.1.18 | ☐ | |
| **9** | **On-board recreational facilities (Regulation 3.1)** | | | regularly |
| 1 | Recreational facilities inspections have been conducted by the master or designated officer at appropriate interval.<br>The inspections record has been maintained appropriately. | A3.1.18 | ☐ | |
| **10** | **Food and catering (Regulation 3.2)** | | | 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 | ☐ | |
| -b | All spaces and equipment used for the storage and handling of food and drinking water. | A3.2.7 | ☐ | |

| | Check points | Req.(MLC,2006) | Check | Remark |
|---|---|---|---|---|
| -c | Galley and other equipment for the preparation and the service of meals. | A3.2.7 | ☐ | |
| 2 | The inspections record has been maintained appropriately. | A3.2.7 | ☐ | |
| **11** | **Health and safety and accident prevention (Regulation 4.3)** | | | regularly |
| 1 | Living, working and training environment have been maintained safe and hygienic. | R4.3.1 | ☐ | |
| 2 | Seafarers are informed about the OSH policy and program. | A4.3.1a | ☐ | |
| 3 | Reasonable precautions have been maintained appropriately. | A4.3.1b | ☐ | |
| 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 | ☐ | |
| 5 | Ship safety committee (for ships with 5 or more seafarers) is held at appropriate interval. | A4.3.2c<br>A4.3.2d | ☐ | |
| 6 | The minutes are recorded. | A4.3.2c<br>A4.3.2d | ☐ | |
| 7 | Issues are raised by the ship safety committee and safety inspections have been addressed in a timely manner. | A4.3.2c<br>A4.3.2d | ☐ | |
| 8 | On board occupational accidents, injuries and diseases are adequately inspected and reported. | A4.3.5 | ☐ | |
| 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 | ☐ | |
| **12** | **On board medical care (Regulation 4.1)** | | | regularly |
| 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 | ☐ | |
| 2 | A medicine chest, medical equipment and medical guides have been maintained appropriately. | A4.1.4.a | ☐ | |
| **13** | **On board complaint procedures (Regulation 5.1.5)** | | | at embarkation |
| 1 | All seafarers are given a copy of the onboard complaints procedures. | A5.1.5.4 | ☐ | |
| **14** | **Payment of wages (Regulation 2.2)** | | | regularly |
| 1 | All seafarers receive their wages in full accordance with their employment agreements at no greater than monthly intervals. | R.2.2.1<br>A2.2.1 | ☐ | |
| 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 | ☐ | |
| 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<br>A2.2.4 | ☐ | |
| 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 | ☐ | |

# 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.<br>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. |

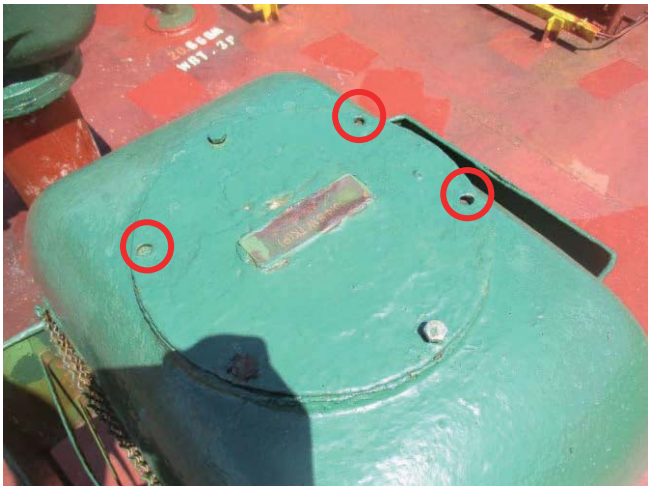
Hole with inappropriate repair with tapes

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 flames?
*Action to be taken:* Wasted part of doors and door flames are to be repaired or renewed. (Repair by doubling plate and/or tape is not acceptable.)

Wastage of door and door flame

Wastage of door flame

(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

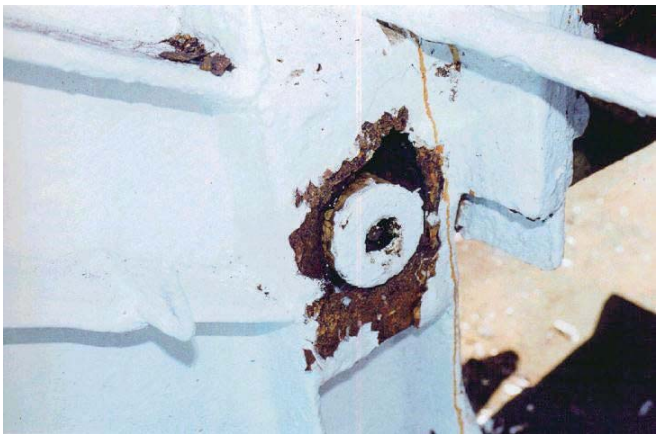
*How to check:* Visual inspection
*Check item:* Are there damage safety belts and/or seats of lifeboats?
*Action to be taken:* Damaged safety belts and/or seats are to be repaired/renewed in accordance with instruction by authorized service supplier.

Broken safety belt

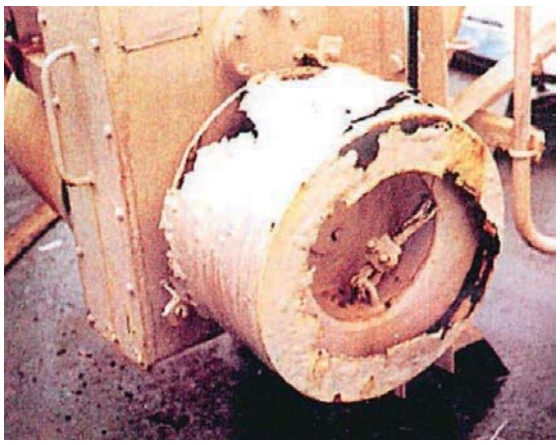
Damaged lifeboat seat

(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

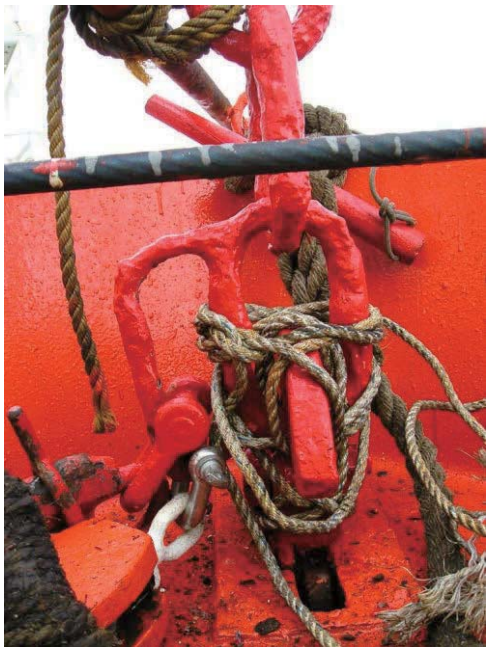


Wasted davit winch

(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

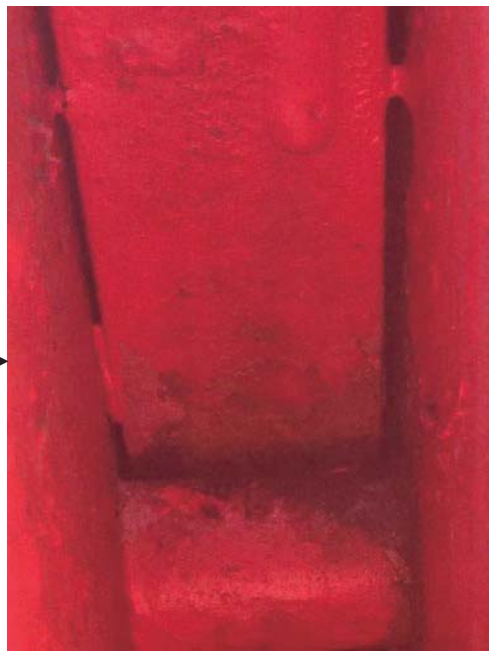


Wastage of hook and ring

(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

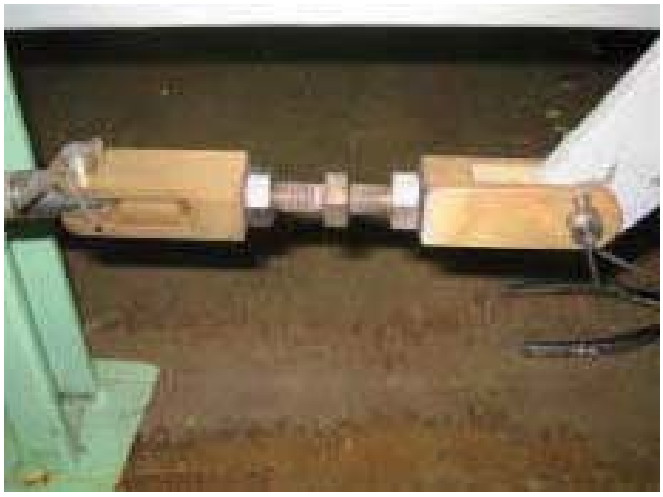
*Check item*: Are on-load release gears properly reset?
Are turn buckles and releasing cables in a straight line?
Are both ends of turn buckles alternate direction?
Are there damage of release cables?

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

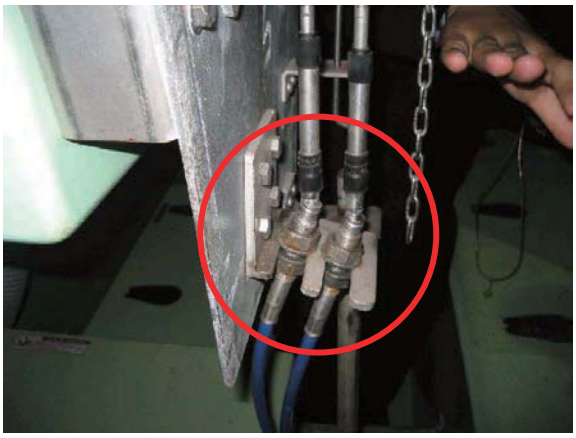
Inadequate resetting

Adequate resetting

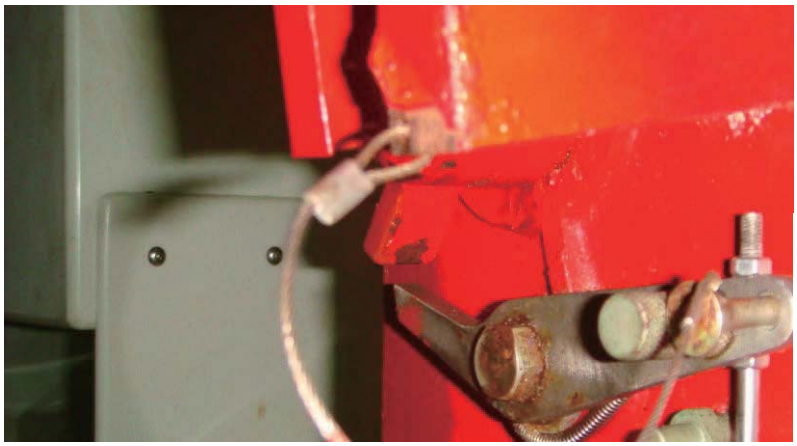
Incorrect condition of turn buckle



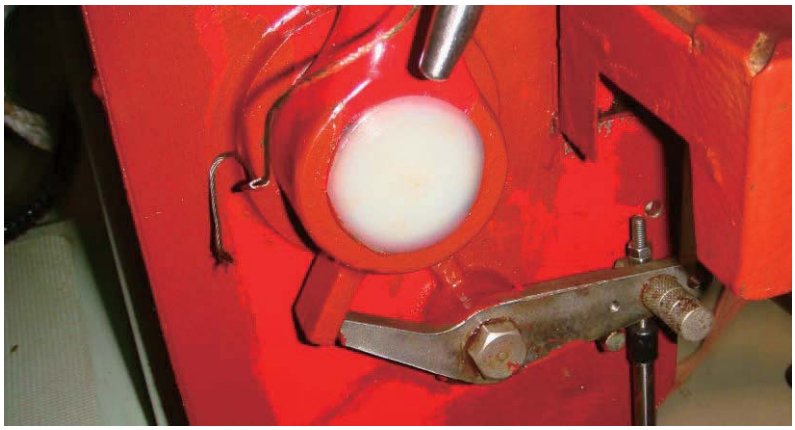
Correct condition of turn buckle



Bent release cable and bracket



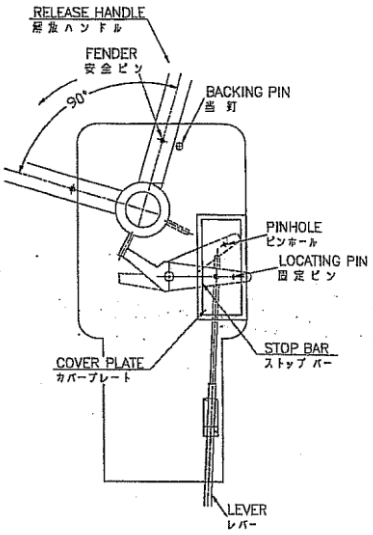
Incorrect position of the lever



Correct position of the lever


Incorrect position of the lever

Correct position of the lever



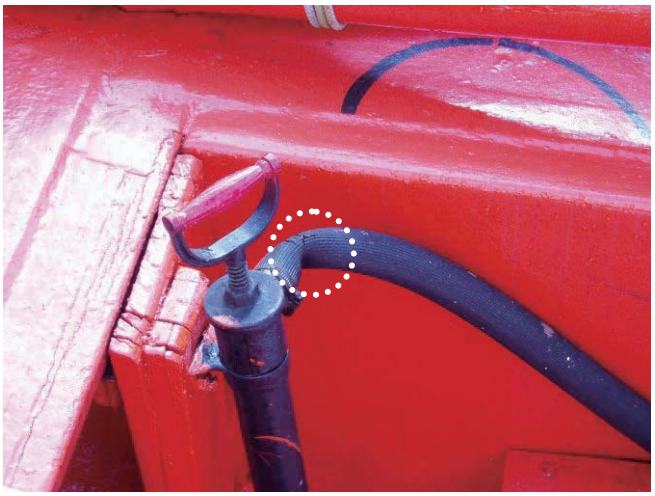

Defective release cable

(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 luck 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. |

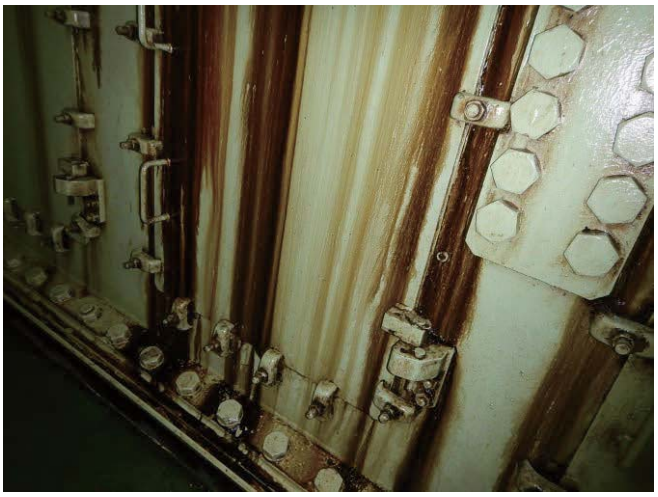
Partial lack of a high-pressure fuel oil pipe doubling jacket

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.

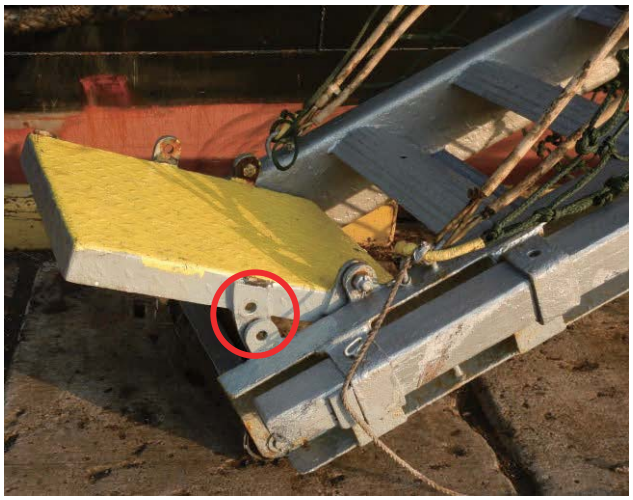
Missing of guard of lighting fittings in E/R

## 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?<br>Are there missing bolts and nuts? |
| *Action to be taken:* | Damaged accommodation/pilot ladders are to be repaired/renewed.<br>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

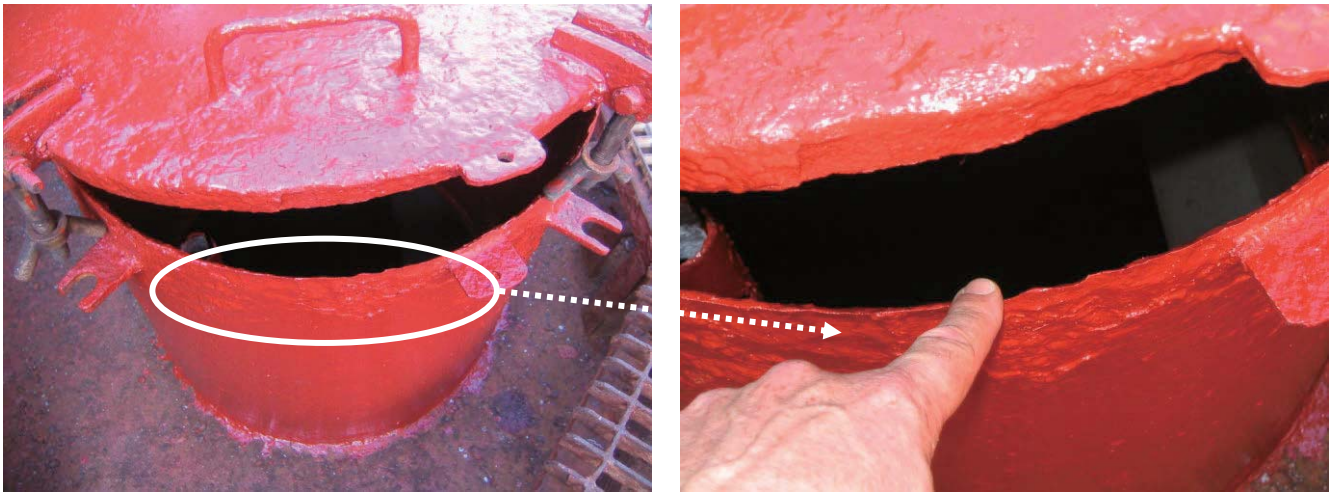
Double marks (Not acceptable)

## 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.



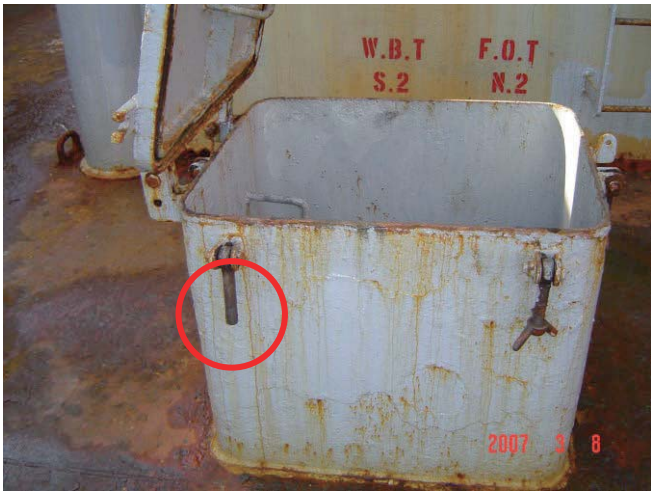
Wastage of small hatch coaming

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

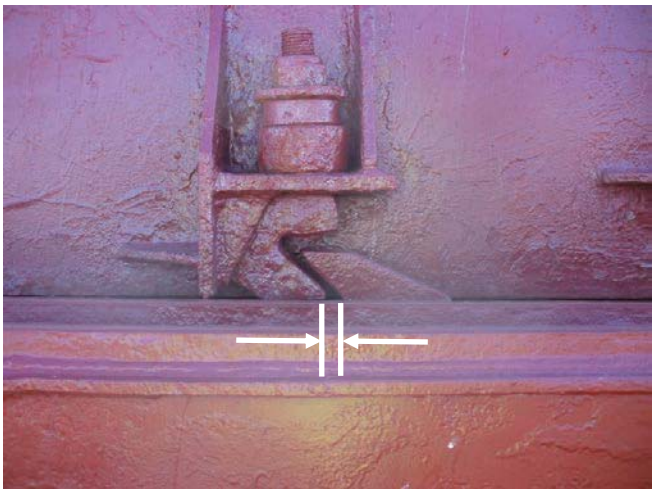
*How to check*: Visual inspection
*Check item*: Are there damage and/or wastage of securing devices with crutches?
Are there missing securing devices with crutches?
*Action to be taken*: Damaged and/or wasted securing device with supports are to be replaced with new one.

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:* Periodical performance test
*Check item:* Are delivery pressures normal?
Required pressure at hydrants:
6000 GT and over : 0.27 N/mm$^2$
under 6000 GT : 0.25 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*: | Visual inspection and hammering |
| *Check item*: | Are there corrosion, wastage and/or leakage of fire lines? |
| *Action to be taken*: | 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

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


Missing of fire nozzle

Missing of coupling

(2) Length of Fire Hoses

*How to check:* Visual inspection
*Check item:* Are length of fire hoses properly?
*Action to be taken:* 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*: | Operation test using AC and DC power |
| *Check item*: | Are MF/HF radio operating normally?<br>Are GMDSS officers able to switch the power from AC to DC?<br>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.<br>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:

*How to check:* Visual inspection
*Check item:* Are there damage of mooring ropes?
*Action to be taken:* 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:

*How to check:* Visual inspection
*Check item:* Are garbage properly stored?
*Action to be taken:* Garbage are to be properly stored.

Garbage bags are left with unattended in rope store

Ventilator is obstructed by garbage

# Good Maintenance On Board Ships

[English]

ClassNK
Survey Department
3-3, Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan
Tel: +81-3-5226-2027
Fax: +81-3-5226-2029
E-mail: svd@classnk.or.jp

www.classnk.com

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