

## Checklist for Planned Maintenance Focused Inspection Campaign

AMSA surveyor's will be using the checklist below when inspecting ships as part of our planned maintenance focused inspection campaign. Use this checklist to prepare for the inspection. Below is a sample of the focused inspection campaign checklist.

No	Question	Yes	No	NA
1	Have survival craft falls been inspected periodically, with special regard to areas passing through sheaves?			
2	Have the procedures for permits to work been used onboard?			
3	Have the IMO Guidelines for fixed carbon dioxide fire-extinguishing systems been incorporated in the maintenance plan?			
4	Have the air pipes to ballast and other tanks been maintained after survey?			
5	Have maintenance inspections been held at intervals in accordance with the SMS?			
6	Has the Sewage Treatment Plant been maintained to conform to the provisions of MARPOL Annex IV?			
7	Have essential software, such as engine and generator control system software, been maintained in accordance with manufacturer's instructions?			
8	Has the inventory and inspection of cargo securing equipment been conducted by the ship's crew?			
9	Has the ship been maintained after survey?			
	<b>POST INSPECTION</b>			
	Have deficiencies been issued as part of the FIC?			
	Has the ship been detained as part of this FIC?			

## **Guidance to Owners, Operators and Masters in preparing for the FIC on Planned Maintenance**

***Question 1: Have survival craft falls been inspected periodically, with special regard to areas passing through sheaves?***

SOLAS Chapter III Regulation 20.4 “Maintenance of falls”

*Falls used in launching shall be inspected periodically\* with special regard for areas passing through sheaves, and renewed when necessary due to deterioration of the falls or at intervals of not more than 5 years, whichever is the earlier.*

In addition to the maintenance of the falls, it is recommended to maintain up to date all service certificates issued to demonstrate compliance with SOLAS Chapter III Regulation 20.11 “Maintenance, thorough examination, operational testing, overhaul and repair of lifeboats, rescue boats and fast rescue boats, launching appliances and release gear”. Please refer to the Requirements for maintenance, thorough examination, operational testing, overhaul and repair adopted by the Maritime Safety Committee of the Organization by resolution MSC.402(96).

***Question 2: Have the procedures for permits to work been used onboard?***

The element 7 of the ISM Code requires the Company to develop plans for shipboard operations, which include ‘permits to work’ involving work of a hazardous nature.

*A Permit to Work should be a simple formal system stating exactly what work is to be done, when it is being done and the safety controls that must be put in place to avoid injury or death. Permits are also a means of communication between those who carry out the work, the person responsible for their safety and someone who could introduce a hazard if they were unaware the work was taking place.*

*Wherever there is a hazardous job taking place, a written Permit to Work procedure should always be used. Jobs considered to be high risk should include (list is not all inclusive):*

- *Entry into enclosed or confined spaces*
- *Working on machinery or equipment which can start automatically or requires isolation*
- *Hot work including welding*
- *Working aloft or over side*
- *General electrical work (Under 1000 Volts)*
- *Electrical high voltage work (Over 1000 Volts)*
- *Working on lift machinery*

The Safety Management System (SMS) on board should include adequate guidance on control of hazardous job and should be robust enough to ensure compliance.

***Question 3: Have the IMO Guidelines for fixed carbon dioxide fire-extinguishing systems been incorporated in the maintenance plan?***

IMO MSC Circular **MSC.1/Circ.1318/Rev.1** *Revised Guidelines for the Maintenance and Inspections of Fixed Carbon Dioxide Fire-Extinguishing Systems.*

For fixed CO<sub>2</sub> fire extinguishing systems, the IMO guidance refers to monthly inspections, annual inspections, biennial

maintenance, five-year service and 10-year hydrostatic tests. Records of the inspections shall be carried on board the ship, or may be computer based.

***Question 4: Have the air pipes to ballast and other tanks been maintained after survey?***

The purpose of the Air Vent Head (as defined in IACS UR P3.2.6:2016) is to:

- prevent the free entry of water into the tanks
- allow the passage of air or liquid to prevent excessive pressure or vacuum coming on the tank

It is recommended to inspect the general condition of the Air Vent Heads (rust, dirt, functionality) and especially the condition of the float/ball/disc, guiding pin, seat and wire mesh (if installed).

Port state control detentions (particularly in Australian waters) have revealed several cases of damages to air pipe heads. Investigation showed that all the air pipe heads had been damaged by being subjected to continuous overflow of the ballast tanks for ballast water exchange – Air-pipes are not designed for continuous ballast water overflow.

***Question 5: Have maintenance inspections been held at intervals in accordance with the SMS?***

ISM Code Regulation 10.2 reads as follows:

*In meeting these requirements, the Company should ensure that:*

- .1 inspections are held at appropriate intervals;*
- .2 any non-conformity is reported with its possible cause, if known;*
- .3 appropriate corrective action is taken; and*
- .4 records of these activities are maintained.*

To demonstrate compliance with the established interval set in the SMS and in accordance with manufacturer's instructions, records must be maintained as objective evidence.

***Question 6: Has the Sewage Treatment Plant been maintained to conform to the provisions of MARPOL Annex IV?***

MARPOL Annex IV Regulation 9.1.1:

*1 Every ship which, in accordance with regulation 2, is required to comply with the provisions of this Annex shall be equipped with one of the following sewage systems:*

- .1 a sewage treatment plant which shall be of a type approved by the Administration, taking into account the standards and test methods developed by the Organization,<sup>1</sup>*

<sup>1</sup> Refer to the Recommendation on international effluent standards and guidelines for performance tests for sewage treatment plants (resolution MEPC.2(VI)), or Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.159(55))

For passenger ships operating in a Special Area, please refer to the Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants (resolution MEPC.227(64)), Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.159(55)), or 2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.227(64)).

Sewage treatment systems shall be maintained in accordance with manufacturer's instructions, including any periodic on-board tests as may be applicable and all records shall be maintained.

***Question 7: Have essential software, such as engine and generator control system software, been maintained in accordance with manufacturer's instructions?***

This section relates directly to the maritime cyber risk management procedures in the Safety Management Systems.

It is important to know whether the software and maintenance have been outsourced to third party service providers or if the company is using different providers responsible for software, cyber security checks and maintenance. In both cases, records and procedures must be available.

Onboard systems that may require software update may include, but is not limited to, the following:

- Cargo and loading management systems, e.g. loading, management and control of cargo.
- Bridge systems, e.g. ECDIS, GNSS, AIS, VDR.
- Propulsion and machinery management and power control systems, e.g. control machinery, propulsion and steering.
- Access control systems, e.g. shipboard security alarm.
- Passenger servicing and management systems, e.g. boarding and access control.
- Administrative and crew welfare systems, e.g. internet access, email.

Cyber risks must be appropriately addressed in the safety management system no later than the first annual verification of the company's Document of Compliance after 1 January 2021.

***Question 8: Has the inventory and inspection of cargo securing equipment been conducted by the ship's crew?***

Based on IMO MSC Circular **MSC.1/Circ.1353/Rev.2** "Revised Guidelines for the Preparation of the Cargo Securing Manual", regular inspections and maintenance should be carried out under the responsibility of the master. Cargo securing devices inspections as a minimum should routine visual examinations of components being utilized.

Entries should be made in a record book, which should be kept with the Cargo Securing Manual. This record book should contain the following information:

- .1 procedures for accepting, maintaining and repairing or rejecting cargo securing devices; and
- .2 record of inspections.

Computerized maintenance procedures are acceptable.

***Question 9: Has the ship been maintained after survey?***

ISM Code Regulation 10.1 reads as follows:

*10.1 The Company should establish procedures to ensure that the ship is maintained in conformity with the provisions of the relevant rules and regulations and with any additional requirements which may be established by the Company.*

Upon completion of an initial/annual/intermediate/renewal survey under the provisions of an IMO instrument, the conditions of the vessel must be maintained to conserve the validity of the certificate/document issued or endorsed. Accordingly, the Master and the crew must be familiar with the procedures and records should be maintained to demonstrate compliance.