

DBS
DROMON BUREAU OF SHIPPING

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TECHNICAL PUBLICATION

Detainable deficiencies

guidance

December 2021

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INTRODUCTION

The purpose of this Publication is to summarize the most important deficiencies exported from several Port State Control (PSC) Inspections that resulted into a vessel's detention.

Many of the deficiencies in this document show three major issues are the main cause of those detainable deficiencies: the lack of planned maintenance properly followed by the crew on board, the lack of Crew Familiarization with SMS system and the lack of monitoring by the ISM Company.

Ship Owners/ Ship Managers / Operators should follow up on the following deficiencies to avoid recurrence on board their ships.

Dromon Publication on "*On-board maintenance and Drills agenda"* includes all items to be reviewed, checked and maintained through the ship's maintenance program according to the relevant IMO Regulations and Resolutions. The schedule should be strictly followed to assist the crew and vessel and avoid possible deficiencies and/or ships' detention.

FIRE SAFETY

MALFUNTIONING OF FIRE DOORS & OPENINGS IN THE FIRE-FIGHTING DIVISION

The engine room and paint storeroom access self-closing doors were inoperative due to malfunctioning of self-closing devices and were back lashed in open position. Also, all self-closing fire doors on board were not closing properly.



PSC Detainable Deficiency



A properly closed door

According to MSC.1/Circ.1432, the fire doors should follow the below maintenance programme:

- verify all fire door control panel indicators, if provided, are functional by operating the lamp/indicator switch (weekly);
- test all remotely controlled fire doors for proper release (annually).
- test all fire doors located in main vertical zone bulkheads for local operation (quarterly).

It is very important to note that:

- All fire doors must have proper closing mechanisms and must not purposely open; and
- All fire doors must not be tied back with “hooks”.

FIRE DAMPERS

Both ventilation flaps on board were in a bad condition. It is very important to note that:

- Fire dampers must in a good working condition, functionally tested and examined both internally and externally;
- The maintenance and inspection of the fire dampers is conducted in accordance with the Safety Management;
- System (SMS) requirements based on Dromon Circular C13016;
- Damper flaps must be structurally sound with no wastage;
- The external ventilation trunk must be marked to show damper flag position “OPEN” or “CLOSE”; and
- The location of fire dampers must be clearly shown on the approved fire control plan.



PSC detainable deficiency

In another PSC Inspection. It was noted that the fire dampers have been found inoperative. Uncontrolled fire is always a serious risk. In an emergency a fire can spread via a ventilation ductwork. Therefore, it is essential that the ventilation ductwork is equipped with high-quality and robust fire dampers that also prevent smoke from spreading and therefore enable safety for escape routes.

Fire Dampers are used in air transfer openings, ducts and other places where fire rated structures are penetrated. If these openings wouldn’t be protected, the fire would easily spread to other spaces and damage the property and pose a danger to people working in that environment.

SOLAS / Chapter 11-2 / Regulation 14.1 requires that:

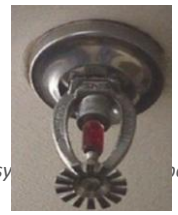
- Fire protection systems and fire-fighting systems and appliances shall be maintained ready for use; and
- Fire protection systems and fire-fighting systems and appliances shall be properly tested and inspected.

IMO MSC.1/Circ1432 requires a test of all fire dampers for remote operation by the crew on an annual basis, therefore the Ship Master should make sure that this maintenance is assured.

FIRE-FIGHTING EXTINGUISHING INSTALLATION

On board a vessel, the paint store sprinkler system was found inoperative. It is very important to ensure that:

- The system has been serviced by an approved service provider
- The sprinkler system must be in a good working condition
- The maintenance and inspection of the system and installation is conducted as per the Safety Management System (SMS) requirements based on Dromon Circular C13016.



Sprinkler sy[illegible]perly maintained

FIRE DETECTION

The Fire Control detection system was found inoperative.

As per MSC.1/Circ.1432, for all cargo ships, the fixed fire detection and alarm systems must be weekly tested and inspected. The crew should verify that all fire detection and fire alarm control panel indicators are functional by operating the lamp/indicator test switch.

On a monthly basis, the crew should test a sample of detectors and manual call points so that all devices to be tested within five years. For large systems the sample size is determined by the vessel's Administration.

Annual inspections must be carried out to ensure that the indicated actions are taken for the fire detection and fire alarm systems. More specifically the crew should:

- test all fire detection systems and fire detection systems used to automatically release fire-extinguishing systems for proper operation, as appropriate;
- visually inspect all accessible detectors for evidence of tampering obstruction, etc., so that all detectors are inspected within one year; and
- test emergency power supply switchover.

FIRE PUMPS AND ITS PIPES

There was water leakage from fire line in middle ship starboard side.

Fire-fighting systems and appliances must be kept in good working order and readily available for immediate use. Dromon C20041 described the maintenance of fire pumps, emergency fire pumps and their pipes.

The crew should be reminded on the testing and maintenance for both of the above mentioned equipment.

FIRE PUMPS, EMERGENCY FIRE PIRE PUMPS AND THEIR PIPES

During the PSC Inspection, it was noted that:

- the main fire pump was found inoperative due to missing parts;
- the emergency fire pump and fire line could not be tested due to the forward isolation valve which was stuck in close position and the fire line was not ready for use.

SOLAS Chapter II/Regulation 14-2 defines that the fire-fighting systems and appliances should always be kept in good working condition and readily available for immediate use.

The operation of the main and emergency fire pump must be checked frequently especially during the emergency fire drills. The record of the checks made on the emergency and main fire pump must be done on Saturday or Weekly routine book. Some of the general checks include:

- Oil and grease the bearings;
- Check the bearing temperature;
- Check the condition of gland packing;
- Check for any leakages from mechanical seal, if fitted;
- When the fire pump will not be used for a longer duration (in dry docks or layups), keep the discharge and suction valve closed;
- When sailing in the cold region, keep the pump drained off the water;
- Check the standby pump when operating the other fire pump. If it is also reversing, the non-return associated with the standby pump is leaking;
- Check for abnormal noise and vibrations;

Other precautions:

- In freezing weather conditions, keep the fire and deck wash water line drained;
- Never close or throttle the suction valve when the fire pump is running;
- When glad packing is used, little water leakage is considered fine. For the mechanical seal, no water leakage should be observed; and

- When filling the grease, ensure to open the drain plug open which makes the old grease come out.

An additional deficiency was that the fire hose on main deck starboard side was blocked by loose items and the transportable fire pump was not ready for use and could not start within reasonable time.

As per SOLAS, Ch. II-2, Reg. 14, the fire-fighting systems and appliances shall be kept in good working order and readily available for immediate use.

For the fire hoses and fire pumps, as per MSC.1/Circ.1432, below maintenance programme should be followed:

	Tests and checks
Monthly	Verify all fire hydrants, hose and nozzles are in place, properly arranged, and are in serviceable condition; Operate all fire pumps to confirm that they continue to supply adequate pressure; and Emergency fire pump fuel supply adequate, and heating system in satisfactory condition, if applicable.
Quarterly	Verify international shore connection(s) is in serviceable condition.
Annually	Visually inspect all accessible components for proper condition; Flow test all fire pumps for proper pressure and capacity. Test emergency fire pump with isolation valves closed; Test all hydrant valves for proper operation; Pressure test a sample of fire hoses at the maximum fire main pressure, so that all fire hoses are tested within five years; Verify all fire pump relief valves, if provided, are properly set; Examine all filters/strainers to verify they are free of debris and contamination; and Nozzle size/type correct, maintained and working.

FIRE HOSES

The fire hoses have been found broken and/or holed and one hose was missing. It is very important to:

- Check the condition of hoses, roll hose out on the deck and put under pressure when found necessary;
- Check hose coupling arrangement; and
- Verify the number and condition for the hydrants and hoses according to the Fire Plan.

	Tests and checks
Monthly	Check fire hose boxes for damage, locking arrangement, hinges, painted and marked properly; Fire hoses and nozzles are in place, properly arranged and in good serviceable condition; Hose box hinges lubricated properly; Fire hose couplings secured properly and freely moving; Spanners for hoses in place; Hose box packing in place; Coupling's washer in place; Check nozzles are free; Free of obstructions, stored gear etc. which restricts access annually; Fire hoses to be hydrostatically tested annually at working pressure; and All nozzles are of correct type, size and in good working order
Annually	Fire hoses to be hydrostatically tested annually at working pressure; All nozzles are of correct type, size and in good working order

EMERGENCY ESCAPE BREATHING DEVICE AND DISPOSITION

The EEBD has been found on tank top close to an emergency exit without any IMO indication and not in accordance with fire plan.

The ship's Master should follow the requirements of Chapter II-2, Regulation 13.4.3, as stated below:

- On all ships, within the machinery spaces, emergency escape breathing devices shall be situated ready for use at easily visible places, which can be reached quickly and easily at any time in the event of fire. The location of emergency escape breathing devices shall take into account the layout of the machinery space and the number of persons normally working in the spaces;
- The number and location of these devices shall be indicated in the fire control plan; and
- Emergency escape breathing devices shall comply with the FSS Code.

FIRE CONTROL PAN

The PSCO noted that the fire control plan found on board not responding to the real situation. Fire-fighting

equipment and lifesaving equipment for bridge were not stored according the fire plan. In the engine room a bulkhead dividing work shop was found. The emergency exit noted in tank top has not been reported on the fire plan.

According to SOLAS Chapter II-2, Regulation 15.2, the fire control plans should be permanently exhibited for the guidance of the ship's officers and a duplicate set of fire control plans or a booklet containing such plans must be permanently stored in a prominently marked weathertight enclosure outside the deckhouse for the assistance of shore-side fire-fighting personnel. For the Graphical symbols for fire control plans, refer to IMO Res. A.952(23) and for the Guidance concerning the location of fire control plans for assistance of shoreside fire-fighting personnel refer to IMO MSC/Circ.451.

Ship Masters must ensure that the fire control plan is kept up-to-date and if any alterations shall be made onboard, these shall need to be recorded as soon as possible.

It is vital to emphasize the importance of updating the Fire Control Plan on time and in continuation of its approval to be submitted to Dromon Engineers for re-approval.

MEANS OF CONTROL (OPENING, PUMPS) MACHINERY SPACES

The quick closing valve of tank 334 was found inoperative.

The quick closing valves should be maintained and tested according the ship’s planned maintenance system. Quick closing valves should not be intentionally blocked or “gagged” in the open position to prevent operation. In cases where, temporarily, it is necessary to block a particular valve during testing or maintenance (e.g. to prevent loss of power or propulsion), care must be taken to return the blocked valve to operational condition immediately after completion of testing or maintenance.

Ship Masters should ensure the proper operation of the quick closing valves on board their ships.

PERSONAL EQUIPMENT FOR FIRE SAFETY

Fireman outfit locker not indicated on the fire plan. One set found in forecastle store without breathing apparatus.

We remind Ship Masters to ensure that the fire control plan is kept up-to-date and if any alterations shall be

made onboard, these shall need to be recorded immediate.

SOLAS Chapter II-2, Regulation 10.10.2.1 requires that ships shall carry at least two fire-fighter's outfits, which shall comply with the Fire Safety Systems Code and Self-contained compressed air breathing apparatus of fire-fighter's outfits shall need to comply with paragraph 2.1.2.2 of chapter 3 of the FSS Code.

In addition, the crew should carry monthly inspections to verify lockers providing storage for fire-fighting equipment contain their full inventory and equipment is in serviceable condition (MSC.1/Circ.1432).

LIFE-SAVING APPLIANCES

RESCUE BOAT ENGINE

The rescue boat engine was found inoperative during test. It is important to note that the test of rescue boat engine (SOLAS III/20.6.2, MSC Circ. 1206) must be carried out on weekly basis. It is very important to:

- Test that the engine of the rescue boat(s) and of each lifeboat, when so fitted, start satisfactory and operate both ahead and astern (SOLAS 74/00 Reg.III/19);
- Verify the proper working of the Engine propulsion of the Rescue Boat;
- Verify the type, position and number of rescue boat accordingly at the Emergency Evacuation Plan;
- Verify the capacity of the boat (6 persons);
- Verify that the rescue boat has the corresponding marking (Name of the Vessel, Port Registry; Dimensions and Capacity of the persons on board); and
- Verify the good condition of the equipment



EMERGENCY EQUIPMENT FOR 2-WAY COMMUNICATION

The battery of the emergency equipment for 2-way communication was found expired. Ship Owners/ Managers / Operators are reminded on the requirements of the emergency equipment.

The equipment should be portable and capable of being used for on-scene communication between survival craft, between survival craft and ship and between survival craft and rescue unit. It may also be used for on-board communications when capable of operating on appropriate frequencies.

The equipment should:

- be capable of being operated by unskilled personnel;
- be capable of being operated by personnel wearing gloves as specified for immersion suits in regulation 33 of chapter III of 1974 SOLAS Convention;
- be capable of single-handed operation except for channel selection;
- withstand drops on to a hard surface from a height of 1 m;
- be watertight to a depth of 1 m for at least 5 min;
- maintain water tightness when subjected to a thermal shock of 45°C under conditions of immersion;
- not be unduly affected by seawater, or oil, or both;
- have no sharp projections which could damage survival craft;
- be of small size and light weight;
- be capable of operating in the ambient noise level likely to be encountered on board ships or in survival craft;
- have provisions for its attachment to the clothing of the user;
- be resistant to deterioration by prolonged exposure to sunlight; and
- be either of a highly visible yellow/orange colour or marked with a surrounding yellow/orange marking strip.

The source of energy should be integrated in the equipment and may be replaceable. In addition, provision may be made to operate the equipment using an external source of electrical energy.

Equipment for which the source of energy is intended to be user-replaceable should be provided with a dedicated primary battery for use in the event of a distress situation. This battery should be equipped with a non-replaceable seal to indicate that it has not been used.

The primary battery should have sufficient capacity to ensure 8-hour operation at its highest rated power with a duty cycle of 1:9. This duty cycle is defined as 6-second transmission, 6-second reception above squelch opening level and 48-second reception below squelch opening level.

BRIDGE DISTRESS FLARES

The ship's distress flares were found expired.

LSA Code covering the distress flares requires that not less than 12 rocket parachute flares, complying with the requirements of section3.1 of the Code, shall be carried and be stowed on or near the navigation bridge.

The rocket parachute flare shall:

- be contained in a water-resistant casing;
- have brief instructions or diagrams clearly illustrating the use of the rocket parachute flare printed on its casing;
- have integral means of ignition; and
- be so designed as not to cause discomfort to the person holding the casing when used in accordance with the manufacturer's operating instructions.

- The rocket shall, when fired vertically, reach an altitude of not less than 300 m. At or near the top of its trajectory, the rocket shall eject a parachute flare, which shall:
- burn with a bright red colour;
- burn uniformly with an average luminous intensity of not less than 30,000 cd;
- have a burning period of not less than 40 s;
- have a rate of descent of not more than 5 m/s; and
- not damage its parachute or attachments while burning.

VENTILATION

Most of the inlet and outlet ventilations on main deck were highly corroded with structural damage and ventilations hatches didn't close tightly or couldn't open due to corrosion.

The cause of defective ventilations hatches is the daily exposure to the outdoor environment. Each ventilation is an essential safety feature on board and should be kept in good condition.

Shipowners / Managers / Operators should ensure that there is a regular inspection and maintenance programme in place for the ventilations on board. Such programme should include the general condition (rust, dirt, functionality, painting, polish) and especially the condition of the float/ball/disc, guiding pin, seat and wire mesh (if installed).

LAUNCHING ARRANGEMENTS FOR SURVIVAL CRAFT

The ship is requested to comply with the SOLAS 74 Convention (am. 81), because of her keel laying the ship was not requested to carry totally enclosed lifeboats. Since at the time of boarding it was found that the ship has been later on equipped with totally enclosed lifeboats (S74 am.83) it was noted that both the lifeboats were missing the launching mechanisms inside the lifeboats by which it's possible to actuate the break to permit to reach the water level.

Fall preventer devices in accordance with the guidelines for the fitting and use of fall preventer devices (FPDs), as per IMO MSC.1/Circ.1327, should be employed for each existing lifeboat release and retrieval system until the system is:

- found compliant with the LSA Code; or
- modified and found compliant with the LSA Code; or
- found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of the IMO MSC.1/Circ.1392; or
- modified and found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of the IMO MSC.1/Circ.1392; or
- replaced by a new lifeboat release and retrieval system.

After a successful completion of the design review, a performance test should be conducted by the

manufacturer for each type of lifeboat release and retrieval systems for compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, using the test specified below. The performance test should be witnessed by our Surveyor.

Another PSC Officer noted two deficiencies have been raised concerning this subject. These are:

- Davit launching system for liferaft found inoperative with no lifting hook fitted; and
- Davit launching system for liferaft SWL 1500 kg. Davit SWL not adequate for L/R provided on board for 25 persons.

SOLAS Regulation III/20 states that the davit-launched liferaft automatic release hooks shall be:

- subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8; and
- operationally tested under a load of 1.1 times the total mass of the liferaft when loaded with its full complement of persons and equipment whenever the automatic release hook is overhauled. Such overhauling and operational test shall be carried out at least once every five years.

In addition to the above, the crew on board should follow the requirements of IMO Resolution MSC.402(96) for further weekly, monthly, annually and five-year thorough examinations of the launching arrangements that shall be conducted by either an authorize service providers, or by shipboard personnel under the direction of a senior ship's officer in accordance with the maintenance manual and/or the manufacturer.

The setting and maintenance of release gear are critical operations with regard to maintaining the safe operation of lifeboats, including free-fall lifeboats, rescue boats, fast rescue boats and davit launched liferafts.

LIFEBOATS

The vessel’s lifeboats have not been found properly maintained since the lifeboat was found in very poor condition, the hooks severely damages and it was not possible to release the boat in case of emergency.

As already published through C18024, DromonClass wishes to remind on the requirements on the lifeboats. Fall preventer devices in accordance with the guidelines for the fitting and use of fall preventer devices (FPDs), as per IMO MSC.1/Circ.1327, should be employed for each existing lifeboat release and retrieval system until the system is:

- found compliant with the LSA Code; or
- modified and found compliant with the LSA Code; or
- found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of the IMO MSC.1/Circ.1392; or
- modified and found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of the IMO MSC.1/Circ.1392; or
- replaced by a new lifeboat release and retrieval system.

Replacement of lifeboat

Companies should, where possible, select replacement equipment acceptable to the lifeboat manufacturer. However, in cases where the lifeboat manufacturer is unable to offer a suitable replacement lifeboat release and retrieval system, the Company may select an alternative lifeboat release and retrieval system, with the agreement, if possible, of the lifeboat manufacturer. The replacement equipment should be approved by the Administration or DromonClass, under the provisions of the LSA Code.

Replacement of hook fixed structural connections of the release mechanism and supporting structure.

As per IMO Circular MSC.1/Circ.1584, Dromon may allow hook fixed structural connections of the release mechanism and supporting structure which are not made of material resistant to corrosion in the marine environment, as required by paragraph 4.4.7.6.9 of the LSA Code, not be replaced if they are in a good condition and installed in a sheltered position inside the lifeboat. The assessment for verifying that fixed structural connections and supporting structures are in 'good condition' should be carried out by the manufacturer or by one of its representatives. The assessment for verification is not required if the materials of the foundation, bolts and supporting structure, both internally and externally, are made of materials resistant to corrosion in the marine environment.

STOWAGE AND PROVISION OF LIFEBOATS

The lifeboat davit, winch, brake electric panel, sheaves and all structural members of launching arrangements have been found in very poor condition and severely corroded.

SOLAS, Chapter III, Regulation 36 describes that instructions for on-board maintenance of life-saving appliances shall include the following for each appliance:

- a checklist for use when carrying out the inspections required by regulation 20.7;
- maintenance and repair instructions;
- schedule of periodic maintenance;
- diagram of lubrication points with the recommended lubricants;
- list of replaceable parts;
- list of sources of spare parts; and
- log for records of inspections and maintenance.

OPERATION OF LIFE SAVING APPLIANCES

Throughout the PSC Inspection, it was noted that the crew was not familiar with operation of launching arrangements for rescue boat and STB liferaft davit. There were two different freeboard/plimsol marks on the sides of the ship's hull.

The crew on board should take into consideration the below:

- maintenance and inspections must be carried out by a competent person to procedures that reflect the manufacturers' instructions;
- maintenance and inspections must be recorded to provide objective evidence that these have been carried out according to manufacturer's instructions;
- the quality of crew training and familiarization are directly affected by the frequency and quality of the drills carried out;
- planning is essential to ensure drills are performed safely;
- drills should be realistic but must not be hurried when familiarization or other training is taking place;
- a crew debrief after each drill is essential to emphasize lessons learned or to give additional training where necessary

The drills are considered fundamental for the crew familiarization and must be carefully planned to consider the voyage requirements, loading and unloading operations, weather conditions etc. in order to identify the most suitable opportunity for an alert crew to carry out the drill.

RESCUE BOATS

Through the PSC Inspection it was noted that the lifeboat/ rescue boat wooden rudder was damaged.

There was noted a temporary repair to the wooden blade and pintles worn through. Also, gunwale grab-line was not secured as required.

As per SOLAS, Chapter III, Regulation 20, before the ship leaves port and at all times during the voyage, all life-saving appliances shall be in working order and ready for immediate use.

In addition, the rescue boat was not ready for use, was not marked with the ship's name and was poorly maintained.

As per SOLAS, Ch. III, Reg. 20, before the ship leaves port and at all times during the voyage, all life-saving appliances shall be in working order and ready for immediate use.

Below maintenance programme should be followed:

	Tests and checks
Weekly	The following tests and inspections shall be carried out weekly and a report of the inspection shall be entered in the log-book: a. all survival craft, rescue boats and launching appliances shall be visually inspected to ensure that they are ready for use. The inspection shall include, but is not limited to, the condition of hooks, their attachment to the lifeboat and the on-load release gear being properly and completely reset; b. all engines in lifeboats and rescue boats shall be run for a total period of not less than 3 min, provided the ambient temperature is above the minimum temperature required for starting and running the engine. During this period of time, it should be demonstrated that the gear box and gear box train are engaging satisfactorily. If the special characteristics of an outboard motor fitted to a rescue boat would not allow it to be run other than with its propeller submerged for a period of 3 min, a suitable water supply may be provided. In special cases, the Flag Administration may waive this requirement for ships constructed before 1 July 1986;

Maintenance, thorough examination, operational testing, overhaul and repair of lifeboats, rescue boats and fast rescue boats, launching appliances and release gear.

a. Launching appliances shall be:
   - subject to a thorough examination at the annual surveys required by regulations I/7 or I/8, as applicable; and
   - upon completion of the examination, subjected to a dynamic test of the winch brake at maximum

lowering speed. The load to be applied shall be the mass of the survival craft or rescue boat without persons on board, except that, at intervals of at least once every five years, the test shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment.

b. Lifeboat and rescue boat release gear, including fast rescue boat release gear and free-fall lifeboat release systems, shall be:
   - subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8;
   - in case of on-load release gear, operationally tested under a load of 1.1 times the total mass of the boat when loaded with its full complement of persons and equipment whenever the release gear is overhauled. Such overhauling and operational test shall be carried out at least once every five years; and
   - the operational testing of free-fall lifeboat release systems shall be performed either by free fall launch with only the operating crew on board or by a test without launching the lifeboat carried out based on Requirements for maintenance, thorough examination, operational testing, overhaul and repair.

Lifeboats and rescue boats, including fast rescue boats, shall be subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8.

The thorough examination, operational testing and overhaul required by above paragraphs and the maintenance and repair of equipment specified in paragraphs 11.1 to 11.4 shall be carried out in accordance with the Requirements for maintenance, thorough examination, operational testing, overhaul and repair, and the instructions for onboard maintenance as required by Reg. 36.

Also, onboard another vessel, the PSCO noted that *the launching arrangements for the survival craft have been found not as required.*

Remotely located survival craft embarkation arrangements have been found not as required, lights to illuminate the launching areas are missed and knotted rope for liferaft embarkation is not allowed.

IMO MSC.1/Circ.1243 mentions that the area where these remotely located survival craft are stowed should be provided with:

1. a minimum number of two lifejackets and two immersion suits;
2. **adequate means of illumination** complying with SOLAS regulation III/16.7, either fixed or portable, **which should be capable of illuminating the liferaft stowage position, as well as the area of water into which**

the liferaft should be launched; portable lights, when used, should have brackets to permit their positioning on both sides of the vessel;

3. an embarkation ladder or other means of embarkation enabling descent to the water in a controlled manner **(Controlled manner: a knotted rope is not acceptable for this purpose)** as per SOLAS regulation III/11.7; and
4. self-contained battery-powered lamps (i.e. luminaires) may be accepted as means of illumination for complying with SOLAS regulation III/16.7. Such lamps should be capable of being recharged from the ship's main and emergency source of electrical power, and should be stowed close to the liferaft and embarkation ladder they are intended to serve, under charge. When disconnected from the ship's power, the lamp should give a minimum duration of three hours of undiminished performance. The lamps should comply with the requirements of section 1.2.3 of the LSA Code. The lamps (i.e. luminaires) should meet the requirements of Ingress Protection rating IP 55. The batteries for the subject lamps should comply with IACS Unified Requirement (UR) E18 requirements irrespective of whether the expiry date is marked by the manufacturer or not.

With regard to the distance between the embarkation station and stowage location of the liferaft as required by SOLAS regulation III/31.1.4 (remotely located survival craft), the embarkation station should be so arranged that the requirements of regulation III/13.1.3 can be satisfied.

Exceptionally, the embarkation station and stowage position of the liferaft (remotely located survival craft) may be located on different decks provided that the liferaft can be launched from the stowage deck using the attached painter to relocate it to the embarkation ladder positioned on the other deck (traversing a stairway between different decks with the liferaft carried by crew members is not acceptable).

Where the exceptional cases mentioned above exist, the following provisions should be applied:

1. the lifejackets and the immersion suits required by paragraph 2.1 may be stowed at the embarkation station;
2. adequate means of illumination complying with paragraph 2.2 should also illuminate the liferaft stowage position, embarkation station and area of water where the liferaft is to be embarked;
3. the embarkation ladder or other means of embarkation as required by paragraph 2.3 may be stowed at the embarkation station; and
4. notwithstanding the requirements in paragraph 4.1.3.2 of the LSA Code, the painter should be long enough to reach the relevant embarkation station.

INFLATABLE LIFERAFTS

The davit launchable liferaft, according to the Safety Equipment, was not available on board.

SOLAS Chapter III/Regulation 31-1.2.2 mentions “The liferafts on at least one side of the ship shall be served by launching appliances.”

A wrong entry regarding liferafts has been recorded in the Safety Equipment Certificate (Form E).

LIFE JACKETS INCL. PROVISION AND DISPOSITION

The life jackets were deteriorated and were not type approved.

As per SOLAS, Chapter III, Regulation 7, a lifejacket shall be provided for every person on board the ship and, in addition:

1. for passenger ships on voyages less than 24 h, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board shall be provided;
2. for passenger ships on voyages 24 h or greater, infant lifejackets shall be provided for each infant on board;
3. a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejacket for each child;
4. a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station; and
5. if the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories shall be available on board to allow them to be secured to such persons.

Also, according to SOLAS, Chapter III, Regulation 20, lifejackets shall be serviced:

1. at intervals not exceeding 12 months, provided where in any case this is impracticable, the Administration may extend this period to 17 months; and
2. at an approved servicing station which is competent to service them, maintains proper servicing facilities and used only properly trained personnel.

DISTRESS FLARES

The rocket parachute flares have been found expired on board. SOLAS Chapter III/Regulation 6.3 requires that **not less than 12 rocket parachute flares**, complying with the below requirements of the LSA Code, shall be carried and bestowed on or near the navigating bridge.

The rocket parachute flare shall:

- be contained in a water-resistant casing;
- have brief instructions or diagrams clearly illustrating the use of the rocket parachute flare printed on its casing;
- have brief integral means of ignition; and
- be so designed as not to cause discomfort to the person holding the casing when used in accordance with the manufacturer's instructions

The rocket shall, when fired vertically, reach an altitude of not less than 300m. At or near the top of its trajectory, the rocket shall eject a parachute flare, which shall:

- Burn with a bright red color;
- Burn uniformly with an average luminous intensity of not less than 30,000 cd;
- Have a burning period of not less than 40 s;
- Have a rate of descent of not more than 5 m/s; and
- Not damage its parachute or attachments while burning.

EMERGENCY LIGHTING, BATTERING AND SWITCHES

Three deficiencies have been raised concerning this subject. These are:

- Steering Gear room emergency exit without any emergency light;
- There is no emergency light at the F.E. stations on board; and
- There is no emergency light at the muster station.

SOLAS Regulation III/11.5 states that **alleyways, stairways and exits giving access to the muster and embarkation stations shall be lighted.** Such lighting shall be capable of being supplied by the emergency source of electrical power required by SOLAS Regulation II-1/42 or II-1/43, as appropriate.

In addition to and as part of the markings required under SOLAS Regulation II-2/13.3.2.5.1, routes to muster stations shall be indicated with the muster station symbol, intended for that purpose.

MUSTER LIST

The muster list was not posted. According to SOLAS, Chapter III, Regulation 8, clear instructions to be followed in the event of an emergency shall be provided for every person on board.

Muster lists and emergency instructions complying with the requirements of SOLAS, Chapter III, Regulation 37, shall be exhibited in conspicuous places throughout the ship including the navigation bridge, engine-room and crew accommodation spaces.

POLLUTION PREVENTION – MARPOL Annex V

GARBAGE MANAGEMENT PLAN

The garbage management plan was not adapted to the new ISM/SMS and it was not provided in the ship's working language as required.

ShipOwners should note that upon change of the vessel's ISM/SMS a new GMP should be issued and exist on board their vessel.

A GMP is mandatory for all ships above 100GT and on ships certified to carry 15 persons or more and it is written in the working language of the crew as per the guidelines developed by the IMO. The GMP to be retained onboard as a record for a period of two years from the date of last entry and a Responsible officer is to be in charge for maintaining garbage management plan on ship.

OIL WATER AND FUEL OIL SEPARATORS OBSERVED ILLEGAL CONNECTIONS

Oil residue (sludge) tanks must have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators.

The revised MARPOL requirements for oil residue (sludge) piping arrangements can be found in detail in Dromon Circular C16024 along with examples of acceptable and unacceptable connections. These requirements apply to all new and existing vessels with gross tonnage equal and above 400 GT.

All ships, constructed before January 01, 2017 must be arranged to comply with the requirements no later than the first renewal IOPP survey carried out on or after January 01, 2017.

STRUCTURAL CONDITION

BULKHEADS CORRODED AND HOLED

The bulkheads between cargo holds were corroded. In usual cases, excessive corrosion may be found in the following locations:

- At the mid-height and at the bottom of the bulkheads. The structure may look in deceptively good condition but in fact may be heavily corroded. The corrosion is created by the corrosive effect of cargo and environment, in particular when the structure is not coated;
- Bulkhead plating adjacent to the shell plating;
- Bulkhead trunks which form part of the venting, filling and discharging arrangements between the topside tanks and the hopper tanks;
- Bulkhead plating and weld connections to the lower/ upper stool shelf plates and inner bottom; and
- In way of weld connections to topside tanks and hopper tanks.

If coatings have broken down and there is evidence of corrosion, it is recommended that random thickness measurements be taken to establish the level of diminution. Where the terms and requirements of the survey dictate thickness measurement, or when the Surveyor deems necessary, it is important that the extent of the gauging be sufficient to determine the general condition of the structure.

When the reduction in thickness of plating and stiffeners has reached the diminution levels permitted by DBS, the wasted plating and stiffeners need to be cropped and renewed.



PSC Detainable Deficiency



Properly maintained bulkheads

CARGO HOLDS BOTTOM HOLED

During the PSC inspection it was noted that cargo holds bottom were holed to DB and side ballast tanks. The marine environment, the humid atmosphere due to the water vapour from the cargo in cargo holds, and the high temperature on deck and hatch cover plating due to heating from the sun may result in accelerated corrosion of plating and stiffeners making the structure more vulnerable to the exposures described above.

Possible cause of damage are the general levels of corrosion and presence of stress concentration. Corroded/ fractured plate should be cropped and renewed with plating of enhanced thickness.





PSC Detainable Deficiencies

DECKS CORRODED

The vessel's main deck forward of cargo hold coaming was found severely corroded and holed.

This particular deficiency shows that three major issues are the main cause: the lack of planned maintenance properly followed by the crew on board, the lack of Crew Familiarization with SMS system and the lack of monitoring by the ISM Company.

BALLAST TANKS FRAMES CORRODED

On board the vessel, the ballast tanks frames were found corroded and holed. The water in ballast tanks often has a high potential to corrode steel – if left unchecked. For instance, it may have high salinity and/ or contain

corrosive chemicals. Ballast tanks often make up the largest area of the steel structure of a marine vessel. If they are not fully protected they start to corrode, degrading operational safety, efficiency and service life. When choosing a cargo coating it is good to start with the specific needs of the vessel and the shipyard where the coating is to be applied.

Areas in ballast tanks and cargo holds found suspect at the previous Special Survey are subject to overall and close-up surveys, the extent of which becomes progressively more extensive commensurate with the age of the vessel.

If the protective coating is not properly maintained, structure in the ballast tank may suffer severe localized corrosion. In general, structure at the upper part of the double bottom tank usually has more severe corrosion than that at the lower part. Transverse webs in the hopper tanks may suffer severe corrosion at their corners where high shearing stresses occur, especially where collar plate is not fitted to the slot of the longitudinal.

The high temperature due to heated fuel oil may accelerate corrosion of ballast tank structure near heated fuel tanks. The rate of corrosion depends on several factors such as:

- Temperature and heat input to the ballast tank.
- Condition of original coating and its maintenance. (It is preferable for applying the protective coating of ballast tank at the building of the ship, and for subsequent maintenance, that the stiffeners on the boundaries of the fuel tank be fitted within the fuel tank instead of the ballast tank).
- Ballasting frequency and operations.
- Age of ship and associated stress levels as corrosion reduces the thickness of the structural elements and can result in fracturing and buckling.

WINCH OPENING CARGO HOLDS COVERS – FOUNDATION CORRODED

On board the vessel, the winch opening for cargo holds covers found corroded. In several respects, a winch shall be maintained in the same way you maintain a windlass. Inspect the friction brake linings regularly and replace them when necessary. Take steps to prevent oil or grease from accumulating on the brake surfaces. Periodically check the operation of brake-actuating mechanisms, latches, and pawls.

Frequently inspect winch drums driven by friction clutches for deterioration of the friction material. Check also

to see if oil and grease on the surface is causing improper operation. Lubricate the sliding parts of positive clutches properly. Check the locking device on the shifting gear to see if it will hold under the rated load.

Note that:

- All grease nipples on winches, should be attended weekly.
- Inspection on additional equipment such as chains, rings, hooks, blocks and shackles every three months.
- A thorough overhaul of the above equipment every 6 months.





PSC Detainable Deficiencies

In another PSC report, it was indicated that *the Covers have been found to be not as required.* As per the ship's ILLC Record of Conditions of Assignment the hatchway on main deck and sheltered deck were in position 1 and 2 and such covers should be weathertight and fitted with gasket and clamping devices as per ILLC Regulation 16. One cover was not provided with gaskets and another one was equipped with gasket. Weathertightness test failed for both covers.

Lack of weathertightness may be attributed to:

1. normal wear and tear of the hatch cover system: deformation of the hatch coaming or cover due to impact; wear of the friction pads where fitted; wear and tear of the cleating arrangement; or
2. lack of maintenance: corrosion of plating and stiffeners due to breakdown of coatings; lack of lubrication of moving parts; cleats, joint gaskets and rubber pads in need of replacement, or replaced with incorrect specification parts.

Testing of hatch cover weathertightness can be performed by different methods. The two most common leak detection tests are the water hose test and the ultrasonic test. Ultrasonic testing is the preferred method because areas of inadequate hatch sealing are accurately located.

Hatch covers and their fittings should be inspected at the end of every cargo voyage and all findings should be recorded. IMO Resolution MSC.169(79) lists a number of hatch cover items that should be inspected on each voyage cycle.

The continued safe operation is dependent on the Shipowner or Operator instituting a regular programme of inspections to confirm the state of the hatch covers in between surveys.

Routines shall be established to perform checks during the voyage, and inspections when the hatch covers are opened.

Voyage checks shall consist of an external examination of the closed hatch covers and securing arrangements in anticipation of, and after, heavy weather but in any event at least once a week, weather permitting. Particular attention shall be paid to the condition of hatch covers in the forward 25% of the ship's length, where sea loads are normally greatest.

The following items, where provided, shall be inspected for each hatch cover set when the hatch covers are opened or are otherwise accessible on each voyage cycle, but need not be inspected more frequently than once per month:

1. hatch cover panels, including side plates, and stiffener attachments of opened covers for visible corrosion, cracks or deformation;
2. sealing arrangements of perimeter and cross joints (gaskets, flexible seals on combination carriers, gasket lips, compression bars, drainage channels and non-return valves) for condition and permanent deformation;
3. clamping devices, retaining bars and cleating for wastage, adjustment, and condition of rubber components;
4. closed cover locating devices for distortion and attachment;
5. chain or wire rope pulleys;
6. guides;
7. guide rails and track wheels;
8. stoppers;
9. wires, chains, tensioners and gypsies;
10. hydraulic system, electrical safety devices and interlocks; and
11. end and inter-panel hinges, pins and stools where fitted.

As part of the inspection, the coamings with their plating, stiffeners and brackets shall be checked at each hatchway for visible corrosion, cracks and deformation, especially of the coaming tops and corners, adjacent

deck plating and brackets.

CARGO & OTHER HATCHWAYS

On board the vessel, the main deck cargo holds, and other hatch covers & coamings were found corroded and in poor condition. More specifically, “almost half of the securing cleats were missing, and the rest were found in poor condition”.

Failure to maintain hatch covers correctly can lead to physical loss of a cover in extreme weather and hold flooding and possible foundering. Minor leakage can cause cargo damage and, if over a prolonged period, damage to the ship ‘s internal structure. Long-term structural decline can lead to structural collapse and total loss.

Shipowners / Managers / Operators should ensure that regular inspections of the hatch covers, beams and coamings should be carried out to identify general levels of corrosion, localized corrosion at welds, cracks in joints and weld metal, any permanent distortion of plating and stiffeners. If any cracks detected in main structural joints or local heavy buckling, then the Company should be informed. Special attention should be paid after heavy weather. Always rectify any steel to steel faults before renewal of rubber packing, else rubber packing will be ruined very shortly thereafter. Missing or damaged rubber packing’s should be replaced immediately.

The cleats should be kept in good serviceable condition and correctly adjusted. Those and the wheels should be well greased. The hydraulic oil should be testes quarterly and correct oil levels should be ensured. Continuing and regular maintenance of hatch covers, and packing’s is more effective and hence less expensive than sporadic inspection and major repairs.

The cleats should be never left unfastened prior proceeding to sea.



PSC Detainable Deficiency

Another remark under this category was that the ventilation head port side fwd was found destroyed during the inspection due to severe corrosion.

The most probable cause of defective vent heads is the daily exposure to the outdoor environment on deck, occasional sprays from green seas and ballast water being pushed through the vent head during heavy rolling.

Malfunctioning air vent heads are a common finding, for the Port State Control inspector. Each vent head is an essential safety feature on board and should be kept in good condition. A broken air vent head will most probably result in a PSC deficiency which must be rectified before leaving port.

Shipowners / Managers / Operators should ensure that there is a regular inspection and maintenance programme in place for the air vent heads on board their vessels. Such programme should include the general condition (rust, dirt, functionality) and especially the condition of the float/ball/disc, guiding pin, seat and wire mesh (if installed). Needless to say, that a vent head replacement shall be of an approved type and any replacement parts shall be of the original or an equivalent quality. Also, a cheap air vent head can become an expensive experience. Air vent heads made out of aluminium or other grades of stainless steel have become increasingly popular in the last few years. Such materials are options to be considered in order to achieve a more maintenance-free vent head.





PSC Detainable Deficiencies

VENTILATORS, AIR PIPES, CASINGS

The forecastle store room and cargo *hold vents have been found holed due to heavy corrosion*.

Again, the causes for these deficiencies are:

- the combined effect of the marine environment and the high humidity atmosphere within cargo hold that gives rise to a high corrosion rate; the lack of planned maintenance properly followed by the crew on board,
- the lack of Crew Familiarization with SMS system; and
- and the lack of monitoring by the ISM Company.

BULKHEAD - CORROSION

The CO2 room bulkhead, on aft main deck, found heavy corroded and holed.

Following the corroded vents, again this deficiency shows same lack from the crew. With the proper maintenance procedures, vessels are less likely to suffer from corrosion. A maintenance plan shall assist to identify any signs of damage and take the necessary precautions for their rectification.

Another deficiency imposed was that the superstructure bulkhead was corroded and the holes were closed with pieces of textile.

In usual cases, excessive corrosion may be found in the following locations:

- At the mid-height and at the bottom of the bulkheads. The structure may look in deceptively good condition but in fact may be heavily corroded. The corrosion is created by the corrosive effect of cargo and environment, in particular when the structure is not coated;
- Bulkhead plating adjacent to the shell plating;
- Bulkhead trunks which form part of the venting, filling and discharging arrangements between the topside tanks and
- Bulkhead plating and weld connections to the lower/ upper stool shelf plates and inner bottom; and
- In way of weld connections to topside tanks and hopper tanks.

If coatings have broken down and there is evidence of corrosion, it is recommended that random thickness measurements be taken to establish the level of diminution. Where the terms and requirements of the survey dictate thickness measurement, or when the Surveyor deems necessary, it is important that the extent of the gauging be sufficient to determine the general condition of the structure.

When the reduction in thickness of plating and stiffeners has reached the diminution levels permitted by DBS, the wasted plating and stiffeners need to be cropped and renewed.

DOORS

The door to accumulator room on boat deck, doors to superstructure both sides on main deck, door to carpenter's room were corroded through in low part. Also, the main deck laundry door was missing.

According to LL, ANNEX I, Reg. 12 all access openings in bulkheads at ends of enclosed superstructures shall be fitted with doors of steel or other equivalent material, permanently and strongly attached to the bulkhead, and framed, stiffened and fitted so that the whole structure is of equivalent strength to the un-pierced bulkhead and weathertight when closed.

Maintenance hacks:

1. Inspections should be carried out by the crew to ensure that the indicated weekly, monthly, quarterly, annual, two-year, five- year and ten-year actions are taken for the specified equipment, if provided;
2. The self – closing mechanism of fire doors, if fitted, it is suggested to be tested and adjusted, as necessary, to ensure proper operation of the fire doors; and
3. Fire doors should be also regularly checked for any damage to the lock – mechanism, strike plate or their hinges and relevant arrangements to be made, so as to always close as appropriate.

STEERING GEAR

Oil leakages have been noted from steering gear.

The crew should carry out steering gear tests within 12 hours before departure or weekly for ships which regularly engage on voyages of short duration (SOLAS V/26.1 & .2).

The tests shall include:

- the full movement of the rudder according to the required capabilities of the steering gear;
- a visual inspection for the steering gear and its connecting linkage; and
- the operation of the means of communication between the navigation bridge and steering gear compartment.

PSCOs have a strict policy of zero leakage from ship's steering gear, which is one of the most common problems on ships – a result of machinery systems having several moving parts operated by hydraulic oil. Some of the main areas of leakages are cylinder-ram seal in hydraulic ram type steering gear and seal in the chambers of a rotary vane pump.

WATER/WEATHERTIGHT CONDITION

MANHOLES/ FLUSH SCUTTLES

The main deck manhole covers of ballast and fuel tanks had a large number of missing nuts and studs. Manhole cover of ballast tank was holed.

Ship Masters should follow the planned maintenance programme through which they should verify and confirm that the manholes, their nuts and studs and manhole ballast tank shall be in a good condition with no missing parts.

It is essential for the ISM Managers to implement the appropriate maintenance programme on board and ensure that the crew follows in detail same. No any actions or insufficient crew training and/or lack of maintenance can lead to deficiencies similar to this and possible detention of the vessels.

SAFETY OF NAVIGATION

SIMPLIFIED VOYAGE DATA RECORDER (S-VDR)

The purpose of a simplified voyage data recorder (S-VDR) is to maintain a store, in a secure and retrievable form, of information concerning the position, movement, physical status, command and control of a vessel over the period leading up to and following an incident having an impact thereon.

Information contained in an S-VDR should be made available to both the Administration and the shipowner. This information is for use during any subsequent investigation to identify the cause(s) of the incident.

An S-VDR with capabilities not inferior to those defined in these performance standards is required to be fitted to ships of classes defined in SOLAS chapter V, as amended.

GYRO COMPASS INOPERATIVE

The Port and starboard gyro repeaters have been found inoperative.

SOLAS requirements:
Ships of 500 GT and upwards constructed on or after 1 September 1984 shall be fitted with a gyro compass complying with the following requirements:

a. the master gyro compass or a gyro repeater shall be clearly readable by the helmsman at the main steering position;
b. on ships of 1,600 tons gross tonnage and upwards a gyro repeater or gyro repeaters shall be provided and shall be suitably placed for taking bearings as nearly as practicable over an arc of the horizon of 360 degrees.

GYRO COMPASS ERRORS

Any error occurring on the gyro compass needs to be checked and recorded in each watch, as far as practicable. The headings of the standard compass and the gyro compass shall be compared during every watch.

It is important that the equipment shall be maintained and/or serviced as per manufacturer's instructions contained in its manual.

CHARTS

The nautical chart for trading area has been found not updated and tide tables, list of lights and pilot haven't been on board.

SOLAS Chapter V/Regulation 27, refers that the nautical charts and nautical publications, such as sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage, **shall be adequate and up to date.**

Additionally, no charts were provided for ECDIS system.

SOLAS, Chapter V, Regulation 27, refers that the nautical charts and nautical publications, such as sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage, shall be adequate and up to date.

Ship Managers are requested to follow the nautical publications' updates and ensure that same are kept on board, as required.

NAUTICAL PUBLICATIONS

No nautical publications were provided. SOLAS, Chapter V, Regulation 19.2.1 states that all ships irrespective of size, shall have, nautical charts and publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage2.. Also, SOLAS, Chapter V, Regulation 34, states that prior to proceeding to sea, the Master shall ensure that the intended voyage has been planned using the

appropriate nautical charts and publications for the sea areas concerned, taking into account the guidelines and recommendations developed by the IMO.

According to SOLAS, Chapter V, Regulation. 27, nautical publications, such as sailing directions, list of lights, notices to mariners, tide tables, list of Radio Signals, shall be adequate and up to date. Electronic versions of nautical publications stated above may be carried on board as an alternative to hard copy nautical publications.

Dromon Publication on the carriage of publications on board ships includes a list with the updated editions of these publications.

ECHO SOUNDER

Through the PSC Inspection, it was noted that *the echo sounder has been found malfunctioning.*

The above should comply with the performance standards of IMO Resolution MSC.74(69) stated that, alarm signals, both visual and audible (with mute function) to the navigator on the watch should be provided to indicate failure or a reduction in the power supply to the echo sounder which would affect the safe operation of the equipment.

In addition, the equipment should:

- be provided with an indication of manufacturer, type and/or number; and
- be so constructed that it is readily accessible for maintenance purposes.

Information should be provided to enable competent members of a ship's staff to operate and maintain the equipment efficiently.

LONG RANGE IDENTIFICATION AND TRACKING SYSTEM (LRIT)

During the PSC Inspection, it was noted that *the LRIT conformance test was not reflecting the actual vessel's operating conditions.*

The Long-Range Identification and Tracking (LRIT) system is a designated IMO system designed to collect and disseminate vessel position information received from IMO member States ships that are subject to the International Convention for the Safety of Life at Sea (SOLAS).

A conformance test is required for all shipborne LRIT equipment in order to ensure that the equipment, as fitted on board, complies with the provisions of SOLAS V/19-1.6.

Upon satisfactory completion of a shipborne conformance test, the LRIT conformance test report should be issued by the flag Administration or the Service Supplier who conducted the test acting on behalf of the Administration. The original LRIT report shall be placed on board with copies provided to the ship's DPA.

The Conformance test report should be considered as no longer remaining valid if:

a. there is a change in the shipborne equipment used to transmit LRIT information;
b. the ship is transferred to the flag;
c. the Service Supplier which has issued the Conformance test report has notified the Administration or the vessel's RO which, has issued the certificate is no longer in a position to attest the validity of the report; and
d. the flag Administration has withdrawn the recognition or authorization of the Service Supplier which conducted the conformance test.

CERTIFICATES & DOCUMENTATION – SHIP CERTIFICATE

CIVIL LIABILITY FOR BUNKER OIL POLLUTION

The Civil Liability for Bunker Oil Pollution was found as a damaged copy on board.

The owner of a ship registered in a Contracting State and carrying more than 2,000 tons of oil in bulk as cargo shall be required to maintain insurance or other financial security, such as the guarantee of a bank or a certificate delivered by an international compensation fund, in the sums fixed by applying the limits of liability prescribed in Article V, paragraph 1 to cover his liability for pollution damage under this Convention.

A certificate attesting that insurance or other financial security is in force in accordance with the provisions of this Convention shall be issued to each ship after the appropriate authority of a Contracting State has determined that the requirements of paragraph 1 have been complied with. With respect to a ship registered in a Contracting State such certificate shall be issued or certified by the appropriate authority of the State of the ship's registry; with respect to a ship not registered in a Contracting State it may be issued or certified by the appropriate authority of any Contracting State. The certificate shall be in the form of the annexed model and shall contain the following particulars:

- name of ship and port of registration;
- name and principal place of business of owner;
- type of security;
- name and principal place of business of insurer or other person giving security and, where appropriate, place of business where the insurance or security is established;
- period of validity of certificate which shall not be longer than the period of validity of the insurance or other security.

The certificate shall be in the official language or languages of the issuing State. If the language used is neither English nor French, the text shall include a translation into one of these languages.

The certificate shall be carried on board the ship and a copy shall be deposited with the authorities who keep the record of the ship's registry or, if the ship is not registered in a Contracting State, with the authorities of the State issuing or certifying the certificate.

CARGO SHIP SAFETY EQUIPMENT

The safety equipment certificate indicated that no exemption was issued but no lifeboats on board were fitted – not in accordance with the Regulation; and an exemption certificate has been submitted as copy and no original was on board.

SOLAS Chapter III/Regulation 31-1.3 requires that cargo ships of less than 85 m in length other than oil tankers, chemical tankers and gas carriers, may comply with the following:

a. they shall carry on each side of the ship, one or more inflatable or rigid liferafts complying with the requirements of section 4.2 or 4.3 of the Code and of such aggregate capacity as will accommodate the total number of persons on board;
b. unless the liferafts required by paragraph 1.3.1 are of a mass of less than 185 kg and stowed in a position providing for easy side-to-side transfer at a single open deck level, additional liferafts shall be provided so that the total capacity available on each side will accommodate 150% of the total number of persons on board;
c. if the rescue boat required by paragraph 2 is also a totally enclosed lifeboat complying with the requirements of section 4.6 of the Code, it may be included in the aggregate capacity required by paragraph 1.3.1, provided that the total capacity available on either side of the ship is at least 150% of the total number of persons on board; and
d. in the event of any one survival craft being lost or rendered unserviceable, there shall be sufficient survival craft available for use on each side, including any which are of a mass of less than 185 kg and stowed in a position providing for easy side-to-side transfer at a single open deck level, to accommodate the total number of persons on board.

In the case where above requirements cannot be fulfilled, an exemption certificate may be requested by the relevant flag administration and the original exemption certificate must exist on board. Similarly, the Safety Equipment Certificate (point 4), needs to indicate that an exemption certificate has been issued.

CARGO SHIP SAFETY EQUIPMENT (INCLUDING EXEMPTION)

Another deficiency imposed was that *the safety equipment exemption certificate was expired.*

The safety equipment exemption certificate gives the detail of each safety equipment that need to be on board, and it is always attached of the safety equipment certificate.

Ship Owners should give special attention on the certificates' renewal prior their expiration and to consult their Registrar Officer and/or the Flag Administration.

During the PSCO attendance it was noted that *the S-VDR Records were missing in Form E Certificate.*

Dromon Surveyors should give special attention to the importance of an S-VDR equipment and make sure that the Cargo Ship Safety Equipment Certificate's Form E is correctly filled and issued.

BALLAST WATER MANAGEMENT PLAN

The Ballast Water Management Plan was missing.

According to BWM Convention, Regulation B-1, each ship needs to have on board and implement a Ballast Water Management Plan (BWMP). The BWMP provides guidance and assistance to the vessel's crew and operators in the effectual operation of the ballast water exchange system (BWMS). The accomplishment of this plan enables the vessel to prepare for the steps and proceedings required when conducting ballast water exchange.

The BWMP should be provided to Dromon Engineers for review and approval. All applicable documents to accompany the BWMP and shall assist its approval should be submitted to Dromon Head Office without undue delay in order to avoid any delays in the BWMP approval.

CONTINUOUS SYNOPSIS RECORD

During the PSC Inspection it was noted that the continuous synopsis record and application document for change were not onboard.

The primary purpose of the CSR is to provide a history of the ship which can be inspected by appropriate officials. SOLAS, Chapter XI-1, Regulation 5 requires all passenger ships and cargo ships of 500 gross tonnage and above engaged on international voyages to have on board a CSR. In accordance with IMO Resolution A.959(23), as amended, a CSR file comprises:

1. all CSR documents (Form 1) issued over the life of the ship;
2. all amendment forms (Form 2) attached to each individual CSR document; and
3. all indices of amendments (Form 3) relating to each CSR document.

Each original CSR document **is to be sent to the ship and kept by the ship throughout its lifetime**. It is the responsibility of the Company to ensure that the CSR file is complete, accurate, and maintained (as original) on board. In case of loss or damage to a ship's CSR file, the Company should contact the ship's Administration without delay, and list the papers lost or damaged.

It is imperative that vessels adhere to their statutory certificate requirements while engaged on any voyage. Valid certificates not only assure PSC authorities that the standards pertaining to ship stability, structure, safety and security are adhered to, they also prevent undue delays, detentions, and fines.

LIFEBOATS

The lifeboat 5 yearly load test certificate was missing. According to IMO Resolution MSC.402(96), a five-year thorough examination, any overhaul, overload operational tests and repair shall be conducted by certified personnel of either the manufacturer or an authorized service provider. The examination/testing must be conducted prior to the 5-year expiry date of the relevant Cargo Ship Safety Equipment or Passenger Ship Safety Certificate, as applicable.

All reports and checklists shall be completed and signed by the person who carries out the inspection and maintenance work and countersigned by the Company's representative or the ship's master. Records of maintenance, thorough examination, operational testing, overhaul and repair shall be updated and filed on board the ship for the service life of the equipment.

When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the manufacturer or authorized service provider that conducted the work. A copy of valid documents of certification and authorization as appropriate shall be included in the statement.

Ship Owners/ Managers/ Operators must ensure that their maintenance programme is updated and include the new weekly, monthly, annual and five-yearly examinations of lifeboats on board as per above requirements.

CERTIFICATES & DOCUMENTATION – CREW CERTIFICATE

MEDICAL CERTIFICATE

The medical certificates were missing for navigational watch rating (II-4) and an ERR (III-4).

According to MLC, 2006, Regulation 1.2, in order to ensure that all seafarers are medically fit to perform their duties at sea, seafarers shall not work on a ship unless they are certified as medically fit to perform their duties.

In urgent cases the competent authority may permit a seafarer to work without a valid medical certificate until the next port of call where the seafarer can obtain a medical certificate from a qualified medical practitioner, provided that:

a. the period of such permission does not exceed three months; and
b. the seafarer concerned is in possession of an expired medical certificate of recent date.

If the period of validity of a certificate expires in the course of a voyage, the certificate shall continue in force until the next port of call where the seafarer can obtain a medical certificate from a qualified medical practitioner, provided that the period shall not exceed three months.

Shipowners / Managers / Operators should ensure that their crew on board have valid medical certificates and those exist on board the vessels.

SEAFARERS' EMPLOYMENT AGREEMENT (SEA)

Seafarers' employment agreement was not properly filled out to reflect actual registry.

According to MLC, 2006, Standard A2.1, the purpose of SEAs is to ensure that seafarers have a fair employment agreement.

Each flag Administration need to adopt laws and regulations specifying the matters that are to be included in all SEAs governed by its national law. SEAs shall in all cases contain the following particulars:

a. the seafarer's full name, date of birth or age, and birthplace;

b. the shipowner's name and address;
c. the place where and date when the seafarers' employment agreement is entered into;
d. the capacity in which the seafarer is to be employed;
e. the amount of the seafarer's wages or, where applicable, the formula used for calculating them;
f. the amount of paid annual leave or, where applicable, the formula used for calculating it;
g. the termination of the agreement and the conditions thereof;
h. the health and social security protection benefits to be provided to the seafarer by the shipowner;
i. the seafarer's entitlement to repatriation;
j. reference to the collective bargaining agreement, if applicable; and
k. any other particulars which national law may require.

CERTIFICATES & DOCUMENTATION – DOCUMENT

COLLECTIVE BARGAINING AGREEMENT

CBA was onboard.

A Collective Bargaining Agreement (CBA) details all the terms and conditions of the crew employed on the ship. It specifies entitlements such as pay (in the form of a wage scale), working hours, termination of employment, repatriation/ embarkation, crew's effects, medical attention etc.

According the MLC, 2006, Standard A2.1, where a CBA forms all or part of a seafarers' employment agreement, a copy of that agreement shall be available on board as well as during an inspection at any time.

MLC,2006 CONDITIONS OF EMPLOYMENT

PAYMENT OF WAGES

The report of the payment of wages to the crew was not confirmed for some months.

MLC, 2006, Standard A2.2 states that each member shall require that payments due to seafarers working on ships that fly its flag are made at no greater than monthly intervals and in accordance with any applicable collective agreement.

Non-payment of wages shows a substandard Shipping operation, therefore Shipowners should ensure that crew wages are paid on a regular monthly basis and the wages report is continuously updated.

ALARMS

MAIN ENGINE OIL MIST DETECTOR ALARM INOPERATIVE

As per the Unified Interpretation of SOLAS Regulation II-1/27.5, the Oil Mist Detector arrangements (or engine bearing temperature monitors or equivalent devices) are part of the automatic shut-off arrangements required by SOLAS regulation II-1/27.5, in the case of medium and high-speed diesel engines of 2,250 kW and above or having cylinders of more than 300 mm bore.

For the case of low speed diesel engines of 2,250 kW and above or having cylinders of more than 300 mm bore, the OMD arrangements (or engine bearing temperature monitors or equivalent devices) should initiate the alarm and slow down procedures.

The consequences of overriding automatic shut-off arrangements should be established and documented

STEERING GEAR LUB OIL LEVEL ALARM

The Steering gear lube oil low level alarm was found inoperative.

SOLAS Chapter II-1/Regulation 29-12.2 requires that hydraulic power-operated steering gear shall be provided with the following:

1. arrangements to maintain the cleanliness of the hydraulic fluid taking into consideration the type and design of the hydraulic system;
2. a low-level alarm for each hydraulic fluid reservoir to give the earliest practicable indication of hydraulic fluid leakage. Audible and visual alarms shall be given on the navigating bridge and in the machinery space where they can be readily observed; and
3. a fixed storage tank having sufficient capacity to recharge at least one power actuating system including

the reservoir, where the main steering gear is required to be power operated. The storage tank shall be permanently connected by piping in such a manner that the hydraulic systems can be readily recharged from a position within the steering gear compartment and shall be provided with a contents gauge.

MAIN ENGINE FUEL LEAKAGE ALARM

The Main engine fuel leakage alarm was found inoperative.

The alarm constitutes part of the jacketed piping system. Substituting a jacketed piping system with a “suitable enclosure” with thus cancel the leak alarm requirement. The same applies for leak collection.

As per SOLAS Chapter II-2 requires that all external high-pressure fuel delivery lines between the high-pressure fuel pumps and fuel injectors shall be protected with a jacketed piping system capable of containing fuel from a high-pressure line failure. A jacketed pipe incorporates an outer pipe into which the high-pressure fuel pipe is placed, forming a permanent assembly. The jacketed piping system shall include a means for collection of leakages and arrangements shall be provided for an alarm to be given of a fuel line failure.

MAIN ENGINE OIL MIST DETECTION ALARM

The Main engine oil mist detection alarm was found inoperative.

As per SOLAS Regulation II-1/27.5, the Oil Mist Detector arrangements (or engine bearing temperature monitors or equivalent devices) are part of the automatic shut-off arrangements required by SOLAS regulation II-1/27.5, in the case of medium and high-speed diesel engines of 2,250 kW and above or having cylinders of more than 300 mm bore.

For the case of low speed diesel engines of 2,250 kW and above or having cylinders of more than 300 mm bore, the OMD arrangements (or engine bearing temperature monitors or equivalent devices) should initiate the alarm and slow down procedures.

The consequences of overriding automatic shut-off arrangements should be established and documented.

Masters should perform routine checks on all engine room sensors and alarms. Different main engine safety alarms and trips also to be tried out at regular basis and faults to be attended immediately.

PROPULSION AND AUXILIARY MACHINERY

AUXILIARY ENGINE

The auxiliary engine was inoperative. Shipowners / Managers / Operators should ensure that the engineers and the crew must carry out the appropriate maintenance in the engine room for safe and efficient operation. Each machine on board a ship requires maintenance which has to be carried out at regular intervals of time.

In order to carry out a successful maintenance plan, the ISM Managers should follow below steps that are considered essential:

1. Identifying the problem;
2. Establishing the clause;
3. Proposing solution;
4. Evaluating solution;
5. Implementing solution;
6. Evaluating effectiveness; and
7. Solving

Lastly, during the PSC Inspection it was noted that the main switchboard ACB breaker to Emergency switchboard was not able to automatically rewind (motorized rewinding).

The Air Circuit Breaker (ACB) is one of the important safety devices used for the ship's generator, so high consideration should be given for safe and efficient operation. Maintenance and inspection of the ACB must be performed by the ships' mechanicals every month.

Ship Masters should ensure checking below important items for the ACB:

- Looseness of terminal screws;
- Dust and/or foreign materials;
- Open/close operation;
- Crack, damage, or discoloration
- Insulation resistance; and
- Roughness of main-contact surface.

OTHER MACHINERY

The main air receiver safety valves were tested and found set at 36 bars while max. operating pressure is 30 bars. Also, existing valves were previous year calibrated at 33 bars.

Safety valves require proper planned routine maintenance for safe and efficient operation. These should be set up and tested according to their manufacturer's instructions during routine maintenance as well as during the vessel's surveys. The safety valves are required to be checked for lift (popping up) pressure as well as reseat pressure.

Ship Masters should follow the proper maintenance programme and ensure that the safety valves are correctly set up.

For more information, please send an email to marine@dromon.com
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