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## **GUIDELINES FOR DAMAGE CONTROL PLANS AND INFORMATION TO THE MASTER**

1 The Maritime Safety Committee, at its eighty-third session (3 to 12 October 2007), following a proposal by the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety at its fiftieth session, approved Guidelines for damage control plans and information to the master, set out in the annex, with the objective to provide advice on the preparation of damage control plans and to set a minimum level for the presentation of damage stability information for use on board passenger and cargo ships to which SOLAS regulation II-1/19, as amended by resolution MSC.216(82), applies.

2 Member Governments are invited to use the annexed Guidelines when applying the requirements of SOLAS regulation II-1/19, as amended by resolution MSC.216(82), and to bring the aforementioned Guidelines to the attention of all parties concerned, in particular shipbuilders, shipmasters, shipowners, ship operators and shipping companies.

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## ANNEX

### GUIDELINES FOR DAMAGE CONTROL PLANS AND INFORMATION TO THE MASTER

#### 1 Application

These Guidelines are intended as advice on the preparation of damage control plans and to set a minimum level for the presentation of damage stability information for use on board passenger and cargo ships to which SOLAS regulation II-1/19, as amended by resolution MSC.216(82), applies.

#### 2 General

2.1 The damage control plan and damage control booklet are intended to provide ship's officers with clear information on the ship's watertight subdivision and equipment related to maintaining the boundaries and effectiveness of the subdivision so that, in the event of damage to the ship causing flooding, proper precautions can be taken to prevent progressive flooding through openings therein and effective action can be taken quickly to mitigate and, where possible, recover the ship's loss of stability.

2.2 The damage control plan and damage control booklet should be clear and easy to understand. It should not include information which is not directly relevant to damage control, and should be provided in the working language of the ship. If the languages used in the preparation of the plan and booklet are not one of the official languages of the SOLAS Convention, a translation into one of the official languages should be included.

#### 3 Damage control plans

3.1 The damage control plan should be of a scale adequate to show clearly the required content of the plan.

3.2 Isometric drawings are recommended for special purposes. The plan should include inboard profile, plan views of each deck and transverse sections to the extent necessary to show the following:

- .1 the watertight boundaries of the ship;
- .2 the locations and arrangements of cross-flooding systems, blow-out plugs and any mechanical means to correct list due to flooding, together with the locations of all valves and remote controls, if any;
- .3 the locations of all internal watertight closing appliances including, on ro-ro ships, internal ramps or doors acting as extension of the collision bulkhead and their controls and the locations of their local and remote controls, position indicators and alarms. The locations of those watertight closing appliances which are not allowed to be opened during the navigation and of those watertight closing appliances which are allowed to be opened during navigation, according to SOLAS regulation II-1/22.4, should be clearly indicated;

- .4 the locations of all doors in the shell of the ship, including position indicators, leakage detection and surveillance devices;
- .5 the locations of all external watertight closing appliances in cargo ships, position indicators and alarms;
- .6 the locations of all weathertight closing appliances in local subdivision boundaries above the bulkhead deck and on the lowest exposed weather decks, together with locations of controls and position indicators, if applicable; and
- .7 the locations of all bilge and ballast pumps, their control positions and associated valves.

#### **4 Damage control booklets**

- 4.1 The information listed in section 3 should be repeated in the damage control booklet.
- 4.2 The damage control booklet should include general instructions for controlling the effects of damage, such as:
  - .1 immediately closing all watertight and weathertight closing appliances;
  - .2 establishing the locations and safety of persons on board, sounding tanks and compartments to ascertain the extent of damage and repeated soundings to determine rates of flooding; and
  - .3 cautionary advice regarding the cause of any list and of liquid transfer operations to lessen list or trim, and the resulting effects of creating additional free surfaces and of initiating pumping operations to control the ingress of water.
- 4.3 The booklet should contain additional details to the information shown on the damage control plan, such as the locations of flooding detection systems, sounding devices, tank vents and overflows which do not extend above the weather deck, pump capacities, piping diagrams, instructions for operating cross-flooding systems, means of accessing and escaping from watertight compartments below the bulkhead deck for use by damage control parties, and alerting ship management and other organizations to stand by and to co-ordinate assistance, if required.
- 4.4 If applicable to the ship, locations of non-watertight openings with non-automatic closing devices through which progressive flooding might occur should be indicated as well as guidance on the possibility of non-structural bulkheads and doors or other obstructions retarding the flow of entering seawater to cause at least temporary conditions of unsymmetrical flooding.
- 4.5 If the results of the subdivision and damage stability analyses are included, additional guidance should be provided to ensure that the ship's officers referring to that information are aware that the results are included only to assist them in estimating the ship's relative survivability.
- 4.6 The guidance should identify criteria on which the analyses were based and clearly indicate that the initial conditions of the ship's loading extents and locations of damage, permeabilities, assumed for the analyses may have no correlation with the actual damaged condition of the ship.

## **5 Visual guidance to the master**

Visual guidance, such as damage consequence diagrams, may be used to provide the master with a rapid means to evaluate the consequence of damage to the ship.

## **6 Placement on board the ship**

6.1 For passenger ships, the damage control plan should be permanently exhibited or readily available on the navigation bridge, as well as in the ship's control station, safety centre or equivalent.

6.2 For cargo ships, the damage control plan should be permanently exhibited or readily available on the navigation bridge. Furthermore, the damage control plan should be permanently exhibited or readily available in the cargo control room, all ship's office or other suitable location.

## **7 Use of on-board computers**

Damage control plans and damage control booklets should be in printed form. The use of on-board computers<sup>\*</sup>, with damage stability software developed for the specific ship, and familiar to properly trained ship's officers can provide a rapid means to supplement the information in the plan and booklet for effective damage control.

## **8 Shore-based emergency response systems**

8.1 A shore-based emergency response system may be used to supplement the damage control booklet referred to in section 4.

8.2 Contact information for gaining access to shore-based facilities together with a list of information required for making damage stability assessments should be readily available.

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\* Refer to the Guidelines for the on-board use and application of computers (MSC/Circ.891).