

# Merchant Marine Circular

Panama Maritime Authority  
General Directorate of Merchant Marine  
Control and Compliance Department

## MERCHANT MARINE CIRCULAR MMC-394

**To:** Ship-owners/Operators, Subcontracting and Services Suppliers, Recognized Organizations (ROs), Annual Safety Inspectors (ASI), Port State Control Authorities, and all other stakeholders.

**Subject:** Marine Evacuation System (MES) Procedure

**References:**

- a) Law 7 of October 27, 1977, adoption of SOLAS, 1974
- b) Law 12 of November 9, 1981, adoption of the 1978 SOLAS Protocol.
- c) Law 31 of July 11, 2007, adoption of the 1988 Protocol relating to SOLAS, 1974
- d) IMO Resolution MSC. 47 (66) of June 4, 1996, adopted by Resolution No.106-OMI-20-DGMM of December 26, 2007.
- e) IMO Resolution MSC. 48 (66) (LSA Code) adopted by Resolution No. 106-OMI-20-DGMM of December 26, 2007.
- f) IMO Resolution MSC.207(81) (Amendments to the LSA Code) of May 18, 2006, adopted by Resolution No. 106-OMI-20-DGMM of December 26, 2007.
- g) SOLAS, Chapter III, Regulation 20.8.2 Rotational Deployments of MES.
- h) MSC.1/Circ.1632 Revised Standardized LSA Evaluation & Test Report Forms **(Only as Recommendation)**.
- i) LSA Code – Chapter VI - 6.2 Marine Evacuation Systems (MES).
- j) MGN 558 (M) – MES - Servicing & Deployments **(as reference Guidelines)**.

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### 1. Purpose

1.1 The purpose of this Merchant Marine Circular is to provide the procedure to be followed for the test of the Marine Evacuation System (MES) on Panamanian registered vessels that are fitted with MES, including the requirements and criteria for MES deployments.

### 2. Background

2.1 The first Marine Evacuation System (MES) invented in 1979 by RFD was a milestone for marine safety. Their current generation of MES allows a highly rapid and safe evacuation of 860 passengers in less than 30 minutes. It is a

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great success the pace per minute achieved considering the rate of people leaving the ship.

- 2.2 Marine Evacuation System (MES) is an appliance for the rapid transfer of persons from the embarkation deck of a ship to a floating survival craft, according to the definition of SOLAS, Chapter III, Regulation 3.14.
- 2.3 Marine Evacuation Systems (MES) are maintained by intervals not exceeding 12 months servicing, and the only opportunity to assess the system ability to deploy in an emergency is during the six (6) yearly rotational deployment therefore the Panama Maritime Authority wishes to ensure that MES operates to a required standard at these rotational deployments.

### 3. Components of MES

- 3.1 The Marine Evacuation System (MES) has 5 main components: (1) the controls (2) the Stowage box, (3) the chute, (4) the raft(s), and the (5) bowing winch:
  - 3.1.1 The controls are used for launching the device in the event of an emergency.
  - 3.1.2 The stowage box is mounted on the deck and contains the chute (when in the stowed position) and the fixed appliances used during the embarkation process, such as a seat and grab rail.
  - 3.1.3 The chute is stored in the stowage box, attached to the ship and life rafts; and facilitates the egress of the persons utilizing the rafts from the ship to the raft(s) below.
  - 3.1.4 The raft(s) are generally 1-4 in number, depending on the particular MES system
  - 3.1.5 The bowing winch is fixed to the ship and is used to bows in the raft to the ship's side.

### 4. Types of MES

- 4.1 There are many types of MES's, although each manufacturer may have specific brand names assigned to each of the different models or types; below are common types of MES you may see on board:
  - 4.1.1. **Chute and Dual Chute Systems:** Most commonly found on large modern cruise ships, these systems provide fast and easy evacuation and takes up rather small space when stored onboard and are ideal for high-sided passenger vessels and provide fast and easy evacuation for even the largest ships.
  - 4.1.2 **Mini Chute Systems:** The system is especially lightweight and compact, and is fully contained in the stowage unit for installation almost anywhere onboard; designed specifically for vessels with low embarkation deck heights.
  - 4.1.3 **Slide Systems:** Evacuation Slide systems provide rapid evacuation for large vessels and can be installed at extreme fore and aft positions.

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- 4.1.4 **Mini Slide Systems:** Mini Slide systems are designed specifically for vessels with lower embarkation deck heights in a variety of versions to suit most ferries and superyachts.
- 4.1.5 **Direct boarding life rafts:** The direct boarding alternative is the rapid mass evacuation solution for vessels with low evacuation deck heights; it may be remotely released from the embarkation station.

## 5. SOLAS & LSA Code regulations applicable for MES

### 5.1 Every Marine Evacuation System (MES) shall be serviced (Reg. III/20.8.1):

- 5.1.1 at intervals not exceeding 12 months, provided where in any case this is impracticable, the Panama Maritime Authority may extend this period to 17 months; and
- 5.1.2 at an approved servicing station which is competent to service them, maintains proper servicing facilities and uses only properly trained personnel.

### 5.2 Rotational deployment of Marine Evacuation Systems (Reg. III/20.8.2):

- 5.2.1 In addition to or in conjunction with the servicing intervals of marine evacuation systems required by paragraph 5.1.1, each marine evacuation system should be deployed from the ship on a rotational basis at intervals to be agreed by the Panama Maritime Authority provided that each system is to be deployed at least once every six (6) years.

### 5.3 Construction of the marine evacuation systems (LSA Code – 6.2.1)

- 5.3.1 The passage of the marine evacuation system shall provide for safe descent of persons of various ages, sizes, and physical capabilities wearing approved lifejackets from the embarkation station to the floating platform or survival craft.
- 5.3.2 Strength and construction of the passage and platform shall be to the satisfaction of the Panama Maritime Authority.

### 5.4 Performance of the marine evacuation system (LSA Code – 6.2.2):

- 5.4.1 Where one or more marine evacuation systems are provided on a ship, at least 50% of such systems shall be subjected to a trial deployment after installation. Subject to these deployments being satisfactory, the untried systems are to be deployed within 12 months of installation. A marine evacuation system shall be such as to enable the total number of persons for which it is designed, to be transferred from the ship into the inflated liferafts within a period of 30 min in the case of a passenger ship and of 10 min in the case of a cargo ship from the time abandon ship signal is given.

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## 5.5 Inflatable liferafts associated with marine evacuation systems (LSA – 6.2.3):

5.5.1 Any inflatable liferaft used in conjunction with the marine evacuation system shall:

1. conform to the requirements of section 4.2 of LSA Code;
2. be sited close to the system container but be capable of dropping clear of the deployed system and boarding platform;
3. be capable of release one at a time from its stowage rack with arrangements which will enable it to be moored alongside the platform;
4. be stowed in accordance with SOLAS regulation III/13.4; and
5. be provided with pre-connected or easily connected retrieving lines to the platform.

## 5.6 Containers for marine evacuation systems (LSA – 6.2.4)

The evacuation passage and platform shall be packed in a container that is:

5.6.1 so constructed as to withstand hard wear under conditions encountered at sea; and

5.6.2 as far as practicable watertight, except for drain holes in the container bottom.

5.6.3 The container shall be marked with:

1. maker's name or trade mark;
2. serial number;
3. name of approval authority and the capacity of the system;
4. SOLAS;
5. date of manufacture (month and year);
6. date and place of last service;
7. maximum permitted height of stowage above waterline; and
8. stowage position on board.
9. Launching and operating instructions shall be marked on or in the vicinity of the container.

## 5.7 Marking on marine evacuation systems ((LSA – 6.2.5)

5.7.1 The marine evacuation system shall be marked with:

1. maker's name or trade mark;
2. serial numbers;
3. date of manufacture (month and year);
4. name of approving authority;
5. name and place of servicing station where it was last serviced, along with the date of servicing; and
6. the capacity of the system.

## 6. Preparation for Rotational Deployment of MES



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- 6.1 Rotational deployment of MES is required at least once every six (6) years according to SOLAS, Reg. III/20.8.2 and within twelve (12) months when paragraph 6.2.2.2 of the LSA Code is applicable.
- 6.2 Subcontracting and service suppliers, ship-owners/operators, and recognized organizations duly authorized by the Panama Maritime Authority are responsible for the compliance of all requirements established by SOLAS, Chapter III, Reg. 20 and LSA Code, Chapter VI – 6.2 Marine Evacuation Systems during the coordination, preparation, and test of MES.
- 6.3 Recognized Organizations duly authorized shall be present to witness the rotational deployment of MES, in addition, RO's shall report to the Administration the results of the rotational deployment of MES including any failure following the criteria described in paragraph 7 of this circular.
- 6.4 When the Administration is invited to witness the rotational deployment of MES, the participation of our flag surveyors is aimed to focus on witnessing the performance of the test together with other interested parties. In this regard and as per request, any observation, recommendation, and suggestion could be prepared and sent to all stakeholders, but once this Administration receives the final reports issued by subcontracting and service suppliers as well as the final report issued by recognized organizations with the results of the test carried out including objective evidence such as root-cause analysis, photographs, videos, etc.
- 6.5 This Administration reserves the right to request at any time objective evidence on the verification and fulfillment of rotational deployment of MES.

## 7. Deployment of MES and Failure Criteria

- 7.1 Failure of the Rotational Deployment will be determined by the following factors:
  - 7.1.1 During pre-deployment checks, actions were required without which deployment would not have occurred.
  - 7.1.2 Deviations away from the Original Equipment Manufacturer (OEM) launching instructions were required to facilitate a launch.
  - 7.1.3 Full MES capacity would not have been able to embark the rafts from the ship in the permitted time frame (taking into account the need for health and safety slow time and safe exercise requirements).
  - 7.1.4 Any other reason as specified in the maker's instruction.
- 7.2 All of the above failure criteria should be recorded by subcontracting and service suppliers and recognized organizations and will be reported to our Administration within 1 month after the completion of the deployment.

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7.3 These reports prepared by subcontracting and service suppliers will outline the factors for the failure and remedial action to be taken for the installation in question, also included are generic design defects which could compromise the effective operation of the model in general. The reports should be copied to the vessel, ship-owners/operators, recognized organization (RO), and the Panama Maritime Authority, accordingly.

## 8. Deployment of MES and Success Criteria

8.1 **Successful Deployment:** When the system functions entirely as expected, and would have led to a successful evacuation within the time frame required by SOLAS or the HSC Code as applicable (taking into account the need for slower times and safe exercises as per health and safety requirements).

8.2 **Partially Successful:** Deployment outcome will be determined by all of the following factors:

8.2.1 The deployment and evacuation could have taken place within the permitted time frame (taking into account the need for health and safety slower times and safe exercises as per health and safety requirements), however aspects of the system did not function as expected by the manufacturer's guidelines;

8.2.2 Any intervention or additional work required for the deployment to take place could have been carried out safely and competently by a member of the crew; and

8.2.3 Any fault found is sufficiently minor to not warrant a cause for concern from evacuees.

8.3 **Unsuccessful Deployment:** Outcome will be determined by any of the following factors:

8.3.1 During pre-deployment checks, unplanned actions were required by the equipment manufacturer or the accredited representative, without which deployment would not have occurred;

8.3.2 Deviations away from the manufacturer's launching instructions were required to facilitate a launch; or

8.3.3 Full MES capacity would not have been able to embark the rafts from the ship in the permitted time frame (taking into account the need for health and safety slower times and safe exercises as per health and safety requirements).

## 9. Use of Deployment as a Training Exercise

9.1 Ship-owners/operators, managers, and masters are encouraged to use deployment as a training exercise to familiarize crews with the MES installed onboard, in addition to any shore-based training already in place.



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- 9.2 Use for training purposes should be agreed with all parties involved and sequencing of events and objectives clearly identified.
- 9.3 The crew involved must have received adequate training and instruction prior to the deployment and exercise.
- 9.4 All crew assigned MES duties shall undertake training as indicated by the Ship's Safety Management System (SMS), manufacturer's instructions, and training guidelines. Training should normally include annual MES descent, either onboard or at a training facility having a similar type of MES. Where the training facility MES differs from that found on board the crew member's vessel, additional instruction shall be provided relating to the differences in the systems.

## 10. Deployment and Service History

- 10.1 Each Maritime Evacuation System (MES) will have a full-service history including deployments data which shall be available on board the vessel all the times for inspection by all relevant authorities.
- 10.2 The manufacturer, according to IMO Resolution A.761(18) shall ensure that records are kept by authorized service stations for services carried out on MES and associated liferafts.
- 10.3 Statistical records should be prepared for all deployment of MES, indicating, in particular defects or failures found as well as repairs carried out and any component condemned and withdrawn from service. Such statistics should be available at the request of our Administration.

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Inquiries concerning the subject of this Merchant Marine Circular or any other request should be forward to:

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