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## **Life-Saving Appliances - Marine Evacuation Systems (MES) - Servicing and Deployments.**

**Notice to all Shipowners, Ship Operators and Managers, Masters, Officers and Crew of Merchant Ships, Manufacturers of MES, Service Agents of MES, and UK Recognised Organisations.**

*This amendment updates and replaces the information contained in MGN 463 (M) previously published in January 2013.*

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### **Summary**

This note clarifies the MCA interpretation of requirements for SOLAS Chapter III/20.8.2: rotational deployments of Marine Evacuation Systems (MES) with respect to the roles that different parties should play, and the pass criteria for the deployment. It also recommends the expansion of rotational deployment requirements to cover MES that do not fall within the scope of SOLAS but are permitted under carriage provisions in UK Statutory Instruments.

This note also explains the position of the MCA with respect to the provision of SOLAS Chapter III/20.8.1.1 to extend MES service intervals.

The MCA encourages ship specific training for the use of MES by taking advantage of the rotational deployment as a training opportunity.

The MCA has reformed the reporting structure and its data collation on the success rate of 6 yearly rotational deployments with the aim of making informed future policy decisions with respect to MES.

## **1. Background**

- 1.1 The International Convention for the Safety of Life at Sea 1974 (SOLAS) defines a Marine Evacuation System (MES) as an appliance for the rapid transfer of persons from the embarkation deck of a ship to a floating survival craft; these systems are widely used on-board ships (particularly passenger ships). Whilst they are maintained in readiness by annual servicing, the only opportunity to assess the ability of the system to deploy in an emergency is during the installation and 6 yearly rotational deployments. The MCA seeks to ensure that



the equipment reliably operates to a required standard at these rotational deployments.

- 1.2 A SOLAS MES means an MES which complies with the requirements of SOLAS Chapter III and the Life-Saving Appliances (LSA) Code.
- 1.3 The MCA has also accepted certain evacuation systems on domestic passenger vessels which encompass an inflatable ramp, slide or chute or other integrated direct boarding system and an inflatable liferaft or platform as a non-SOLAS MES<sup>1</sup>.
- 1.4 Non-SOLAS MES do not comply with SOLAS Chapter III, as amended, but, as they present the same operational risks as SOLAS MES (for example, the need for crew familiarity, attention and accuracy when installing and packing and qualified personnel for servicing), it is recommended that they are subject to the same 6 yearly rotational deployments and follow the guidance included within this note. Hereinafter the term MES is used and details the requirements for SOLAS MES and should be read as guidelines for the recommended deployments of non-SOLAS MES. Further guidance for non-SOLAS MES can be found in MGN 553, Life-Saving Appliances - Inflatable Non-SOLAS Liferafts, Lifejackets, Marine Evacuation Systems, Danbuoys and Lifebuoys - Technical Standards and Servicing Requirements.

## **2. Extension of 12 Month's Service Provisions**

- 2.1 The MCA's authority to issue extensions in excess of the 12 month service window usually required under the provision of SOLAS Ch. III/20.8.1.1, is limited to occasions when servicing is impracticable. Extension, when impracticable, should not be confused with inconvenience.
- 2.2 MES should be serviced every 12 months, and every effort should be made to ensure that it is carried out on time. In exceptional cases, when it is clearly impracticable to comply with this annual servicing requirement the MCA may consider whether the servicing could be deferred for a period not exceeding 5 months. In such cases, owners, operators or masters should apply to their local MCA Marine Office, explaining their reason in writing for seeking deferment, which will be reported to Marine Technology Branch, using the details at the end of this Note.
- 2.3 The master should be requested to confirm the condition of the other lifesaving appliances on board and that the MES seals are in good condition and the casing is undamaged and clearly marked with the details required by 6.2.4.2 of the LSA Code. The full service history of each MES unit on board should also be provided in support of the application.

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<sup>1</sup> In previous publications, non-SOLAS MES may have been referred to as Marine Escape Systems, as defined in Schedule 5 of MSN 1676 (M). For the purpose of this MGN the definition in paragraph 1.3 will be adhered to.



### **3. Deployment Preparation of MES**

- 3.1 Rotational deployment required by SOLAS Ch. III/20.8.2 cannot be extended beyond the 6 year period. It is recommended that a deployment is arranged accordingly with adequate notification to all involved parties.
- 3.2 The ship owner should contact the relevant Marine Office or Customer Service Manager to discuss the deployment arrangements, which will ensure that an MCA surveyor or a UK Recognised Organisation (RO) surveyor shall be present to witness rotational deployments.
- 3.3 The ship owner shall obtain agreement with the MCA/RO on the number and location of units to be deployed and the MCA/RO will complete the checklist detailed in Annex 1. Records for the deployment of each MES should be maintained and will include the dates of deployments. Companies shall incorporate spare MES into their deployment program such that, as far as practicable, all MES are subject to equal periods between deployments.
- 3.4 Agreement between the attending surveyor and the ship operator shall be obtained on the number of liferafts, to include link liferafts that will be deployed from that station. A link raft is a raft not integrated with the MES, but one whose capacity is included for the evacuation of persons on-board including redundancy. This raft is attached to the MES platform or raft subsequent to the initial deployment. The attending MCA/RO surveyor will assess the effectiveness of the deployment with the international requirements for such deployments in mind. For this reason, the attending MCA/RO surveyor will take notes or images during the deployment, and they will take into account that the deployment may not be undertaken in real-time so that it may be conducted safely and with crew familiarisation in mind.
- 3.5 The manufacturer, or the manufacturer's representative, together with a crew member(s) shall conduct an assessment to include thorough visual inspection and any pre-deployment checks necessary to evaluate MES readiness for safe deployment. This inspection is a valuable opportunity for crew familiarity and the inspection must also be documented by a pre-deployment checklist or other equivalent documentation, and subsequently presented to the MCA/RO witnessing the test.
- 3.6 Modifications, alterations, servicing and any other preparations of MES should be conducted in accordance with manufacturer's guidance or instructions to ensure that the installed product will deploy as it has been designed. Any modifications made outside of manufacturer's instructions or guidance should be notified to the appropriate MCA/RO surveyor at the earliest opportunity by the manufacturer and/or ship operator and earlier than next survey, MES installation or MES deployment. The need for notifications of modifications is most important for non-SOLAS MES products.
- 3.7 A rotational deployment is a test of installed equipment. However, such deployment shall be conducted by competent crew member(s) in accordance with officially documented procedures. The service personnel of the manufacturer, or



the accredited representative present should not intervene unless there is a risk to safety.

#### **4. Deployment of MES and Success Criteria**

- 4.1 The unit to be deployed should be readied in accordance with the agreed action plan and following the manufacturer's procedures outlined in ship-board manuals and training guides. The outcome of the deployment including any observations will be recorded on the form found in Annex 1 by the MCA/RO surveyor. The completed report should then be forwarded to the MCA's Marine Technology Branch by the MCA/RO surveyor for recording and, if necessary, arbitration on the final decision of whether the deployment was successful.
- 4.2 A successful deployment is 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).
- 4.3 If the MES fails to activate using its primary means of activation but continues to fulfil the criteria in 4.2 using its secondary means of activation in accordance with the manufacturer's instructions then it may still be classed as a successful deployment but this must be noted in Annex 1.
- 4.4 A partially successful deployment outcome will be determined by all of the following factors:-
  - 4.4.1 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 manufacturer's guidelines;
  - 4.4.2 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
  - 4.4.3 Any fault found is sufficiently minor to not warrant a cause for concern from evacuees.
- 4.5 An unsuccessful deployment outcome will be determined by any of the following factors:-
  - 4.5.1 During pre-deployment checks, unplanned actions were required by the equipment manufacturer or the accredited representative, without which deployment would not have occurred;
  - 4.5.2 Deviations away from the manufacturer's launching instructions were required in order to facilitate a launch; or



- 4.5.3 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).
- 4.6 All of the above assessment criteria should be recorded on either the form in Annex 1, which should be sent to [marinetechnology@mcga.gov.uk](mailto:marinetechnology@mcga.gov.uk) by the MCA/RO surveyor or submit the relevant e-form in the Consolidating European Reporting System/Single Vessel Database (CERS/SVD).
- 4.7 In the event that the deployment is considered unsuccessful, Marine Technology Branch should be presented with a root cause analysis report of the deployment from the manufacturer or the accredited representative within 1 month of the deployment. This report will outline the factors for the unsuccessful deployment and remedial action to be taken for the installation in question. Also included should be any generic design defects which could compromise effective operation of the model in general. The report should be copied to the vessel and under IMO Resolution A.761 (18) to the approval body responsible for the type approval, with particular regard to any generic model issues.
- 4.8 If the MCA is content that the report addresses and mitigates the problems identified in the unsuccessful deployment then no further action will be required, however if this is not the case, a redeployment of the system may be required.

## **5. Modifications to MES**

- 5.1 Should any remedial actions identified during the deployment require modification(s) to the MES, the proposed modification(s) cannot be made unless the approval body that approved the equipment verifies that the changes are acceptable, and if any additional tests are required for the equipment. Any modifications must be fully documented in the technical file.
- 5.2 Any modifications (including but not limited to erroneously attached bousing lines, installation other than according to the manufacture's guidelines and the addition of structures which could obstruct a deployment) that have been undertaken by the ship operators since installation must have been carried out in consultation with the manufacturer, or his accredited representative, as any adaptation to some bespoke systems can affect the entire functioning of the MES. Accordingly, any unauthorised modification to the MES will be seen as a change to the equipment, resulting in an invalidation of the approval and require the equipment to be re-tested and approved.
- 5.3 The MCA will not approve any modification made to MES. This approval must come from the approval body that previously approved the equipment, having been asked to do so by the manufacturer.
- 5.4 The approval body need not inform the MCA of each approval for modification that it receives. If a modification is part of the remedial actions suggested as part of the manufacturer's report of an unsuccessful deployment, the MCA will be informed when it receives the report as per paragraph 4.7.



## **6. Use of Deployment as a Training Exercise**

- 6.1 All crew assigned MES duties shall undertake training as indicated by the Safety Management System, manufacturers' instructions and training guidelines. As far as practicable, training should include annual MES descent, either on-board, or at a training facility having a similar type of MES. Where the training facility MES differs from that found on-board the crew members' vessel additional instruction shall be provided relating to the differences in the systems.
- 6.2 Ship owners, operators, managers and masters are encouraged to use these limited opportunities to familiarise crew with the MES installed on-board, in addition to any shore based training already in place.
- 6.3 The extent of the training exercise should be agreed with the MCA or RO in attendance, the manufacturer, or his accredited representative and the ship operator and crew involved and sequencing of events and objectives clearly identified.
- 6.4 The crew involved must have received adequate training and instruction prior to the deployment and exercise.

## **7. Deployment and Service History**

- 7.1 Each MES unit will have a full service history including deployments which shall be available on-board the vessel for inspection by all relevant authorities.
- 7.2 The manufacturer, in accordance with A.761(18) shall ensure that records are kept by authorised service stations for services carried out on MES and associated liferafts.



## More Information

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telephone numbers are correct at time of publishing

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Annex 1: This form replaces MSF 1813 (MCA 928)

|                               |   |                       |                     |                          |
|-------------------------------|---|-----------------------|---------------------|--------------------------|
| VESSEL AND DEPLOYMENT DETAILS | Date of Deployment  |                       |                     |                          |
|                               | Vessel Name   |                       |                     |                          |
|                               | IMO Number  |                       |                     |                          |
|                               | Flag  |                       |                     |                          |
|                               | Location of Deployment  |                       |                     |                          |
|                               | Organisation witnessing deployment  |                       |                     |                          |
|                               |   |                       |                     |                          |
| MES DETAILS                   | Manufacturer  |                       |                     |                          |
|                               | Model Number/Name   |                       |                     |                          |
|                               | Capacity  |                       |                     |                          |
|                               | Serial number   |                       |                     |                          |
|                               | Location on Vessel  |                       |                     |                          |
|                               | MED Module B Certificate Number (if available)                                |                       |                     |                          |
|                               | MED Module D, F or G Number (if available)                                    |                       |                     |                          |
| <i>Please tick</i>            |   |                       |                     |                          |
| CONTEXT                       | Crew competency prior to deployment   | <i>Unsatisfactory</i> | <i>Satisfactory</i> | <i>Very Satisfactory</i> |
|                               | Was the deployment used/plan to be used as a training exercise?               |                       |                     |                          |
|                               | Has the MES previously been granted a service interval extension, If so when? |                       |                     |                          |
|                               |   |                       |                     |                          |
|                               |   | Yes                   | No                  |                          |
| MODIFICATIONS                 | Has the MES had any modifications?  |                       |                     |                          |
|                               | Was the manufacturer consulted?   |                       |                     |                          |
|                               |   | Months                | Years               |                          |
|                               | How long ago did these modifications occur?                                   |                       |                     |                          |
|                               | Further Details of modification, including relevant approvals                 |                       |                     |                          |
|                               |   |                       |                     |                          |
| <i>Please Tick</i>            |   |                       |                     |                          |
| DEPLOYMENT OUTCOME            | Successful Deployment using primary means of activation (MGN 558, 4.2)        |                       |                     |                          |
|                               | Successful Deployment using a secondary means of activation (MGN 558, 4.3)    |                       |                     |                          |
|                               | Partially Successful (MGN 558, 4.4)   |                       |                     |                          |
|                               | Unsuccessful Deployment (MGN 558, 4.5.1)                                      |                       |                     |                          |
|                               | Unsuccessful Deployment (MGN 558, 4.5.2)                                      |                       |                     |                          |
|                               | Unsuccessful Deployment (MGN 558, 4.5.3)                                      |                       |                     |                          |
|                               | How many people descended?  |                       |                     |                          |
|                               | Approximate time taken from MES launch to complete decent?                    |                       |                     |                          |





|  |   |  |                               |  |
|--|---|--|-------------------------------|--|
| DEPLOYMENT OUTCOME                       | Please provide further details on any problem(s) associated with the deployment. Tick as appropriate:   |  |                               |  |
|  | <b>Slide:</b>   |  | <b>Inflation:</b>             |  |
|  | Inflation error   |  | Perished hoses                |  |
|  | Line arrangement  |  | Gas flow blockage             |  |
|  | Rips / Tears  |  | Aspirators not functioning    |  |
|  | Indicator signals   |  | Lack of gas                   |  |
|  | Other   |  | Painter jammed / snagged      |  |
|  | <b>Chute:</b>   |  | Valve failure                 |  |
|  | Chute twisted   |  | Other                         |  |
|  | Line arrangement  |  | <b>Raft set up:</b>           |  |
|  | Rips / Tears  |  | Line arrangement              |  |
|  | Indicator signals   |  | Inflation error               |  |
|  | Other   |  | Rips / Tears                  |  |
|  | <b>Launching system:</b>  |  | Incorrect configuration       |  |
|  | Primary means failure   |  | Painter jammed / snagged      |  |
|  | Perished hoses  |  | Winch failure                 |  |
|  | Door obstruction  |  | Other                         |  |
|  | Release cable malfunction   |  |                               |  |
|  | Other   |  |                               |  |
|  |   |  |                               |  |
|  | Likely attributable causes for the identified problem(s)? (Please make a note of the problem you have identified in the blank column. Use the following sheet if necessary) |  |                               |  |
|  | <b>Causes:</b>  |  | <b>Problem(s) identified:</b> |  |
|  | Installation error  |  |                               |  |
|  | Packing error   |  |                               |  |
|  | Design error  |  |                               |  |
|  | Equipment error   |  |                               |  |
|  | Mishandling of equipment (during or prior to deployment)  |  |                               |  |
|  | Not following correct procedures  |  |                               |  |
| Insufficient / ineffective crew training |   |  |                               |  |
| Other                                    |   |  |                               |  |



Summary of deployment and any further details? (Please note whether link rafts were also deployed, any relevant information on servicing, pre-deployment checks, any significant time delays incurred and recommended follow-up action, use additional sheets if necessary)

- If completing Annex 1, attending surveyors should complete this form and return it to the Marine Equipment Quality Assurance Policy Advisor c/o Marine Technology Branch, Spring Place.
- Operators and Manufacturers should make sure that this information is available to the attending surveyor.

