



Life-Saving Appliances – Controlled Means of Descent at Embarkation Stations – Replacement for Embarkation Ladders and Access to Remotely Located Liferafts

Notice to all Shipowners, Life-saving Equipment Manufacturers, Nominated Bodies, Recognised Organisations, and Surveyors.

This notice replaces OAN 689 and should be read in conjunction with paragraph 1.4 of MSN 1735.

Summary

This Notice explains the UK policy on, and procedure for acceptance of, Controlled Means of Descent equipment when used either as a replacement for embarkation ladders, or as the means to access remotely located or “throw-over” liferafts.

1. Introduction

- 1.1 The MCA has received enquiries about the use of various types of equipment intended to provide a Controlled Means of Descent (CMD) down ships’ sides to reach survival craft. The types of proposed equipment differ greatly in design but include both passive and active systems, such as ladders and mechanical descent devices. The principle objective of CMD is the safe access to survival craft after launching, but they also serve a role in abandonment when the launch of survival craft is limited or inhibited by, for example, the angle of heel of the ship. As there is no internationally specified design standard, nor an internationally agreed testing procedure for such equipment, it is novel in nature.
- 1.2 For ships within the scope of the International Convention for the Safety of Life at Sea (SOLAS), embarkation ladders are required at survival craft embarkation stations. SOLAS Reg.III/11.7 allows Administrations to permit the replacement of embarkation ladders by approved devices to afford access to the survival craft when waterborne, provided that there shall be at least one embarkation ladder on each side of the ship. Embarkation ladders are heavy, cumbersome, difficult to retrieve in drills and trials, and, arguably, difficult to fit in place. Nevertheless, there is an agreed industry standard for embarkation ladders and their robust condition serves the purpose of providing a safe means of climbing down the ships’ side when a vessel is at an excessive heel angle or abandoning when at sea in adverse conditions. Embarkation ladders provide the ability for multiple persons to descend in a controlled manner. It’s this repeatability of descent, particularly when under load from descending persons, offered by an embarkation ladder which must be replicated by any replacement device (or multiple devices) for it to be accepted. Embarkation ladders also provide for the ability to ascend as well as descend, which may be necessary in an evacuation and this should



be considered by any ship operator seeking to replace embarkation ladders.

- 1.3 Specifically for cargo ships, SOLAS Reg.III/11.7 allows for other means of embarkation enabling descent to the water in a controlled manner to be permitted for remotely located liferafts required by SOLAS Reg. III/31.1.4. The “knotted rope” type means of descent is not permitted.
- 1.4 Specifically for passenger ships, the SOLAS Reg. III/21.1.1.2 provision for liferafts accommodating at least 25% of total persons on board permits these liferafts to be served by equivalent approved devices on both sides which need not be stowed within reach of lifting hooks. Typically, these are “throw-over” liferafts which are also required to be transferable but may be accessed by a CMD.
- 1.5 Within the UK maritime regulatory framework, Reg. 50(7) of the Merchant Shipping (Life-Saving Appliances For Ships Other Than Ships Of Classes III to VI(A)) Regulations 1999, as amended, implements the SOLAS requirement for embarkation ladders to be provided at each launching station or at every two adjacent launching stations. These UK regulations also permit embarkation ladders to be replaced by devices to afford access to survival craft when waterborne, provided that there shall be at least one embarkation ladder on each side of the ship.
- 1.6 Further, MSN1735, as referenced by MSN1734 and implemented through the Merchant Shipping (Marine Equipment) Regulations 1999, as amended, explains that where equipment is of a novel nature or subject to significant design changes, or the specifications or testing requirements are not considered to be sufficiently developed or experience of their usage is limited, the MCA will undertake the necessary approval procedure. This MGN outlines the “necessary approval procedure” for CMD equipment.

2 Acceptance of CMD Equipment by the MCA

- 2.1 Whether the CMD method is being used as a replacement for embarkation ladders or as means of descent to remotely located liferafts, the MCA, in accordance with SOLAS Reg.III/4.6, must be satisfied that the arrangements are fit for purpose.
- 2.2 For CMD equipment on UK ships, other than SOLAS approved embarkation ladders, which are intended to comply with SOLAS Reg.III/11.7, Reg. III/31.1.4, or Reg. III/21.1.1.2., the MCA will only accept equipment which has been assessed and type approved as novel equipment for use as a CMD device against MCA required specifications by one of the Nominated Bodies listed in MSN1735. The issue of an independent type approval certificate by one of the aforementioned Nominated Bodies, clearly evidencing that the technical specification described at Section 3 of this Notice has been achieved by the equipment for which it is issued, will demonstrate that the equipment meets the technical requirements for CMD required by the MCA. However, additional ship-specific checks are required to be made by MCA surveyors before such equipment is accepted for use. “An independent type approval certificate” means a certificate issued on behalf of the issuing organization, not on behalf of the United Kingdom.
- 2.3 The testing standards against which such equipment should be assessed will be dependent on the design of the equipment so the chosen Nominated Body should contact the MCA Marine Technology Branch as soon as requests for CMD approval are received in order to agree the required standards. It is important to stress that CMD equipment should meet the standard acceptable to the MCA (at Section 3 of this Notice) and, for such acceptance, detailed design arrangements and calculations should be submitted to the Nominated Body for assessment.
- 2.4 In addition to the need for CMD equipment to be issued with type approval certification it must be demonstrated to the MCA Marine Technology Branch by the ship operator and equipment manufacturer that the CMD is fit for the intended purpose, for example, by evidencing that persons may easily descend using the device when it’s located alongside a ship. Consideration must also be given to the need to provide a stable means of descent, and that it is capable of being used when at sea in adverse conditions. For replacements to embarkation ladders special consideration must also be given to the possibility that persons descending on the equipment may be passengers as well as



crew. Proposed arrangements for fixing the equipment to a ship and training personnel in its use or fitment must also be considered in detail by the manufacturer and presented to the MCA by the ship operator for consideration before the equipment may be used on board.

2.5 Assuming the MCA is satisfied with the proposals at this stage, a letter of acceptance will be issued to the ship by the MCA, which will clearly specify for which particular use of the CMD equipment the MCA is satisfied. MCA surveyors must also be satisfied that the arrangements, particularly fitting arrangements to the ship, are fit for purpose on a case-by-case and ship-specific basis. This is to account for the design, size and shape of the ship to which the CMD device is fitted, the number of persons for which the CMD device is intended, and whether it is intended for crew or passengers.

3 Technical Specification for CMD as a Replacement for Embarkation Ladders

3.1 UK Nominated Bodies should type approve CMD equipment against all of the requirements of Section 1.2 of Resolution MSC48(66) in the IMO Life-Saving Appliances Code and any appropriate requirements of Resolution A.520(13), the Code of Practice for Evaluation of Prototype Novel Appliances. These IMO requirements take precedence over any other standard to which the CMD is tested. UK Nominated Bodies should also type approve CMD equipment against the most appropriate standards of either BSISO 5489:2008 or BSEN 341:2011, depending on the design of the equipment. The use of alternative ISO or BS EN standards should be discussed with the MCA in advance of completing any testing. The UK Nominated Body should clearly state on the approval certificate which elements of the above referenced requirements have been applied or omitted during testing and approval if it's deemed that one or more may not be appropriate to the type of equipment being tested. These tests must also be supplemented by the Nominated Body with the load testing described below. The working load of the CMD device should be specified by the manufacturer when determining the approved weight range of the product, which should account for the anticipated use. A factor of safety of 6, based on the ultimate tensile strength of the materials used, should be applied for the entire device (when assembled) and associated arrangements for fixing it to the ship. Speed of descent of the load should also be taken into account when determining the operational weight range of the CMD device. Weight range should, therefore, take account of the lower limit of weight for persons descending; for example, in a case where weight on the device is essential to its safe and successful operation. The operator of the ship to which the CMD is fitted should give due consideration to the means for an incapacitated person to be lowered, which maybe via the CMD, so the manufacturer should be clear about whether the CMD is approved for such arrangements.

3.2 Active CMD devices should incorporate automatic control of speed of descent to a maximum of 2 metres per second, and automatic recovery of the harness or platform to the embarkation point in order to permit successive descents. In addition, means to arrest the descent should be provided (taking account of the variation in freeboard which may be expected). Acceptance of a prototype design is subject to an extended series of test descents with a prototype unit to the satisfaction of the MCA.

3.3 Acceptance of subsequent units is subject to satisfactory test before dispatch from the manufacturers to a static load test of 2.2 times the working load and a lowering test of 1.5 times the working load, and to a lowering test after installation on board of 1.1 times the working load. Particulars of the workshop test and the date of test should be clearly and durably marked on the unit. The manufacturers should provide certified material tests for each 300 m of lowering rope or webbing and such rope/webbing should be of sufficient length to reach the water with the ship in the lightest service condition and with an adverse list of 20 degrees. The lowering test of 1.1 times the working load is to be repeated at approximately six monthly intervals by the ship's personnel and noted in the ship's logbook.

3.4 The UK Health and Safety Executive (HSE) publishes detailed guidance on inspecting fall arrest equipment made from webbing or rope, and this should be followed by the ship's crew as part of the



4 Technical Specification for CMD as a Means of Accessing Remotely Located Liferafts on Cargo Ships or for Accessing “throw over” Liferafts for Passenger Ships

4.1 In general, CMD devices used to access remotely located liferafts on cargo ships (SOLAS Reg. III/31.1.4) or “throw over” liferafts for passenger ships (SOLAS Reg. III/21.1.1.2) should be type approved by a Nominated Body against the requirements of section 3 of this Notice. However, because the capacity of remotely located liferafts is known and they are typically not transferrable, it is possible to accept single-use (un-recoverable) active CMD devices provided the number of such devices is equal to the liferaft capacity.

5 CMD Equipment Already Fitted on UK Ships

5.1 The MCA is aware that some UK ships have already fitted CMD equipment as replacement for embarkation ladders (except one either side) and, in some cases, as access to remotely located or “throw-over” liferafts. In such cases, the ship operator should contact the MCA Marine Technology Branch as soon as is possible in order to agree a process for assessment of the equipment through the manufacturer. In any case, equipment being used as a replacement for embarkation ladders or to access liferafts which has not been type approved by a Nominated Body against the standards described at sections 3 and 4 of this Notice should be removed from UK ships. MCA surveyors identifying equipment being used in this way, without a letter of acceptance from the MCA, will raise a deficiency during survey, inspection or audit.

6 CMD Equipment Fitted in Excess of SOLAS Carriage Requirements

6.1 If equipment in excess of mandatory requirements is carried on board then there is a risk that it might come to be relied upon in any emergency. Such equipment must, therefore, be maintained in the same proper conditions as statutory equipment. Owners, masters and skippers have been reminded in MGN79 that they are responsible not only for maintaining statutory required safety equipment but also for ensuring that equipment carried on board which is in excess of statutory requirements is safe, suitable for its intended purpose, and maintained in good condition, and in accordance with the manufacturer’s instructions. We also require such excess equipment, if carried, to comply with any conditions imposed by an approval certificate. Guidelines on this subject have been issued by the IMO Maritime Safety Committee in the report MSC XLIII/18 Annex 3 Paragraph 23. This is clear that equipment on board which is expected to be relied on in situations affecting safety or pollution prevention must be in operating condition.

6.2 If equipment is inoperative and is in excess of the equipment required by an appropriate Convention and/or the Flag State it should either be repaired, removed or if removal is not practicable, clearly marked as inoperative and secured. If, when attending UK ships, it is noted by MCA surveyors that the planned means of descending to or embarking into survival craft are not in accordance with either international or UK nationally accepted standards, then this will be raised as a safety concern with the ship's company and may lead to a deficiency being raised against the ship.



More Information

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