



16714
CG-ENG Policy Letter
No. 01-21
April 7, 2021

A handwritten signature in blue ink, appearing to read "R. Compher".

From: Robert C. Compher, CAPT
COMDT (CG-ENG)

To: Distribution

Subj: PILOT LADDERS, EMBARKATION LADDERS, AND PILOT TRANSFER
ARRANGEMENTS

Ref: (a) ISO 799-1 Ships and marine technology – Pilot ladders – Part 1: Design and specifications, First edition, 2019-02 (ISO 799-1:2019)
(b) ISO 5489 Ships and marine technology – Embarkation ladders, Third edition, 2008-03-01 (ISO 5489:2008)
(c) SOLAS Chapter V Regulation 23 – Pilot transfer arrangements
(d) SOLAS Chapter III, Part A, Regulation 4 – Evaluation, testing and approval of life-saving appliances and arrangements and Chapter III, Part B, Regulation 11 – Survival craft muster and embarkation arrangements
(e) Title 46 Code of Federal Regulations (CFR) 32.90-1, 77.40-1, 96.40-1, 108.719, and 195.40
(f) Navigation and Vessel Inspection Circular 4-91 - Pilot Transfer Arrangements dated March 4, 1991 (NVIC 4-91)
(g) IMO Resolution A.667(16) Pilot Transfer Arrangements adopted October 19, 1989
(h) IMO Resolution A.889(21) Pilot Transfer Arrangements adopted November 25, 1999
(i) IMO Resolution A.1045(27) Pilot Transfer Arrangements adopted November 30, 2011

1. Purpose. This policy letter provides guidance for approval of pilot ladders and embarkation ladders that meet ISO 799-1:2019 or ISO 5489:2008, references (a) and (b). Additionally, it provides current guidance on embarking and disembarking of pilots.

2. Background.

- a. SOLAS Chapter V Regulation 23.2.3, reference (c), requires pilot ladders to be certified by their manufacturer as complying with Regulation 23. SOLAS Chapter III, Part A, Regulation 4, reference (d), requires lifesaving appliances, including embarkation ladders required by SOLAS Chapter III, Part B, Regulation 11.7, to be approved by the Administration.
- b. Per reference (e), certain U.S. vessels are required to have pilot ladders approved by the Coast Guard under approval series 163.003. Title 46 CFR 199.110(f) requires embarkation ladders to be approved by the Coast Guard under approval series 160.117 or 160.017.

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- c. NVIC 4-91, reference (f), provides pilot transfer guidance based on IMO Resolution A.667(16), reference (g). Resolution A.667(16) was superseded by IMO Resolution A.889(21), reference (h). Resolution A.889(21) was later superseded by IMO Resolution A.1045(27), reference (i). The Coast Guard is in the process of cancelling NVIC 4-91 because the IMO guidance it is based on has been superseded. IMO Resolution A.1045(27) is included as enclosure (1).
- d. ISO 799-1:2019 and ISO 5489:2008 provide current design and testing guidance for pilot ladders and embarkation ladders. ISO 799-1:2019 supersedes ISO 799:2004 and ISO 5489:2008 was re-affirmed in 2018.
- e. Mechanical pilot hoists, while are included in U.S. regulations, are prohibited by SOLAS Chapter V Regulation 23. There are no Coast Guard approved pilot hoists.

3. Discussion.

- a. Pilot ladders tested by a Coast Guard accepted independent laboratory and found to comply with ISO 799-1:2019 are, pursuant to 46 CFR 163.003-9(c), approved alternatives to ladders meeting approval series 163.003. Such pilot ladders also satisfy SOLAS Chapter V Regulation 23.
- b. Embarkation ladders tested by a Coast Guard accepted independent laboratory and found to be in compliance with ISO 5489:2008 are, pursuant to 46 CFR 160.017—9(c) and 46 CFR 199.09, approved alternatives and equivalents to approval series 160.017 and 160.117. Such embarkation ladders also satisfy SOLAS Chapter III Regulation 11.7, and paragraph 6.1.6 of the International Life-Saving Appliance Code.

4. Action.

- a. Manufacturers are strongly encouraged to produce ladders that comply with ISO 799-1:2019 and ISO 5489:2008, as applicable. Further information on the material to be submitted to receive Coast Guard approval is located at <https://www.dco.uscg.mil/CG-ENG-4/Ladders/>.
- b. Manufacturers of pilot ladders intended for use on a vessel engaged in international voyages should ensure they provide certification of the ladder's compliance with SOLAS Chapter V Regulation 23.
- c. Manufacturers of pilot ladders and embarkation ladders intended for use on a vessel engaged in international voyages should ensure they are marked in accordance with ISO 799-1:2019 and ISO 5489:2008. This includes "ISO 799-1" or "ISO 5489" and "SOLAS".
- d. Operators of vessels embarking or disembarking maritime pilots away from the dock are strongly encouraged to comply with the pilot transfer arrangements described in enclosure (1). The Coast Guard also recommends that all vessels obtain the poster illustrated in enclosure (2) and post it where it is accessible. It is available for download on the International Maritime Pilots' Association's website at www.impahq.org.

5. Disclaimer. The guidance in this policy letter is not a substitute for applicable legal requirements and is not a rule. It does not impose legally binding requirements on any party. This guidance represents the USCG's current thinking on this topic and may assist industry, mariners, the public, and the Coast Guard, as well as other Federal and state regulators, in applying statutory and regulatory requirements. An alternative approach for complying with

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these requirements is acceptable, if that approach satisfies the requirements of the applicable statutes and regulations.

6. Changes. This policy will be revised as necessary. It will be available with any changes on the CG-ENG portal website at <https://www.dco.uscg.mil/CG-ENG/>.

Questions concerning equipment approval should be directed to Commandant (CG-ENG-3), Commercial Regulations and Standards Directorate, Office of Design and Engineering Standards, Systems Engineering Division at TypeApproval@uscg.mil.

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Enclosure: (1) IMO Resolution A.1045(27) Pilot Transfer Arrangements
(2) International Maritime Pilots' Association Poster – Required Boarding Arrangements for Pilots

Distribution: Operators of vessels on international voyages
Manufacturers of Coast Guard approved pilot and embarkation ladders
Coast Guard accepted independent laboratories for pilot and embarkation ladders
CG-NAV
CG-CVC
CG-INV

ASSEMBLY
27th session
Agenda item 9

A 27/Res.1045
20 December 2011
Original: ENGLISH

Resolution A.1045(27)

**Adopted on 30 November 2011
(Agenda item 9)**

PILOT TRANSFER ARRANGEMENTS

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization regarding the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

NOTING the provisions of regulation V/23 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its eighty-seventh session,

1. ADOPTS the "Recommendation on Pilot Transfer Arrangements", as set out in the Annex to the present resolution;
2. INVITES Governments to draw the attention of all concerned to this recommendation;
3. FURTHER INVITES Governments to ensure that mechanical pilot hoists are not used;
4. REQUESTS Governments to ensure that pilot ladders and their arrangements, use and maintenance conform to standards not inferior to those set out in the annex to the present resolution;
5. REVOKES resolution A.889(21).

Annex

RECOMMENDATION ON PILOT TRANSFER ARRANGEMENTS**1 GENERAL**

Ship designers are encouraged to consider all aspects of pilot transfer arrangements at an early stage in design. Equipment designers and manufacturers are similarly encouraged, particularly with respect to the provisions of paragraphs 2.1.2, 3.1 and 3.3.

2 PILOT LADDERS

A pilot ladder should be certified by the manufacturer as complying with this section or with the requirements of an international standard acceptable to the Organization.¹

2.1 Position and construction

2.1.1 The securing strong points, shackles and securing ropes should be at least as strong as the side ropes specified in section 2.2 below.

2.1.2 The steps of the pilot ladders should comply with the following requirements:

- .1 if made of hardwood, they should be made in one piece, free of knots;
- .2 if made of material other than hardwood, they should be of equivalent strength, stiffness and durability to the satisfaction of the Administration;
- .3 the four lowest steps may be of rubber of sufficient strength and stiffness or other material to the satisfaction of the Administration;
- .4 they should have an efficient non-slip surface;
- .5 they should be not less than 400 mm between the side ropes, 115 mm wide and 25 mm in depth, excluding any non-slip device or grooving;
- .6 they should be equally spaced not less than 310 mm or more than 350 mm apart; and
- .7 they should be secured in such a manner that each will remain horizontal.

2.1.3 No pilot ladder should have more than two replacement steps which are secured in position by a method different from that used in the original construction of the ladder, and any steps so secured should be replaced as soon as reasonably practicable by steps secured in position by the method used in the original construction of the pilot ladder. When any replacement step is secured to the side ropes of the pilot ladder by means of grooves in the sides of the step, such grooves should be in the longer sides of the step.

¹ Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799:2004, *Ships and marine technology – Pilot ladders*.

2.1.4 Pilot ladders with more than five steps should have spreader steps not less than 1.8 m long provided at such intervals as will prevent the pilot ladder from twisting. The lowest spreader step should be the fifth step from the bottom of the ladder and the interval between any spreader step and the next should not exceed nine steps.

2.1.5 When a retrieval line is considered necessary to ensure the safe rigging of a pilot ladder, the line should be fastened at or above the last spreader step and should lead forward. The retrieval line should not hinder the pilot nor obstruct the safe approach of the pilot boat.

2.1.6 A permanent marking should be provided at regular intervals (e.g. 1 m) throughout the length of the ladder consistent with ladder design, use and maintenance in order to facilitate the rigging of the ladder to the required height.

2.2 Ropes

2.2.1 The side ropes of the pilot ladder should consist of two uncovered ropes not less than 18 mm in diameter on each side and should be continuous, with no joints and have a breaking strength of at least 24 Kilo Newtons per side rope. The two side ropes should each consist of one continuous length of rope, the midpoint half-length being located on a thimble large enough to accommodate at least two passes of side rope.²

2.2.2 Side ropes should be made of manila or other material of equivalent strength, durability, elongation characteristics and grip which has been protected against actinic degradation and is satisfactory to the Administration.

2.2.3 Each pair of side ropes should be secured together both above and below each step with a mechanical clamping device properly designed for this purpose, or seizing method with step fixtures (chocks or widgets), which holds each step level when the ladder is hanging freely. The preferred method is seizing.²

3 ACCOMMODATION LADDERS USED IN CONJUNCTION WITH PILOT LADDERS

3.1 Arrangements which may be more suitable for special types of ships may be accepted, provided that they are equally safe.

3.2 The length of the accommodation ladder should be sufficient to ensure that its angle of slope does not exceed 45°. In ships with large draft ranges, several pilot ladder hanging positions may be provided, resulting in lesser angles of slope. The accommodation ladder should be at least 600 mm in width.

3.3 The lower platform of the accommodation ladder should be in a horizontal position and secured to the ship's side when in use. The lower platform should be a minimum of 5 m above sea level.

3.4 Intermediate platforms, if fitted, should be self-levelling. Treads and steps of the accommodation ladder should be so designed that an adequate and safe foothold is given at the operative angles.

² Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799:2004, *Ships and marine technology — Pilot ladders*, part 4.3a and part 3, paragraph 3.2.1.

3.5 The ladder and platform should be equipped on both sides with stanchions and rigid handrails, but if handropes are used they should be tight and properly secured. The vertical space between the handrail or handrope and the stringers of the ladder should be securely fenced.

3.6 The pilot ladder should be rigged immediately adjacent to the lower platform of the accommodation ladder and the upper end should extend at least 2 m above the lower platform. The horizontal distance between the pilot ladder and the lower platform should be between 0.1 and 0.2 m.

3.7 If a trapdoor is fitted in the lower platform to allow access from and to the pilot ladder, the aperture should not be less than 750 mm x 750 mm. The trapdoor should open upwards and be secured either flat on the embarkation platform or against the rails at the aft end or outboard side of the platform and should not form part of the handholds. In this case the after part of the lower platform should also be fenced as specified in paragraph 3.5 above, and the pilot ladder should extend above the lower platform to the height of the handrail and remain in alignment with and against the ship's side.

3.8 Accommodation ladders, together with any suspension arrangements or attachments fitted and intended for use in accordance with this recommendation, should be to the satisfaction of the Administration³.

4 MECHANICAL PILOT HOISTS

The use of mechanical pilot hoists is prohibited by SOLAS regulation V/23.

5 ACCESS TO DECK

Means should be provided to ensure safe, convenient and unobstructed passage for any person embarking on, or disembarking from, the ship between the head of the pilot ladder, or of any accommodation ladder, and the ship's deck; such access should be gained directly by a platform securely guarded by handrails. Where such passage is by means of:

- .1 a gateway in the rails or bulwark, adequate handholds should be provided at the point of embarking on or disembarking from the ship on each side which should be not less than 0.7 m or more than 0.8 m apart. Each handhold should be rigidly secured to the ship's structure at or near its base and also at a higher point, not less than 32 mm in diameter and extend not less than 1.2 m above the top of the bulwarks. Stanchions or handrails should not be attached to the bulwark ladder;
- .2 a bulwark ladder should be securely attached to the ship to prevent overturning. Two handhold stanchions should be fitted at the point of embarking on or disembarking from the ship on each side which should be not less than 0.7 m or more than 0.8 m apart. Each stanchion should be rigidly secured to the ship's structure at or near its base and also at a higher point, should be not less than 32 mm in diameter and should extend not less than 1.2 m above the top of the bulwarks. Stanchions or handrails should not be attached to the bulwark ladder.

³ Refer to SOLAS regulation II-1/3-9 concerning accommodation ladders.

6 SAFE APPROACH OF THE PILOT BOAT

Where rubbing bands or other constructional features might prevent the safe approach of a pilot boat, these should be cut back to provide at least 6 metres of unobstructed ship's side. Specialized offshore ships less than 90 m or other similar ships less than 90 m for which a 6 m gap in the rubbing bands would not be practicable, as determined by the Administration, do not have to comply with this requirement. In this case, other appropriate measures should be taken to ensure that persons are able to embark and disembark safely.

7 INSTALLATION OF PILOT LADDER WINCH REELS

7.1 Point of access

7.1.1 When a pilot ladder winch reel is provided it should be situated at a position which will ensure persons embarking on, or disembarking from, the ship between the pilot ladder and the point of access to the ship, have safe, convenient and unobstructed access to or egress from the ship.

7.1.2 The point of access to or egress from the ship may be by a ship's side opening, an accommodation ladder when a combination arrangement is provided, or a single section of pilot ladder.

7.1.3 The access position and adjacent area should be clear of obstructions, including the pilot ladder winch reel, for distances as follows:

- .1 a distance of 915 mm in width measured longitudinally;
- .2 a distance of 915 mm in depth, measured from the ship's side plating inwards; and
- .3 a distance of 2,200 mm in height, measured vertically from the access deck.

7.2 Physical positioning of pilot ladder winch reels

7.2.1 Pilot ladder winch reels are generally fitted on the ship's upper (main) deck or at a ship's side opening which may include side doors, gangway locations or bunkering points. Winch reels fitted on the upper deck may result in very long pilot ladders.

7.2.2 Pilot ladder winch reels which are fitted on a ship's upper deck for the purpose of providing a pilot ladder which services a ship side opening below the upper deck or, alternatively, an accommodation ladder when a combination arrangement is provided should:

- .1 be situated at a location on the upper deck from which the pilot ladder is able to be suspended vertically, in a straight line, to a point adjacent to the ship side opening access point or the lower platform of the accommodation ladder;
- .2 be situated at a location which provides a safe, convenient and unobstructed passage for any person embarking on, or disembarking from, the ship between the pilot ladder and the place of access on the ship;

- .3 be situated so that safe and convenient access is provided between the pilot ladder and the ship's side opening by means of a platform which should extend outboard from the ship's side for a minimum distance of 750 mm, with a longitudinal length of a minimum of 750 mm. The platform should be securely guarded by handrails;
- .4 safely secure the pilot ladder and manropes to the ship's side at a point on the ship's side at a distance of 1,500 mm above the platform access point to the ship side opening or the lower platform of the accommodation ladder; and
- .5 if a combination arrangement is provided, have the accommodation ladder secured to the ship's side at or close to the lower platform so as to ensure that the accommodation ladder rests firmly against the ship's side.

7.2.3 Pilot ladder winch reels fitted inside a ship's side opening should:

- .1 be situated at a position which provides a safe, convenient and unobstructed passage for any person embarking on, or disembarking from, the ship between the pilot ladder and the place of access on the ship;
- .2 be situated at a position which provides an unobstructed clear area with a minimum length of 915 mm and minimum width of 915 mm and minimum vertical height of 2,200 mm; and
- .3 if situated at a position which necessitates a section of the pilot ladder to be partially secured in a horizontal position on the deck so as to provide a clear access as described above, then allowance should be made so that this section of the pilot ladder may be covered with a rigid platform for a minimum distance of 915 mm measured horizontally from the ship's side inwards.

7.3 Handrails and handgrips

Handrails and handgrips should be provided in accordance with section 5 to assist the pilot to safely transfer between the pilot ladder and the ship, except as noted in paragraph 7.2.2.3 for arrangements with platforms extending outboard. The horizontal distance between the handrails and/or the handgrips should be not less than 0.7 m or more than 0.8 m apart.

7.4 Securing of the pilot ladder

Where the pilot ladder is stowed on a pilot ladder winch reel which is located either within the ship's side opening or on the upper deck:

- .1 the pilot ladder winch reel should not be relied upon to support the pilot ladder when the pilot ladder is in use;
- .2 the pilot ladder should be secured to a strong point, independent of the pilot ladder winch reel; and
- .3 the pilot ladder should be secured at deck level inside the ship side opening or, when located on the ship's upper deck, at a distance of not less than 915 mm measured horizontally from the ship's side inwards.

7.5 Mechanical securing of pilot ladder winch reel

7.5.1 All pilot ladder winch reels should have means of preventing the winch reel from being accidentally operated as a result of mechanical failure or human error.

7.5.2 Pilot ladder winch reels may be manually operated or, alternatively, powered by either electrical, hydraulic or pneumatic means.

7.5.3 Manually operated pilot ladder winch reels should be provided with a brake or other suitable arrangements to control the lowering of the pilot ladder and to lock the winch reel in position once the pilot ladder is lowered into position.

7.5.4 Electrical, hydraulic or pneumatically driven pilot ladder winch reels should be fitted with safety devices which are capable of cutting off the power supply to the winch reel and thus locking the winch reel in position.

7.5.5 Powered winch reels should have clearly marked control levers or handles which may be locked in a neutral position.

7.5.6 A mechanical device or locking pin should also be utilized to lock powered winch reels.

REQUIRED BOARDING ARRANGEMENTS FOR PILOT



In accordance with SOLAS Regulation V/23 & IMO Resolution A.1045(27)

INTERNATIONAL MARITIME PILOTS' ASSOCIATION

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This document and all IMO Pilot-related documents are available for download at: <http://www.impahq.org>

