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## **GUIDE TO RECOVERY TECHNIQUES**

1 The Maritime Safety Committee, at its ninety-fourth session (17 to 21 November 2014), with a view to providing specific guidance to seafarers on recovery techniques, approved the Guide on recovery techniques, prepared by the Sub-Committee on Navigation, Communications and Search and Rescue at its first session (30 June to 4 July 2014), as set out in the annex.

2 This circular revokes MSC.1/Circ.1182.

3 Member Governments and international organizations in consultative status are invited to bring the annexed guide to the attention of all concerned, in particular distribution to seafarers.

4 Member Governments, international organizations and others concerned are encouraged to enhance the attached Guide with pictorial and other relevant information, as appropriate.

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## ANNEX

### GUIDE TO RECOVERY TECHNIQUES

#### 1 INTRODUCTION: YOUR PART IN RECOVERY AT SEA

1.1 As a seafarer, you may have to recover people in distress at sea. This might be someone overboard from your own ship – a fellow crew member, or a passenger – or your ship might be responding to someone else's emergency; for example, a ship abandoned because of flooding or fire, or a ditched aircraft. You may have little warning, and lives may be in your hands.

1.2 In many areas of the world, especially when out of range of shore-based search and rescue (SAR) facilities, your ship may be the first, or the only, rescue unit to arrive in time. Even if you are joined by specialized units, you will still have a vital role to play, especially in a major incident involving many people.

1.3 Many ships are required to have ship-specific plans and procedures for recovery of persons from the water,<sup>1</sup> and IMO has agreed that it is beneficial to have recovery procedures planned for any vessel.<sup>2</sup> This guide also considers recovery from small craft such as liferafts, etc.

1.4 If you are required to recover people in distress, it is your capability that matters. To ensure that you can respond safely and effectively, you need to know the plans and procedures for recovery specific to your ship and to think about the general issues *beforehand*.

1.5 The recovery process is often difficult. For example, it may be complicated by:

- .1 the size of your ship: survivors may have to climb or be lifted considerable distances to get aboard;
- .2 differences in relative movement between your ship and the craft or people alongside: it may be difficult to stay alongside or for survivors to get onto ladders, etc. or in through shell openings; and
- .3 the physical capability of those to be recovered: they may be able to do little or nothing to help themselves.

1.9 This guide discusses these problems and some solutions. It suggests practical recovery techniques which have been used successfully to recover people in distress at sea.

#### 2 AIMS AND CONTENTS OF THIS GUIDE

2.1 This guide focuses on recovery and the work you may have to do to achieve it. It is intended to be used as a reference document. You should read it now and you should refer to it again while proceeding to the scene of the emergency, as part of your preparation for the recovery operation.

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<sup>1</sup> SOLAS regulation III/17-1

<sup>2</sup> Resolution MSC.346(91)

2.2 The guide's principal aims are to help *you* – as master or crew of a responding ship – to:

- .1 ASSESS and decide upon appropriate means of recovery aboard your own vessel;
- .2 TRAIN in the use of these means of recovery, in general preparation for emergencies; and
- .3 PREPARE yourself and your vessel when actually responding to an emergency.

2.3 This guide includes and supports the recovery guidance in Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, "Mobile Facilities", which should be available on board.

2.4 Recovery – getting people in distress into your ship – is just a part of the overall rescue operation. For guidance on SAR operations as a whole you should refer to the IAMSAR Manual.

2.5 For simplicity, this guide refers to lifeboats, liferafts, etc. as "survival craft". It is also possible that you will be recovering people from other small craft such as small SAR units; directly from small vessels in distress such as yachts or fishing boats; or from the water, etc. In general the same recovery principles apply throughout.

2.6 The guidance is set out as follows:

Possible recovery problems .....	section 3
Planning considerations .....	section 4
Providing assistance <i>before</i> recovery .....	section 5
The recovery process – general considerations .....	section 6
The approach .....	section 7
Rescue craft and lines .....	section 8
Getting people aboard – factors to consider .....	section 9
Climbing and lifting .....	section 10
Providing assistance when standing by .....	section 11
The immediate care of people recovered .....	section 12
Recovery checklist .....	appendix

### 3 THE TASK OF RECOVERY: POSSIBLE PROBLEMS

3.1 When proceeding to the scene of an emergency at sea, you will probably only have limited information about what you will find when you get there. What you may find are people in survival craft or in the water. You should prepare for their recovery.

3.2 Unless it is properly prepared for, the recovery process may be a difficult and dangerous operation. The following are some of the problems which you may have to face.

- .1 Recovery from survival craft is not simple – see section 3.3 below.
- .2 In a man-overboard situation, or in a rapid or uncontrolled abandonment when not everybody has been able to get into survival craft, you may find people in the water, or clinging to floating wreckage, etc. These people are less likely to be able to help themselves than if they were in survival craft. Nor will they survive so long.

- .3 People may still be aboard the craft in distress and direct recovery may be required, without the intermediate use of survival craft.
- .4 Small craft are especially vulnerable if they are in close proximity to your ship. Their masts, rigging or other gear may become entangled and there is the danger of crushing or other damage as the two vessels move in the seaway.
- .5 People may need to be recovered from other places which they have reached before your arrival (rocks, reefs, sandbanks, shorelines only accessible from the sea, navigational marks, moored vessels, etc.).
- .6 In addition to recovering people yourself, you may have to receive people from other SAR units such as rescue boats or helicopters. These units may wish to transfer people to your ship rather than take them directly ashore, so that they can return to pick up others more quickly. Many of the problems associated with recovering people from survival craft also apply to the transfer of people from (small) rescue boats into (large) ships.
- .7 Transfer from helicopters has its own special requirements, including training and preparation on board – see IAMSAR Volume III.

3.3 There are likely to be further complications, even after a controlled evacuation in which people have entered survival craft successfully.

- .1 Types of survival craft vary.
  - .1 Powered survival craft may be able to manoeuvre themselves alongside your ship but those without power cannot do so.
  - .2 Many survival craft are covered and these covers may not be removable. Getting out of enclosed survival craft may be difficult when the craft is in a seaway, particularly if the exit points are small.
- .2 Those awaiting recovery may lack the ability to help themselves or others. This may be because of injury, illness (including seasickness after a period in a survival craft), the effects of cold or heat, age (whether elderly or very young) or infirmity.
- .3 People awaiting recovery may have little or no experience of transferring between small craft and larger ones such as your ship. For example, stepping onto a pilot ladder and then climbing it is not difficult for a fit person used to doing so – but it may be effectively impossible for others.
- .4 There may be language difficulties. If instructions are not properly understood, the consequences can be dangerous. You may not have a language in common with the person to be recovered, and even when you do they may not understand your instructions.
- .5 There may be a large number of people to recover. In the case of a passenger ship, this number may amount to hundreds or even thousands of people. This possibility brings additional problems with it, including:
  - .1 SCALE: the sheer size of the problem can be daunting and the stress of the situation may lead you to lose focus and efficiency.

- .2 PRIORITY: who should be recovered first? It is clear that people in the water should take priority over those in survival craft. It is less clear whether the injured or infirm should take priority over the more capable, who can be recovered more quickly.
- .3 RESOURCES: facilities aboard your ship may become overwhelmed. Survivors will need shelter, warmth, water, food and, probably, some medical attention.
- .4 PEOPLE: you will need sufficient numbers of people to navigate your ship, to operate the means of recovery and to escort those recovered to shelter.

#### **4 PLANNING FOR RECOVERY**

4.1 The circumstances you find when you arrive will differ from incident to incident; but general planning must be done.

4.2 When planning how best to bring people aboard your ship you should consider:

- .1 who will be required for the recovery process;
- .2 who will manage the ship in the meantime;
- .3 what can be done to help people prior to recovery;
- .4 the means of recovery available to you;
- .5 where on the ship the survivors should be taken after recovery;
- .6 how they will be looked after once they are aboard; and
- .7 how you will keep your own crew and any passengers informed of what is going on.

4.3 Make sure everyone understands the recovery plan and their own place in it, and have everyone ready, with all the equipment they need, before commencing the operation.

4.4 You may not have much time to think about details when the emergency happens; but if you have thought about your capabilities beforehand and you have trained to use them effectively – in short, if you are *prepared* – you will not need much time.

4.5 Remember that plans are of no use unless you know how to put them into effect. This requires training, and the testing of both plans and training by conducting drills.

#### **5 PROVIDING ASSISTANCE PRIOR TO RECOVERY**

5.1 People can still die after you have found them but before you can get them on board. Recovery takes time – and those in distress may not have much time, especially if they are in the water, unprotected and/or unsupported. You should be ready to help them stay alive until you are able to recover them.

5.2 Depending on how long the recovery is likely to take, they may need:

- .1 buoyancy aids such as lifebuoys, lifejackets and liferafts;

- .2 detection aids such as high-visibility/retro-reflective materials, lights, a SART or an EPIRB;
- .3 survival aids such as shelter, clothing, drink, food and first aid supplies; and
- .4 communications equipment such as a handheld radio.

5.3 The simpler buoyant items – lifebuoys in particular – can be dropped or thrown to those in distress on an early pass by the ship. If the ship is stopped, contact should be established by messenger (a rocket line, rescue throw-line, or heaving line) and the items passed under control. You will need to get the messenger very close to those in distress if they are to have a chance of seeing and getting hold of it.

5.4 Items may be veered down to survivors while the ship stands clear, on lines made fast to a lifebuoy, for example; or they can be towed into a position where those in distress can get hold of them.

5.5 If the recovery operation looks like it might take some time, one or more of your own liferafts can be deployed. Remember, however, that a liferaft may drift faster than those in distress can swim. You will need to guide it to the people you are assisting, using a line made fast to the raft before deploying it. Do not rely on the raft's own painter, which may tear away.

5.6 You can also help those in distress while you ready your ship for the recovery operation by making a lee for them or, if contact can be established by line, by towing them out of immediate danger such as that posed by the wreck itself or by spilt hazardous cargo, or by a lee shore.

## **6 THE RECOVERY PROCESS – GENERAL CONSIDERATIONS**

6.1 During the recovery process itself, there will be three basic tasks to complete:

- .1 bringing people to the side of the ship so that they can be recovered;
- .2 getting people into the ship; and
- .3 dealing with them once they are aboard.

6.2 Some guidance on each of these tasks is given in sections 7 to 12. Think carefully about each of them in your planning and preparation. If you have done so, the recovery process should be easier when you have to carry it out.

## **7 BRINGING PEOPLE TO THE SIDE OF THE SHIP – THE APPROACH**

7.1 Manoeuvring a large ship in a seaway to come alongside, and then remain alongside, a small object like a survival craft or a person in the water will be difficult.

- .1 The main danger in this case is that of running over the object.
- .2 It is also possible to over-compensate for that risk, so that the object will be missed because still too far away.
- .3 Both your ship and the recovery object are likely to be affected, unequally, by wind, sea state, and water currents.

7.2 There may be other factors which make this task more difficult still. Be prepared for them. For example:

- .1 Room to manoeuvre may be limited by nearby navigational hazards, or there may be more than one recovery object in the area.
- .2 Beware of running down people in the water (who may be very hard to see) while making your approach to your chosen recovery object. Post good lookouts with direct communications to the Bridge while in the incident area. Ensure that the lookouts know to report *all* sightings: people in the water, survival craft, the casualty vessel, debris, etc.
- .3 Although powered craft may be able to get alongside your ship and keep themselves there, this can be difficult in a seaway. In rough seas, craft or the people aboard them may be damaged if thrown against the ship's side. Have boat ropes ready, and fenders if you have them.
- .4 People in the water may be able to swim short distances to get to the ship's side. It is possible that people will enter the water in order to do so as you approach, although they should be told not to if possible – at least until you are ready to recover them.

7.3 Prepare your means of recovery, yourself and your crew before you arrive at the scene.

7.4 Prepare onboard communications, so that lookouts and the recovery team will be able to communicate readily with the Bridge team.

7.5 Think about the approach before making it:

- .1 determine what will be the most significant factor in creating a lee for the casualty – wind, sea or swell;
- .2 assess navigational hazards in the area;
- .3 decide on which side you want to make the lee';
- .4 consider circling the casualty: this can have a significant calming effect on the sea, but you need to bear in mind your ship's stability and manoeuvring characteristics, the amount of sea room available, and the possibility that there are other survivors in the area;
- .5 consider running by the casualty first, if time permits, to help you make your assessment;
- .6 consider stopping well short of the casualty during the final approach, to get the way off your vessel and to assess the effects of wind, sea and swell when stopped/at slow speeds;
- .7 approach with the significant element (wind, sea or swell) fine on the weather bow and your recovery object fine on the lee bow; and
- .8 as you come up to the object, turn away from the weather and stop to create the lee, with your recovery object close on your lee side.



7.6 Be ready to receive craft and/or people alongside, with boat ropes rigged and other equipment (including safety lines and buoyant equipment) ready to hand.

7.7 Manoeuvring your ship at slow speed, judging its movement and that of the recovery object, is a skill. Appropriate training should be encouraged by ship operators.

## **8 BRINGING PEOPLE TO THE SIDE OF THE SHIP – RESCUE CRAFT AND LINES**

8.1 It may be unsafe – or simply impossible – to bring survivors alongside your ship directly. You may have to find another way of reaching them. One way to do this is to launch a rescue craft, *if this can be achieved safely*. Another way is to pass a line.

8.2 Launching a rescue craft will serve three purposes:

- .1 it will make the final approach to the recovery object easier;
- .2 primary recovery (into the rescue craft) will be easier, because of the rescue craft's lower freeboard and similar motion to that of the recovery object; and
- .3 completing the recovery by returning to the ship and being lifted back aboard using the rescue craft's own recovery system should also be easier.

8.3 The best lee for launching and recovery of rescue craft is likely to be obtained by putting the sea on a quarter, steaming slowly ahead, and doing the boat work on the opposite side.

8.4 But for most ships launching rescue craft may only be an option in reasonably good weather conditions. The use of your own rescue craft must be for the master to decide, depending on the particular circumstances of the incident. Factors to consider include:

- .1 The severity of the risk to those in distress: can they be left where they are until more suitable help arrives (supported in other ways by the assisting ship in the meantime – see section 11) or are alternative means of recovery available?
- .2 On-scene weather conditions: particularly sea state, but also wind strength and direction, ambient temperatures and visibility.
- .3 The capability of the rescue craft:
  - .1 the efficiency of its launch and recovery equipment;
  - .2 the competence and experience of its crew;
  - .3 the availability of personal protective equipment for its crew;
  - .4 the effectiveness of communications between the rescue craft and the ship;
  - .5 the proximity of navigational hazards; and
  - .6 the rescue craft's ability to navigate, whether independently or coned from the ship, so as to avoid hazards and locate those in distress.

- .4 The ship's manoeuvrability: can you get into a position to launch and recover the rescue craft safely?
- .5 The proximity of navigational hazards limiting the ship's ability to manoeuvre in support of the rescue craft or to provide alternative help to those in distress.

8.5 An alternative to sending out a rescue craft is to pass lines to those needing recovery, so that they may be pulled alongside the ship. Rocket lines, rescue throw-lines and heaving lines may be used for this purpose, and should be ready for use.

8.6 Buoyant appliances such as lifebuoys or an inflated liferaft may be veered down to those in distress on secure lines, and then pulled back to the ship.

8.7 Streaming lines astern is another option, preferably with buoyancy and means of attracting attention to them attached – lifebuoys, for example, with lights at night. The ship should then be manoeuvred around those in distress so that they may take hold of the streamed line. Once this is done the ship stops and those in need of recovery can be pulled alongside.

## **9 GETTING PEOPLE ABOARD THE SHIP: FACTORS TO CONSIDER**

9.1 Once people are in a position from which they can be recovered, the next part of the task is to get them aboard the ship. This will depend on:

- .1 the prevailing weather and sea conditions;
- .2 the condition of the people to be recovered;
- .3 the size of your ship;
- .4 your ship's design;
- .5 the equipment available; and
- .6 the competence of those using it.

9.2 Weather and sea conditions on scene will be important, particularly the sea state:

- .1 How is the recovery object moving in relation to your ship?
  - .1 Sea and swell waves will affect your ship and a small craft (or a person in the water) differently. Ship and recovery object may move vertically in relation to each other.
  - .2 Your ship and the object will be subject to leeway in different ways. They may be blown together or apart. Water currents may also have different effects.
  - .3 As people climb or are lifted into your ship, the craft they have just left may rise on a wave, striking or trapping them against the ship's side.

- .2 Your ship's own movements will also be a factor:
  - .1 As the ship moves in sea and swell, people may be swung against the ship's side as they climb or are lifted to an embarkation point.
  - .2 People may swing away from the side and collide with another hazard, including the craft they have just left.

9.3 You should attempt to minimize the difficulties caused by rough seas. Consider the following when planning recovery operations:

- .1 Try to keep sufficiently off the wind to reduce the ship's roll and pitch and to create a lee. Find by experiment (if time permits) the position in which the recovery object lies most easily alongside.
- .2 Steaming slowly ahead with the object secured alongside and the weather on the opposite quarter should ease differential movement, although it does introduce other risks. Craft may be damaged, lines may part, or people may fall into the water during the recovery operation, and drift astern.
- .3 Try to secure recovery objects alongside if possible, to prevent them being blown away or left behind.
- .4 When lifting people, control lines should be rigged to the hoist and tended to minimize swinging.
- .5 Safety lines should always be used to secure the casualty in case he/she falls or is injured during the recovery.

9.4 If the differential movement is too violent, you will need to consider other options.

- .1 It may be possible to transfer those to be recovered to an intermediate platform such as a liferaft veered down to them or acting as a fender against the ship's side.
- .2 It may be necessary to have them enter the water, suitably equipped with flotation aids and safety lines from the ship, to be pulled across a safety gap between the ship and the craft they are leaving.
- .3 Ultimately, however, the only option may be to abandon the attempt at recovery and to stand by, supplying whatever assistance you can until a more capable recovery unit arrives or conditions ease (see section 11).

9.5 The condition of the people to be recovered is another critical factor. When responding to an emergency, you will often not know their condition until you arrive.

- .1 People's condition can range from the fit and healthy to the entirely helpless who, because of their age or through injury, infirmity, hypothermia, seasickness or fear can do nothing to assist in their own recovery.

- .2 This wide range of capability may be found across a group of people to be recovered, so that some of the group will be able to climb unaided into the recovering ship while others will need assistance. Even the fit and experienced seafarer's capability will erode over time, and may erode quickly. Weather conditions – ambient temperatures in particular – and the level of protection available prior to recovery are critical.
- .3 You may find that people in distress are able to help themselves (and others). You may find that you will have to do all the work yourself. You are likely to find a mix of these conditions.
- .4 There may be children to be recovered. Older children may be able to help in their own recovery, although the equipment in use may have to be adapted to their size (and remember that adults come in a wide range of sizes too). Other children may, and infants will, need adult help. You may have to provide means of securing a small child to an adult while being recovered. Alternatively, you may have to provide a lifting device to or in which the child may be securely fastened.
- .5 Fear is a factor deserving attention. Some survivors may try to be recovered first or (if afraid for missing friends or family members, or if simply afraid of the recovery process itself – children, for example) they may *resist* recovery. In either case they may act dangerously. Be ready for such unpredictable behaviour, including having extra life-saving equipment to hand in case someone ends up in the water. The aim is to retain control of the recovery process overall: loss of control by individuals can be tolerated unless it directly affects others' safety.

9.6 Be ready to deal with each of these possibilities. You should plan ahead, so far as is practicable:

- .1 People in the water should take priority over people in survival craft, etc.
- .2 It may be best to bring at least some of the more capable survivors aboard first. You will probably be able to recover more capable people more quickly than you can recover the incapable, and, once aboard, they may be able to help you, by looking after other survivors, for example.
- .3 But some of the most capable should also be among the last to be recovered, as you will need them to help prepare the incapable for recovery.
- .4 Communications with those awaiting recovery are therefore very important. A controlled and prioritized recovery process should be established and maintained.

9.7 The size of your ship, relative to your recovery object, will affect differential movement, as discussed above. It will also determine how far those being recovered have to climb or be lifted; which, in turn, may affect:

- .1 how long recovery takes;

- .2 how many people can be recovered;
- .3 whether they are exposed to additional risks such as swinging against the ship's side; and
- .4 how anxious they are about the operation.

9.8 The ship's design may make recovery simpler. A high-sided ship may be able to use low freeboard areas or openings in her hull such as pilot, bunkering, or cargo doors.

9.9 The entry points identified in the ship's recovery plan should be re-assessed with the prevailing conditions in mind. The questions to be considered include:

- .1 Where can ladders or other climbing devices be rigged?
- .2 Where can lifting devices be used? What are the leads and power sources for such devices?
- .3 Are there any low freeboard areas or hull openings? Can they be safely accessed in bad weather or difficult sea conditions? Can the means of recovery be rigged there? Can those recovered be safely removed from there to shelter?
- .4 If thinking of using accommodation ladders sited aft, is there a danger of survivors or craft near the foot of the ladder being trapped under the hull as it tapers to the stern?
- .5 Is there belting along the ship's sides? If so this is a particular hazard to small craft, with significant danger of the craft being trapped beneath it. Recovery points should be at any breaks in the belting.
- .6 Can sufficient lighting be rigged in the recovery area?

9.10 The equipment available and the number of people competent to operate it are also key factors. If there are not enough people trained to operate the available means of recovery, or if adequate recovery equipment has not been prepared, efficiency of recovery will obviously be impaired:

- .1 ASSESS your equipment.
- .2 PLAN its use.
- .3 ASSIGN people to operate it.
- .4 ENSURE that they know how to operate it.

## **10 GETTING PEOPLE ABOARD THE SHIP: CLIMBING AND LIFTING**

10.1 The methods of recovery discussed in this guide are in addition to any purpose-built means of recovery carried aboard the ship. They are methods that seafarers have used successfully in the past. Consider which ones can be used aboard your ship; or whether you can devise others.

10.2 The following CLIMBING devices should be considered:

- .1 pilot ladders and lifts;
- .2 accommodation ladders;
- .3 your own survival craft embarkation ladders; and
- .4 other ladders and nets.

10.3 Some or all of these may be rigged, in most cases whatever the conditions. The following points should be borne in mind:

- .1 Lifting survivors is preferable to having them climb a ladder or net – see section 10.4-5.
- .2 Ladders and nets should be so rigged as to minimize the climb; that is, where the freeboard is lowest or at suitable openings in the ship's side.
- .3 They should be rigged on the flat sides of the ship, away from bow and stern.
- .4 Their lower ends should be weighted so as to hang about two metres below the water level, enabling people in the water to get onto them.
- .5 If possible, rig nets and jacob's ladders so that they hang clear of the ship's side, to enable people to grasp the rungs or cross-ropes more readily.
- .6 Pilot ladders – or, if they can be rigged safely in the prevailing conditions, accommodation ladders – are preferable to nets and jacob's ladders.
- .7 All ladders and nets should be tended.
- .8 Safety lines should be deployed alongside them, with rescue strops or loops in the end for the casualty's use. These safety lines should be correctly secured and tended.
- .9 A liferaft can be deployed at the foot of the ladder or net, to act as a transfer platform.
- .10 People may not be able to make the climb. In such circumstances a crew member from the recovering ship, wearing personal protective equipment and a safety line, may have to go down to assist. Note, however, that this should be *planned* for. Going overside in an unplanned manner may be fatal.
- .11 If people are incapable of making the climb, the ladder or net may have to be recovered with them secured to it. For individual survivors, this may be possible manually – see section 10.9. Alternatively, a winch or other power source will have to be used.

10.4 In general, lifting survivors is preferable to having them try to climb ladders or nets. The following LIFTING devices should be considered:

- .1 cranes (including stores cranes, etc.), gantries, derricks;

- .2 davits;
- .3 windlass, winches; and
- .4 purpose-built recovery devices, including manual-lifting devices.

10.5 The following points should be borne in mind:

- .1 Lifting devices should be rigged so that those recovered can be lifted clear of hazards and landed on deck in a safe area.
- .2 If possible, lines led from windlass or winches should be rigged so that the casualty can be lifted above the deck edge.
- .3 Control lines should be rigged to the lower end of the lift, so that swinging against the ship's side can be limited.
- .4 The lower end of the lift should be equipped with at least a rescue strop or a secure loop.
- .5 A purpose-built or improvised rescue basket, or a purpose-built recovery device, is better than strops and loops.
- .6 People who have been in the water, the injured and the incapable, should be lifted in a horizontal or near-horizontal position if possible (for example, in a basket, or in two strops or loops; one under the arms, the other under the knees). This minimizes the risk of cardiac arrest.
- .7 However, if the survivor's airway is under threat – as it may be when alongside, even in calm conditions, because of side-splash – recover by the quickest method possible.
- .8 A crew member from the recovering ship, wearing personal protective equipment and a safety line, may be able to go down with the lift to assist those incapable of helping themselves into the strop, loop, basket or other device. Remember, however, that this should be *planned* for.

10.6 The rescue basket mentioned above is a particularly useful recovery tool. It may be possible to improvise such a basket; but it is recommended that a purpose-built unit be carried on board.

10.7 The rescue basket usually takes the form of a metal frame with floats/fenders around its perimeter and the lifting hook made fast to the top of the frame, clear of people inside. The basket floats partially submerged, so that people can easily enter it or be pulled into it. The floats double as fenders during the lift, should the basket swing against the ship's side. Some baskets are designed to fold for ease of stowage. The size of the basket, and how many people it can lift at once, largely depends on the ship's lifting capability.

10.8 The control lines mentioned above – usually rigged fore and aft along the ship's side, and tended during the lift to minimize swinging – may be supplemented by a line to the craft from which people are being recovered. This line serves two functions. It may be tended by those still aboard the craft as an additional means of controlling the hoist's lateral movements. It also serves to maintain contact with the craft throughout, so that the hoist may be brought back more easily for the next lift.

10.9 It may not be possible to use machinery to lift people. If so, entry points into the ship should be selected so that at least two crew (preferably more) can lift each survivor manually, without risk to themselves. Use a lightweight ladder or net, or knotted ropes: the knots should be spaced about 50 cm apart, and help those lifting to grip the rope. Rig a separate, tended safety line. Purpose-built manual lifting devices are available.

10.10 Survivors should not be expected to simply hold on to a line being lifted. If no other lifting devices are available, a loop in the end of the line to stand in, with a second loop about 1.5 m from the end to put over the head and under the arms, and to hold on to, will have to suffice.

10.11 Your own ship's life-saving appliances may be used for recovery purposes.

.1 Liferafts and lifeboats, left on the falls, may be used as lifts in relatively good conditions. Lowering these units to water level enables people to be transferred into them and then lifted to the embarkation deck:

.1 Care should be taken to prevent operation of any on-load release gear or automatic release hook.

.2 Take care not to overload davit winches designed to recover craft with only their own crew aboard.

.3 Ships fitted with marine evacuation systems of the slide type can deploy them to recover people by pulling them up the slide, and/or light ladders may be carried for deployment down the slide, to enable people to climb it unaided.

10.12 A further option to consider if winch-fitted helicopters are on scene is to use them as transfer lifts. People can be winched directly onto the ship – which is a quicker operation than taking them into the helicopter's cabin first. The helicopter is effectively used as a crane.

## **11 STANDING BY WHEN PEOPLE CANNOT BE RECOVERED**

11.1 There will be times when recovery cannot be attempted or completed without undue risk to the ship, her crew or those needing recovery. Only the assisting ship's master can decide when this is the case.

11.2 Assistance can still be given to those in distress, even if you cannot recover them. Standing by until other help arrives or conditions improve will:

.1 give comfort to the survivors, especially if communications can be established;

.2 assist the Rescue Coordination Centre, as you will be able to provide updated and detailed reports on the situation; and

.3 assist other SAR facilities:

.1 your ship is easier to locate than a survival craft;

.2 you can provide updated and detailed reports; and

.3 units such as helicopters will be able to transfer casualties to you even when you cannot recover them directly.



- 11.3 But, as discussed above, more direct help can also be given:
- .1 Your own life-saving appliances – including liferafts – can be deployed to those in distress, particularly people in the water.
  - .2 If lines can be passed to the survivors' craft, they may be kept out of immediate danger; towed to a position where conditions are easier and recovery may be attempted; or even towed to a nearby place of safety.
  - .3 You can provide a lee for small craft, protecting them from the worst of the conditions: consider circling if practicable.
  - .4 You may be able to supply more direct aid, passing supplies by floating them down on lines fast to a lifebuoy, for example.

## 12 THE IMMEDIATE CARE OF PEOPLE RECOVERED

12.1 Recovery does not end when the survivor sets foot on your deck. He or she still needs immediate help – and is still at some risk, in a strange environment and having been under great stress.

12.2 People recovered will need simple directions, and preferably an escort, to shelter. You should decide beforehand where you wish survivors to go aboard your ship, how they are going to get there, who will take them, and who will look after them once they arrive. This should include provision for people who are disorientated and perhaps unable to understand instructions. It should also include provision for those who are physically incapable of moving about the ship.

12.3 Survivors' condition may vary and will need to be assessed. Those assessed as being most at risk may require immediate priority care. Ask for medical advice via the Rescue Coordination Centre.

12.4 Remember in particular the risks of hypothermia and of cardiac arrest induced by sudden transfer from the water. People who have been in the water, the injured and the incapable, should, if possible, be lifted and carried in a horizontal or near-horizontal position. Refer to appropriate guidance, including that contained in the IMO's *Pocket Guide to Cold Water Survival*.

12.5 You should also decide what you are going to do with the dead. Bodies may be recovered, or people recovered alive may die aboard your ship. Some immediate action should be taken, if only to remove them from the place where you are sheltering the living. Attention is drawn to the guidance contained in the IMO's *Pocket Guide to Cold Water Survival* and, in particular, to the advice that people suffering from hypothermia may *appear* to be dead, yet can still be resuscitated. Ask for medical advice.

12.6 Further guidance on the care of people recovered may be found in IAMSAR Volume III (Mobile Facilities). As this further care is post-recovery, it is beyond the scope of this guide. You are recommended to refer to the IAMSAR Manual for help with the next stage of the rescue operation.

### **13 CONCLUSION**

13.1 If you find yourself answering a distress call and faced with the prospect of recovering people at sea, it helps to consider the possibilities beforehand: possible problems and possible solutions. It helps to plan and to prepare – and preparation means assessing the recovery options aboard your ship, and training in their use.

13.2 It could save a life (even yours!). It could save many lives:

- .1 ASSESS the recovery options aboard your ship;
- .2 TRAIN in their use; and
- .3 PREPARE to save lives.

## APPENDIX

### Recovery: Master's Checklist

#### On passage to the scene of the incident

- Establish communications with the Rescue Coordination Centre (RCC)
- Establish communications with the On Scene Coordinator (OSC), if appointed
- Reread the ship-specific recovery plan
- Reread this guidance, sections 3 to 12 in particular
- Check the relevant sections of the IAMSAR Manual
- Check the relevant sections of the IMO's guidance on cold water survival
- Consider on-scene conditions
- Consider the number and type of people you may have to recover, and the condition they may be in – section 9.5
- Consider whether to launch rescue craft – section 8.2 to 8.4
- Assess the best points of entry into the ship with the prevailing conditions in mind – section 9.9
- Advise RCC and/or OSC of your expected recovery capability
- Brief crew, and any passengers aboard
- Prepare recovery equipment, including control and safety measures – section 10
- Prepare additional life-saving equipment in case of accidents during recovery
- Prepare reception facilities for those recovered – section 12
- Prepare to provide assistance prior to, or instead of, recovery – sections 5 & 11
- Assign crew to
  - handling the ship
  - lookout duties – section 7.2.2
  - recovery – sections 8, 9.2 to 9.6, 9.9 & 10
  - care of survivors – section 12 (passengers may be able to assist with this)

#### Approaching the scene

- Post lookouts, well-briefed and in communication with the Bridge – section 7.2.2
- Have recovery team(s) standing by, well-briefed, equipped with personal protective equipment, and in communication with the Bridge – sections 8, 9.2 to 9.6, 9.9 & 10
- Assess your ship's manoeuvrability and recovery capability in the prevailing conditions – sections 7 & 9.3.1 to 9.3.3
- Prepare to launch rescue craft, if conditions permit – section 8.2 to 8.4
- Prepare to receive craft and/or people alongside – sections 7.6 & 8.5 to 8.7
- Think about your best approach – section 7.5
- Determine the priorities – sections 3.2.2, 3.3.5.2 & 9.6
- Advise RCC and/or OSC of your arrival and capabilities

#### During the recovery operation

- Continue to assess the priorities
- Continue your risk assessment, including your own ongoing recovery capability, the survival chances of those not yet recovered, and the availability of other recovery resources
- Keep RCC and/or OSC advised of your progress and future capability.