



**British  
Antarctic Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL



# **RRS James Clark Ross Cabin Safety and Information Booklet**

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**RRS James Clark Ross  
Cabin Safety and Information Booklet**

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# **WELCOME TO R.R.S. JAMES CLARK ROSS**

## **An Introduction by the Ship's Masters**

We endeavour to give you the fullest support to make your time on board both fruitful and pleasant. It is our intention that you will find competent, friendly and courteous support from all ship's personnel. We hope that everyone sailing on JCR will leave the ship with a high opinion of our standard of operation and co-operation.

This file contains the basic information you need to know about life on board. Everyone staying aboard the ship, even for a short time, should read this file, whether in port only or at sea. Please leave this file in the cabin, in a prominent place, for the next occupant(s).

Have a pleasant voyage.

**Remember: IF IN DOUBT... ASK!**

### **Section 1 – Safety On Board**

Officers and Crew must read and sign Masters Standing Orders as soon as practicable.

Instructions in this booklet form part of Master's Standing Orders for both Marine and Non Marine Personnel.

Ships can be dangerous places to those unaware of the hazards – please take care.

#### **1. Muster List:**

As soon as you have embarked make yourself familiar with the Muster List and Emergency Signals posters on each deck in the cross-alleyway and on your cabin door. Locate where your lifejacket, survival suit and smoke hoods are stored in the cabin.

**However please note that in port on hearing any emergency signal (if you are NOT marine crew) you should muster at the foot of the gangway where you will be accounted for by a member of ship's staff.**

#### **2. Safety Brief and familiarisation:**

Prior to the ship's departure everyone will be required to attend a Safety Briefing where the ship's emergency procedures will be explained. Please familiarise yourself with the notices on the back of your cabin door and those in the accommodation alleyways. Make sure you understand fully what different alarm signals signify and what action is required of you. If you are in the slightest doubt, ask any of the ship's staff.

Take practice emergency drills seriously.

#### **3. Fire:**

Make yourself aware of available fire extinguishers and means of raising the alarm - particularly near your cabin and place of work.

Familiarise yourself with escape routes from your cabin and place of work.

**If you are the first to discover a fire** use all available means - including a lot of shouting, regardless of the time of day - to raise the alarm. If you are able, **without danger to yourself**,



tackle the fire. If it becomes apparent that your efforts are having, or will have little effect, evacuate the area, closing as many doors and windows as possible as you go.

**Do not place yourself in a position of danger from which you cannot escape.**

#### **4. Safety Awareness:**

Safety is everybody's responsibility. If you notice an unsafe practice, witness a "near miss" or an accident or have any other general comments concerning safety let your Safety Representative or the Ship's Safety Officer know. Reporting a "near miss" even minor could prevent an accident in the future. **"Big or Small, Report them all"**

BAS – "Statement of Safety, Environmental Protection and Security Policy for Ship Operations" is the basis for all safety procedures on board. This is displayed on the ship's Safety Notice Board.

BAS "Statement of Safety Policy, Organisation and Arrangements" is available on the Intranet.

There is a Safety Management System (SMS) operating on board, which expands many of the subjects in this file. The manuals that make up the system are kept in the Combined Office and are available on request from any Officer. The SMS may also be viewed on-line via the BAS Intranet.

Manuals should not be removed from locations without the Chief Officer's permission. Or refer to the Intranet.

If something you are asked to do, or some part of the ship appears to you to be unsafe, you should follow the procedure as laid down for complaints. Also each Department has a Safety Representative; such matters must be reported to the rep. who will then refer to the Safety Officer.

Familiarise yourself with the following documents that you will find on the Safety Bookshelf located both in the Officers/Scientists lounge:- (Marine Personnel should use the Combined Office and Crew Lounge copies).

Marine Standing Instructions,	[Also in Main Lab]
Risk Assessments (Be sure to read all the General Risk Assessments)	
Code of Safe Working Practice for Merchant Seamen	[Also in Main Lab]
SOLAS Manual	(Information on the ship's lifesaving appliances)

In addition if you are a participant in a scientific cruise you should make yourself familiar with additional safety literature to be found in the laboratories as follows:

#### ***In the Main Laboratory on the Upper Deck***

- Laboratory Code of Practice
- COSHH data sheets and information
- Risk Assessments specific to work on deck and in laboratories for your science cruise.

#### ***In the UIC Laboratory (in the Winch Control Room)***

- Scientific Equipment Guidance File  
(Records each item of equipment deployed from the ship with the general requirements and measures. {Form MS.AQ}) Copies on the Bridge and in the Crew Lounge.

## **5. Electrical Appliances:**

The ship's domestic electricity supply is single phase 240v 50Khz but may not be suitable for certain equipment. Most domestic appliances are fine but the cabin sockets have low amperage, and high load items e.g. kettles and heaters are not to be used. If you are not sure please check with the Electro Technical Officer (ETO L) or ETO (Comms) before use as many fires are caused by faulty or incorrect electrical equipment. No extension leads or multi-socket adaptors are to be used without permission from the ETO's and equipment must have the correct plug for cabin sockets. If you have work related electrical items (ie not for personal use only) they should have been PAT tested before boarding. However if they are untested please advise the ETO's before use. Cookers, toasters and irons must be switched off after use.

## **6. Smoking:** Smoking and Vaping is **NOT** allowed in any internal space on the ship.

Smoking and Vaping is permitted

In the sheltered external areas designated for smoking on the Forecastle and Boat Decks, port and starboard adjacent to the accommodation block.

On Open Decks but:

**Not** near open doors, windows, hatches or ventilation intakes.

**Not** near petrol storage tank on Starboard Boat Deck aft in way of Humber inflatables.

**Not** near gas stowages on Starboard Boat Deck aft in way of Humber inflatables and Port Bridge Deck forward in way of Rescue Boat.

**Not** when banned for bunkering/transfer of oils/sludge or the carriage, loading and discharging of hazardous deck cargo.

Smoking and Vaping is **NOT** permitted at all during operations such as bunkering/hazardous cargo loading. (Announcements will be made over the ship's PA system and warning signs will be placed at the top of the gangway and outside the Upper Deck accommodation door during such occasions).

Cigarettes etc must be carefully extinguished using the containers in the smoking areas. On no account should cigarettes be thrown over the side or stubbed out on the deck.

### **SERIOUS BREACHES OF SMOKING PROHIBITIONS:-**

#### **Smoking in any internal space on the ship**

Smoking when it is temporarily banned because of the safety hazard

Smoking in areas which are temporarily banned because of the safety hazard

Repeated minor infringements of Smoking Regulations

## **7. Alcohol and Drugs Policy:**

You are reminded that BAS operates a strict Alcohol and Drug policy, for your health, safety and the social wellbeing of everyone on board. You will find a copy of the current policy in the back of this file. **It applies to ALL on board (BAS/NERC staff and external Supernumeraries of any organisation) and failure to comply with the policy will result in disciplinary action.**

Drugs other than those prescribed by a Medical Practitioner are strictly forbidden. Any person who is found to be in possession of illegal or non-prescribed drugs will be dismissed and at the first available opportunity, repatriated to the U.K where the Authorities will be informed of the offence.

## 8. Safety Committee:

The names of the Safety Officer and the members of the Safety Committee are posted on notice boards around the ship. Safety Committee meetings are held at least every six weeks and more frequently if required. Notices before the meeting and minutes of the meeting are posted on notice boards. During scientific cruises one member of the scientific party is elected as Safety Representative for the science and technical support team.

## 9. Access to Decks in Heavy Weather:

In heavy weather, access to the Upper Deck (& other open decks) may be banned. Weather-tight doors leading out of the accommodation and laboratories may be closed and dogged tight with warning notices posted. **Do not** attempt to open any door you find closed and dogged tight without referring to the Officer of the Watch (OOW) on the Bridge.

## 10. Movement Around the ship:

Movement around the ship can be dangerous due to wet and slippery decks and the rolling and pitching of the ship.

- Never run in alleyways or on deck.
- Hold handrails provided, especially in rough weather.
- NEVER face outward when using ladders.
- If unsure about descending a stairway, turn to face the stairs, hold the handrails and proceed down backwards.
- Never walk, stand or sit on the bulwarks (rail around ship).
- ALWAYS wear sensible footwear especially on the external decks – NO FLIP FLOPS, high heels or bare feet at any time outside the cabins.
- Always secure doors, hatches and loose equipment

Remember the seaman's motto - *"One hand for yourself, one hand for the ship"*.

For further information see MSI/GEN/10 in the Marine Standing Instructions and in the ship Risk Assessments (see intranet links).

## 11. Watertight Doors:

The ship is fitted with hydraulically operated watertight doors. **These doors can kill.** You must not attempt to pass through these doors until you have been instructed in their use by a member of ship's staff. Instruction in the correct and safe way to operate these doors is part of the Safety Brief that is given prior to or immediately after sailing, and to new joining Marine Personnel. If you need to pass through a watertight door ALWAYS observe the safe practice that you have been taught. Never try to pass through a door while the alarm is sounding.

These doors are to remain closed at all times whilst the ship is at sea, except to allow through passage, after which they must be immediately closed. Read and follow the safety signs posted on each door. Generally speaking, especially for non marine personnel, there is little need to pass through these doors as alternative routes are available and should be used.

If you must pass through a door it must be opened to its fullest extent before attempting to pass through. In the normal operational mode the door, having been opened, will not close without manually operating the local control lever. Be warned that the doors can be set to close automatically from the Bridge, in which mode as soon as the local control lever is released the doors will immediately close. Hence the danger of passing through a partially opened door. **THEREFORE, WHEN PASSING THROUGH WATERTIGHT DOORS, ALWAYS HOLD THE HANDLE IN THE OPEN POSITION UNTIL YOU ARE THROUGH AND CLEAR OF THE DOOR.**

**Unlike lift doors in buildings ashore, the**

watertight doors will not cease to close for soft obstructions like your body. **OBEY THESE RULES.**

## **12. When Working on Open Decks**

Remember:

Wear appropriate protective clothing.

Keep an eye on what is going on around the rest of the deck and possibly over your head.

Identify and be aware of the hazards.

Keep out of people's way if you are not involved in the task and do not distract them.

The danger of loose clothing, long hair, rings and other jewellery.

The effect of regular and sudden ship movement on lifting and other manual handling jobs.

Keep clear of working machinery, wires and ropes (under tension and slack).

## **13. Use of Knives:**

Knives are a common tool aboard ship but extra care should be taken in their use. Sudden movement of the ship, wet, or slippery ropes/surfaces and uncontrolled direction and pressure must be avoided. Clasp knives should be lockable. **Always cut away from yourself.**

## **14. Responsibility of Individuals:**

It is the responsibility of everyone aboard to:

Take care of their own health and safety and that of their colleagues.

To follow the health and safety procedures set out by BAS.

Use the safety clothing and equipment issued or available for use.

Keep their living and working areas in a clean and safe condition.

Everyone is provided with safety clothing and equipment to protect themselves while working and ashore in Antarctica. Always ensure that you have adequate warm/windproof clothing immediately available in the cabin in case of an emergency. This simple provision may make the difference between life and death should it be necessary to abandon ship.

## **Section 2 – General Domestic Issues**

### **15. General:**

Supernumeraries, (anyone not a crewmember) are subject to the same disciplinary regulations as the Officers and Crew. As a Supernumerary, you must obey any reasonable instruction given by an Officer or Petty Officer in the course of their duties.

### **16. Anti-Social Behaviour:**

Due to the confined nature of shipboard life, tolerance and respect for other people is essential and BAS has a Respect at Work Policy covering this. It is important that everyone considers the impact of their behaviour upon others. Many of the crew are on "watches" whilst at sea, a routine of 4 hours on 8 off (or 12 hours on 12 hours off during science), which means that at all times of the day and night someone will be sleeping and loud/rowdy behaviour will almost certainly disturb them. Antisocial behaviour on board constitutes an act of misconduct, which could lead to disciplinary action being taken.

### **17. Medical:**

The ship normally carries a Doctor or Paramedic and if you need any medical care or supplies please ask (if you are taking prescription medications, you must ensure that you have a stock

sufficient to last the duration of your time on board. If your prescribed medication is a classed as a controlled drug, you must declare this to the Master or Doctor, when you join the ship). Surgery hours are advertised on the Hospital door but medical assistance is generally available at other times if required. If there is no Doctor or Paramedic on board, the Purser/Catering Officer will advise you which officer has been put in charge of medical support.

### **18. Garbage Disposal:**

Your attention is drawn to the notice in this file concerning waste separation and disposal. Everyone should sort their own personal and work rubbish into the different categories and dispose of it in the correct receptacles. For more detail on BAS waste policy either ask the Chief Officer or refer to the BAS Waste Management Handbook.

### **19. Cabin Cleanliness:**

Ship's staff will maintain a high standard of cleanliness in all public areas of the ship. You are responsible for maintaining your own cabin in a clean and orderly condition. A vacuum cleaner and cleaning materials can be found on each deck in a locker marked "Cleaning Locker". If you have any queries ask the Purser/Catering Officer or a Steward. By law the Master has to inspect accommodation areas weekly, and normally makes "Rounds" on a Sunday morning.

### **20. Laboratory & Work Space Cleanliness:**

The Principal Scientist must ensure that the laboratories are maintained in a clean and orderly condition. The ship's crew will have scrubbed out the laboratories before the start of a cruise. During a cruise, scientific and technical support staff should maintain their own work areas in a clean condition. Waste in the laboratories should be separated in accordance with Para 18, (Garbage Disposal) and put into bins either in the Forecastle deck alleyway leading into the UIC room or in the Rough Workshop on the Upper deck.

During a cruise your work area should be cleaned and managed in accordance with the "Code of practice for safety in laboratories on JCR"

### **21. Recreational Equipment:**

There are some items of gym and exercise equipment available. Always wipe clean and re-secure after use. It is your responsibility to ensure that you know how to use the equipment properly and to only use it when conditions are such that it is safe to do so. Remember the ship is always moving, allow for this. Also as normal build up your exercise routine gradually.

There is also a sauna on board. Please read the safety notice outside before use.

### **22. Meals, Diet and Dress Code:**

Vegetarians and others requiring a special diet should tell the Purser/Catering Officer as soon as possible. Please be prompt at meal times. If you are unable to take your meal either in the Saloon or Duty mess at the allocated time please inform the Purser/Catering Officer who will arrange a meal to be put aside for you.

#### **Saloon :**

**The times of meals will be posted on the door to the Saloon and on the notice board in the Officers/Scientists Bar.**

In the Saloon, a Steward service is provided. If there are large numbers on board there may be two sittings. Please keep to your allotted time.

The dress code is as follows:

**For breakfast & lunch** – clean, casual clothes. Working gear and bare feet/flipflops are not permitted.

**For dinner** – for men, a collared shirt (polo shirt acceptable), smart/ casual long trousers and shoes; no jeans or shorts. Women should adopt a similar level of smart/casual clothing.

**For approved formal events** – for men, a smart collared shirt with or without tie, long trousers and shoes. Women should adopt a similar level of smart-casual clothing.

(Officers as per Master's Standing Instructions)

**Duty Mess: (0730 breakfast, 1130 lunch and 1730 dinner)**

There is a Duty Mess which should only be used when it is really necessary, by those on watch or those about to go on watch. Space in the Duty Mess is limited. At other times the Duty Mess may be used to make snacks and hot drinks; always be sure to clean up after yourself.

**23. Laundry Facilities:**

The laundry is situated off the cross alleyway on the Boat Deck. There are two washing machines and one drying machine. If everyone removes their washing as soon as the cycle is finished there should be no problem with this number of machines. The use of the drying room (leading off from the laundry) is available to all. Tumble driers should not be used for longer than necessary to dry clothes. **The filter must be cleaned of fluff before and after using the drier.**

Ensure irons are switched off and cool before stowing.

**24. Fresh Water:**

Fresh water is always in short supply on board. The amount the ship can make is limited. When using the washing machines always do a full load, if necessary share with someone else. Conserve water when possible, report dripping taps etc.

If water consumption is too high, rationing may be introduced.

**25. Toilets:**

There is a fresh water vacuum flushing system for the toilets. This is efficient and clean if used correctly. Do not put **anything** other than human waste and a small amount of toilet paper into the bowl. Toilets should be cleaned **every day** but only using Bio-Vac enzyme cleaner supplied in each cabin. Extra supplies are kept in the cleaning lockers on each deck. There is a supply of female sanitary items on board, available from the doctor. These **MUST NOT** be disposed of through the toilet system. Paper bags are provided which should then be placed in the waste bags to be incinerated. (Dry Waste - Blue bins).

**26. Libraries:**

There is a collection of scientific textbooks, reports, journals and reference books in the Conference Room for your benefit. If you remove any of these from the Conference room please make a note in the book on the sideboard and be sure to return it when you have finished with it. There are also general interest books supplied by the Marine Society (distinguishable by their stamp inside the front cover). Please borrow them but ensure that they are returned when you have finished with them and certainly before you disembark. The Master has a collection of Polar books and all the ship's scientific cruise reports which you are welcome to borrow. On the Bridge there are various marine wildlife books for reference with permission from the Officer of the Watch; but they should not be removed from the Bridge.

**27. DVD's:**

The ship has a collection of feature film DVD's. Please return DVD's to the same cupboard that they were taken from and ensure the cupboards are properly closed and latched.

**28. Machinery Spaces:**

The ship's machinery spaces and control room are strictly out of bounds at all times. (This includes the Traction Winch Room and Seismic Compressor Room). If you are interested in looking around these spaces, conducted tours can be arranged. Please speak to one of the Engineer Officers for information.

**29. Bridge Visits:**

You are welcome to visit the Bridge. Each time you visit it is a courtesy to check with the Officer of the Watch that it is convenient to do so. Please avoid change of watch times ie. 0800, 1200, 1600. hours of darkness, and other busy times unless visiting on science/ship's business. Please do not crowd the Bridge or engage in noisy conversation as this will distract the OOW and the Watchkeeper from their duties.

If the ship is under navigation, pilotage or being conned by the Master or at other busy times, you are welcome to view from the Wheelhouse top deck above the Bridge rather than the Bridge itself. Please do not take offence if you are asked to leave the Bridge or you are not granted permission to visit as this will normally be due to the demands of the current situation or operation.

**30. Canteen and Bond Supplies:**

A "no cash" system of accounting operates on board both in the bars and the "shop" (Bond). The amount spent will either be deducted from your salary, if a BAS/NERC employee, or it will be settled as previously arranged at the end of your voyage. Various goods and souvenirs can be ordered from the shop using the chit system in the bar / lounge. These will later be delivered to your cabin. The bond is open most weekdays (at times advertised by the Purser/Catering Officer) and you are welcome to go and view what is on offer. The Bond is situated in the 'tween deck stores alleyway.

**31. Conference Room:**

The Conference Room, opposite the Officers / Scientists lounge, is equipped with a large flat screen television and games console. It can be used for meetings, watching films, playing games or as a quiet room.

**32. Personal Problems:**

If, while on board, you have a problem of any kind, concerns such as problems at home or on board etc it is often best to discuss it with someone. You may seek advice from anyone you choose, but it is recommended that you talk to your Head of Department (for Marine Personnel), or the Principal Scientist (for non-marine personnel) or the Master. You can be assured that any such matters will be treated in the strictest confidence. BAS Cambridge has a Welfare Officer who can assist if action is needed back in the U.K.

**33. Complaints/Appeals/Suggestions:****Non-Marine Personnel**

If you have any complaints/appeals or suggestions concerning the service provided or safety on board, please raise them with the Principal Scientist or the Master. It is important that you raise any issue on board where it can be dealt with at an early stage rather than waiting until

you return home. This can very often prevent small problems magnifying out of proportion for the rest of your time on board.

### **Marine Personnel**

MSI/GEN/35 gives guidance to any member of the marine staff who might have a grievance or complaint. Hard copies of this MSI, can be found in their training folders and in the Marine Standing Instructions files stowed in the Combined Office and their recreation spaces.

### **34. Going Ashore:**

Cabins should be locked when unoccupied during port calls. When you go ashore it is imperative that you move the indicator next to your name on the cabin board at the head of the gangway to show you are not on the ship. Likewise on returning to the ship please indicate that you are on board. This board is used in the event of an emergency on board in port to account for all personnel and it is therefore extremely important to do this. While ashore take sensible and appropriate precautions for your safety and security.

### **35. Base Visits/Going Ashore in Antarctica**

- Notices are posted prior to arrival advising of any special instructions or restrictions.
- Prior to or on arrival at a base or landing site there will be a Base and Bio-Security Briefings that all who are going ashore will need to attend.
- You must be suitably clothed for going ashore. Always assume the weather will become unpleasant.
- On entering a Base please leave your boots and outside gear in the entrance lobby.
- Obtain permission to look round or ask to be shown round by a Base member.

If you plan to leave the vicinity of the Base ensure that you:

- Are not restricted to the Base area only.
- Have checked with the Base Commander that your route is allowed. Advice is generally on the Base noticeboard.
- Never go alone.
- Enter your time of departure, estimated time of return, and route in the “walks book”. If you don’t know where it is, ask.
- Stick to your intended route, so you can be traced in an emergency.
- Listen for the ships whistle and if you hear it, return **immediately** to the ship or embarkation point.

Relief time on Base is a busy period and work must always take priority over recreation.

### **36. Banned Items or Persons:**

It is forbidden for anyone on board to have in their possession or to bring aboard any of the following:

- Firearms, ammunition or explosive devices.
- Offensive weapons.
- Illegal drugs
- Alcoholic drink (other than that obtained on board)
- Unauthorised persons.

### **37. Outward Mail from the Ship:**

If time allows, you are responsible for posting your own mail in port. If a very quick call is being made at a port, small items of mail will be collected and the cost of mailing will, in these circumstances, be met by BAS.



### **38. Ship Security:**

Everyone on board is requested to be vigilant both on board and in port areas to assist in keeping the ship secure. If you see anything suspicious or that you think may cause harm to people on board or to the ship report it immediately to one of the ship's crew or port security. Security covers everything from terrorism to minor pilferage.

You are welcome to ask the Ship's Security Officer about personal safety ashore in port as well as reporting any suspicious activity on or near the ship.

Do not touch suspicious packages and keep yourself and other people as far away as possible until help arrives.

If you think there is an unauthorised person on board alert a crewmember.

If you need to summon assistance urgently on board, use the phone or in the extreme case of imminent or actual danger use of one of the "break glass" Fire Alarm buttons.

Be aware that the ship security system exists for your protection, so please co-operate fully with gangway checks and photo identify card rules. Notices about specific security issues will be posted on the ship's notice boards.

Please obey restricted area signs and keep cabin doors locked in port. If you have responsibility for work areas, please secure them when not in use.

You may be asked to assist the crew in ship searches and patrols. Please carry out these duties diligently and with caution.

### **39. Cargo Duties:**

During cargo operations, you may be requested to assist. This might be in the holds, on deck or ashore. It is expected that you will carry out these duties under instruction from the Officers and crew willingly. Should you feel that a task is beyond your ability or safety level you should inform the Chief Officer.

### **40. Information (lack of):**

Information on the ship's programme may be sporadic due to the operational demands placed on the Master. Information may be available via the JCR Operations page from the Intranet home page. If you feel you need detailed information then ask via the Principle Scientist or your Line Manager.

### **41. Communications:**

#### **BASNET:**

The JCR is fitted with a satellite communications package [BASNET] that gives internet access on board. The system operates on limited bandwidth and downloading of films, shows or music is not possible, nor allowed.

#### **Internet Access:**

Internet access is only available from a number of dedicated PCs, located in the Data Prep Room. Whilst there are a number of WiFi hotspots on the JCR these will only allow access to the Intranet and not to the Internet.

**Skype & Instant Messenger and Social Media:**

Skype is not allowed and will not work. Instant Messenger will work from on board. Social media, such as Facebook and Twitter will work but the low bandwidth versions should always be used. It is prohibited to stream or download radio, video, audio, Skype or use similar systems and access to adult or pornographic websites is forbidden

**Telephone calls:**

The BASNET system means that the ship is an 'Extension' of the BAS Office telephone exchange. Telephone access is possible from your cabin (dial 9 and then a further 9 to access the BT network.). For calls to Cambridge Office you need only dial a single 9 followed by the last four digits of the extension required.

**BAS should not be paying for any portion of your personal telephone calls.** Therefore all personal calls should be made using a calling card that uses a Freephone access number (eg 0800). If you are using an access number that begins 01 or 0345 this is incorrect and advice should be sought from the ETO(Comms).

Various 'calling cards' are available via the Internet. The Post Office do a very good calling card that is good value. These, alas, can no longer be purchased online but are available over the counter of any Post Office and **should be purchased prior to joining**. Tesco also sell calling cards at their checkouts but they start charging a daily fee from the time of purchase.

**Laptops:**

All Windows laptops should have the most recent updates applied and current anti-virus software installed prior to joining the ship and before being allowed to connect to the ship's network. Any laptop that is running Windows XP or earlier Operating Systems will not be allowed to connect to the network. Network connection is via Cat-5 ethernet cable. If your laptop/device does not have a network port then you will need to bring a USB to LAN converter or for Apple products a Thunderbolt to Gigabit Ethernet Adaptor.

**E-Mail:**

E-mail: If you have a laptop with you, then it is possible to get your e-mail from the comfort of your cabin. If you have not sailed on the JCR before then it is unlikely that we have your e-mail details to allow our Antarctic Message System to link to your provider. In order to have the e-mail accounts operational for when you join, please could you e-mail your account details at least two week in advance to jrcomms@bas.ac.uk. Information required would be your username and provider. The best information is that used to access your account via webmail. Passwords are not required, these you will enter once on board the ship. Due to the issues with bandwidth etc, only one e-mail account per person will be set up.

**Satellite Coverage:**

There are occasions, especially in high latitude regions when the ship operates outside of satellite coverage and consequently BASNET communications are lost. The ETO(Comms) will be able to advise regarding these limitations if this occurs.

#### **42. Crossing the Line Ceremony:**

This is a traditional ceremony carried out when crossing the Equator. It is to be carried out in a manner that is safe and enjoyable for all personnel.

The wishes of anyone not wanting to participate in part or all of the activities must be respected.

The following points are among those to be taken into account in the detailed arrangements:

- The Master will sanction the arrangements before any activities take place.
- All taking part must be volunteers, coercion of any kind is strictly forbidden.
- All activities to take place in one area.
- Mock weapons are to be protected and checked.
- Food or drink will be approved by the Purser/Catering Officer.
- Hair cutting/shaving is not permitted.

Any activity outside the approved ceremony is strictly forbidden. If complaints are received of any coercion and those involved identified they may be found in breach of the BAS Code of Conduct. You should be aware that misconduct, may lead to immediate dismissal.

#### **43. Other Information**

Other information about the ship, BAS and the Antarctic can be found on the Intranet (<http://www> from any networked PC) and in the back of this file there are additional safety and information notices as follows:

Annex 1 COSWP Chapter 6 (Security On Board)

Annex 2 COSWP Chapter 10 (Manual Handling)

Annex 3 COSWP Chapter 11 (Safer Movement On Board Ship)

Fire in Ships

Personal Survival

BAS Alcohol and Drugs Policy

HSE Sun Protection, Advice for Employers of Outdoor Workers

JCR Shipboard Garbage Disposal

# Annex 1

## SECURITY ON BOARD

### COSWP Chapter 6

#### 6.1 Introduction

6.1.1 Shipboard security is essential in reducing the risks of theft, terrorism, armed robbery, stowaways, piracy and drug smuggling. The International Ship and Port Facility Security (ISPS) Code, published by the International Maritime Organization (IMO), was introduced on 1 July 2004 and provides a framework through which ships and port facilities can cooperate to detect and deter acts that threaten security in the maritime transport sector.

#### 6.2 Ship security plans

6.2.1 The ISPS Code and its parent requirement (SOLAS Chapter XI-2) apply to certain types of ships engaged on international voyages. These are:

- passenger ships, including high-speed passenger craft;
- cargo ships, including high-speed craft, of 500 gross tonnage and upwards; and
- mobile offshore drilling units (MODUs).

*EC 725/2004*

Regulation EC 725/2004 extends the scope of compliance to include:

- domestic 'Class A' passenger ships (domestic ships which travel more than 20 miles from a place of refuge);
- domestic ships required to comply by an EU member state's risk assessment – for the UK, this covers ships certified to carry more than 250 passengers, and tankers; and
- port facilities serving any of the types of ships detailed above.

6.2.2 The ISPS Code requires a ship security plan (SSP), which is kept up to date and relevant to the particular ship. The SSP covers, amongst other criteria, the procedures required at different security levels:

- to prevent unauthorised weapons, dangerous substances and devices intended for use against persons, ships or ports from being taken aboard;
- to prevent unauthorised access to the ship;
- to respond to security threats or breaches of security;
- for the use of the ship security alert system; and
- to maintain the ship's security infrastructure.

6.2.3 The SSP is protected from unauthorised access or disclosure, which may include restricted distribution of copies amongst ship's crew. The SSP shall specify the requirement for training drills and exercises. The SSP shall also include the requirement for facilitating shore leave for ship's personnel or personnel changes, as well as access of visitors to the ship.

6.2.4 The ship security officer (SSO) is responsible for enhancing security awareness and vigilance on board and ensuring that adequate training is provided to those with security responsibilities.

### 6.3 Security levels

6.3.1 Governments are required to set one of three security levels for ships flying their flag, and for ports under the government's control. The ship is required to maintain the security level set by the government of the port it is entering unless the ship's government requires a higher security level to be maintained. For UK and Red Ensign ships, the Maritime Security and Resilience division of the Department for Transport is responsible for setting the

security levels and communicates changes direct to company security officers (CSOs) for onward transmission to ships.

*ISPS Code A/7*

#### 6.4 Precautions

6.4.1 In port, appropriate security precautions should be taken, including ensuring adequate lighting at night and that a gangway watch is maintained at all times.

6.4.2 At sea, appropriate precautions should be taken including, where appropriate, posting additional lookouts and security rounds. Lookouts should be alert to the approach of lit or unlit craft. Consideration should be given to the use of night-vision equipment.

6.4.3 At anchor, appropriate precautions should be taken including adequate lighting at night and security patrols on deck. Lookouts should be alert to the approach of lit or unlit craft. Consideration should be given to the use of night-vision equipment.

#### 6.5 Terrorism

6.5.1 To discourage persons trying to smuggle weapons and explosives on board, an appropriate sign should be displayed at all access points stating that ‘All items brought on board this ship are liable to be searched.’

#### 6.6 Stowaways

6.6.1 If there is any likelihood of stowaways, a thorough search of the vessel should be made before departure. This should include all accommodation, engine room, store rooms, accessible below-deck spaces, lifeboats and any other spaces where a person could hide.

#### 6.7 Piracy and armed robbery

6.7.1 In areas of high risk of piracy or armed robbery, additional precautions should be taken in accordance with best management practice. This should include measures to prevent persons boarding the vessel at sea, at anchor or in port.

6.7.2 Ships are advised to maintain anti-piracy watches while transiting areas of high risk and report all piratical and armed robbery incidents, including suspicious movements of boats and skiffs, to the 24-hour-manned IMB Piracy Reporting Centre (IMB PRC) in Kuala Lumpur, Malaysia.

## 6.8 Smuggling

6.8.1 Personnel should be alert to the possibility that persons may attempt to smuggle drugs or other contraband on board the vessel, and should be made aware of the procedures to follow if such items are found or the activity is suspected.

## 6.9 Personnel joining and leaving the vessel

6.9.1 Information on personal safety is available through the Foreign and Commonwealth Office (FCO), British embassies, high commissions and consulates in the area concerned. Advice should be strictly adhered to.

# Annex 2

## MANUAL HANDLING

### COSWP Chapter 10

#### 10.1 Introduction

10.1.1 This chapter identifies some areas that may require attention in respect of manual handling. In all cases, a risk assessment should be used as the basis for appropriate control measures, which should be put in place to protect those who may be affected.

10.1.2 The assessment should take full account not only of the characteristics of the load and the physical effort required but also of the working environment (e.g. ship movement, confined space, high or low temperature, physical obstacles such as steps or gangways) and any other relevant factors (e.g. the age and health of the person, the frequency and duration of the work). A fuller list of factors to be considered is given in Annex 10.1.

#### 10.2 General

10.2.1 The term ‘manual handling’ is used to describe any operation that includes any transporting or supporting of a load, lifting, putting down, pushing, pulling, carrying or moving by hand or bodily force. This guidance is generally concerned with preventing musculoskeletal injury.

10.2.2 There may, of course, be other hazards to those handling loads (e.g. from leakage of a hazardous substance from a package that is being moved) but these are dealt with in other relevant chapters.

10.2.3 Musculoskeletal injuries can occur as a result of accident, poor organisation or an unsatisfactory working method.

#### 10.3 Role of the Company

*S.I. 1998/2857, Reg. 5 and MGN 90(M+F)*

10.3.1 So far as reasonably practicable, the Company is required to take appropriate measures or provide the means to:

**Assess** the risk of injury from any hazardous manual-handling activity.

**Avoid** the need for any hazardous manual-handling operations, which may cause injury to seafarers, e.g. by re-organisation of the work, or automating or mechanising the operation.



**Reduce** the risk of injury from hazardous manual handling.

**Provide** information on the weight of each load and, if appropriate, which side is heaviest.

**Train** seafarers in appropriate manual-handling techniques. Before instructing personnel to lift or carry by hand, where there is a risk of injury, Companies should consider whether alternative means of doing the same job would reduce this risk.

10.3.2 Means of reducing the risk of injury may include:

- re-organisation of the workplace (to enable seafarers to maintain good posture while lifting or carrying); and
- taking account of an individual's capabilities when allocating tasks.

10.3.3 There are often limitations in a ship on the improvements that can be made but the Company should ensure that, as far as reasonably practicable, risks have been minimised.

10.3.4 Instruction for personnel should involve experienced and properly trained seafarers demonstrating best practice, especially to new recruits.

### Advice to seafarers

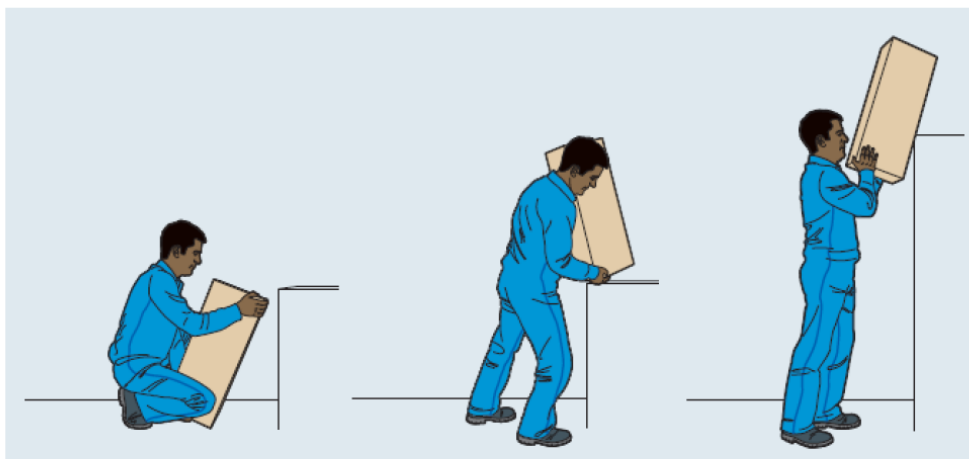
You should make full and proper use of any system of work provided by the Company.

Reg. 6

You should:

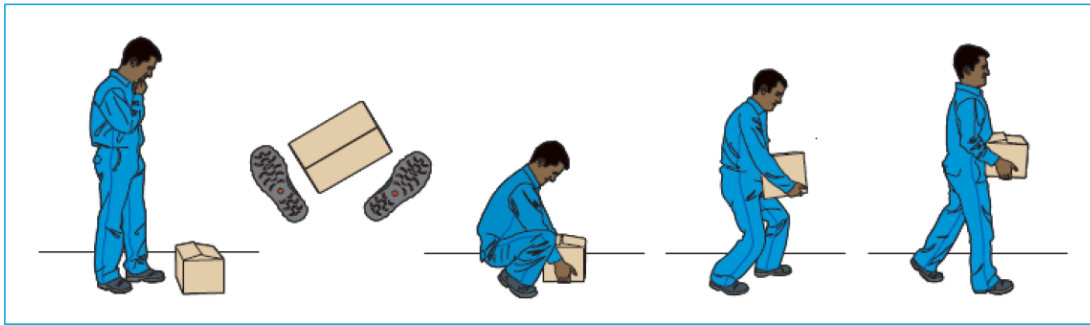
- use any mechanical aids provided;
- follow appropriate systems of work laid down for your health and safety;
- take sensible precautions to ensure that you are aware of any risk of injury from a load before picking it up;
- cooperate on all health and safety matters;
- inform your line manager if you identify hazardous handling activities;
- plan the lift – where is the load to be placed?
- consider whether you need any help with the load. Some loads require two or more people to lift safely. Are there appropriate handling aids you could use?

For a long lift, such as deck to shoulder height, consider resting the load midway in order to change grip;



- assess the load to be lifted, taking account of any information provided (see guidance textbox in Annex 10.1);
- look for sharp edges, protruding nails or splinters, surfaces that are greasy or otherwise difficult to grip and for any other features that may prove awkward or dangerous, e.g. sacks of ship's stores may be difficult to get off the deck;
- ensure that the deck or area over which the load is to be moved is free from obstructions, especially in narrow accesses, and is not slippery; and
- check the final stowage location to ensure that it is clear and suitable for the load.

## 10.4 Good manual-handling techniques



10.4.1 The diagram illustrates some important points in lifting techniques:

- The load and the lift should be assessed before lifting.
- A firm, stable and balanced stance should be taken, close to the load with the feet apart but not too wide, with one leg slightly forward to maintain balance, so that the lift is as straight as possible.
- At the start of the lift and when lifting from a low level or deck, a crouching position should be adopted, with knees and hips bent, whilst maintaining the natural curve of the back to ensure that the legs do the work. It helps to tuck in the chin while gripping the load and then raise the chin as the lift begins.
- The load should be gripped with the whole of the hand, not fingers only. If there is insufficient room under a heavy load to do this, a piece of wood should be put underneath first. A hook grip is less tiring than keeping the fingers straight. If the grip needs to be varied as the lift proceeds, this should be done as smoothly as possible.
- The load should be lifted by straightening the legs, keeping it close to the body. The heaviest side should be kept closest to the trunk. The shoulders should be kept level and facing the same direction as the hips. Turning by moving the feet is better than twisting and lifting at the same time. Look ahead, not down at the load, once it is held securely.

10.4.2 When two or more people are handling a load, it is preferable that they should be of similar stature. The actions of lifting, lowering and carrying should, as far as possible, be carried out in unison to prevent strain and any tendency for either person to overbalance.



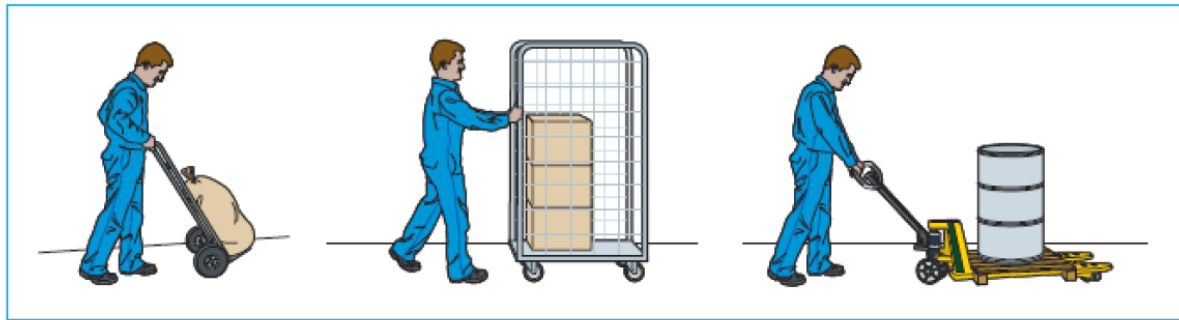
10.4.3 The procedure for putting a load down is the reverse of that for lifting: the legs should do the work of lowering with knees bent, back straight and the load close to the body. Care should be taken not to trap fingers. The load should not be put down in a position where it is unstable. If precise positioning is necessary, the load should be put down first and then slid into the desired position.

10.4.4 A load should always be carried in such a way that it does not obscure vision, so allowing any obstruction to be seen.

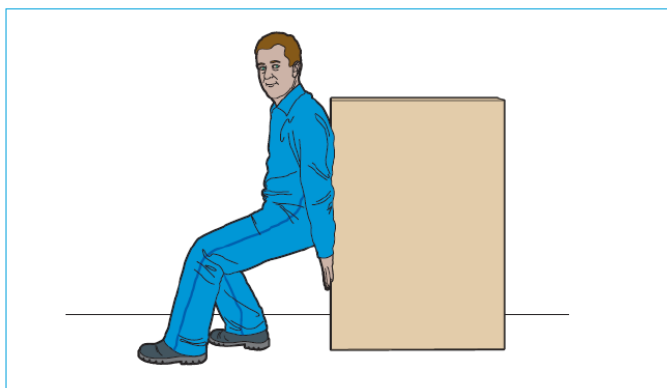
10.4.5 The risk of injury may be reduced if lifting can be replaced by controlled pushing or pulling. For example, it may be possible to slide the load or roll it along. However, uncontrolled sliding or rolling, particularly of large or heavy loads, may introduce fresh risks of injury. Particular care must be taken if:

- stooping, stretching or twisting is likely;
- hands on the load are not between waist and shoulder height;
- the deck area is insecure or slippery;
- force is applied at an angle to the body;
- the load makes sudden or unexpected movements; and
- if the vessel is rolling or pitching.

10.4.6 For pulling and pushing, a secure footing should be ensured, and hands applied to the load at a height between waist and shoulder wherever possible. Wheels on barrows and trolleys should run smoothly, and the supervisor or safety officer should be informed if the equipment provided is not suitable, or is in poor condition.



A further option, where other safety considerations allow, is to push with the worker's back against the load, using the strong leg muscles to exert the force.



10.4.7 Even a gentle uphill slope dramatically increases the force needed to push an object, so help may be necessary when moving a load up a slope or ramp. Care should be taken with unbraked trolleys and sack trucks on a moving/rolling deck, because sudden changes in the angle of deck and direction of the slope may result in loss of control and injury. If a trolley becomes loose, do not try to stop it by standing in its way, but get behind it and try to act as a brake.

10.4.8 Care must be taken with the laying out of heavy mooring ropes and wire ropes/hawsers. This duty requires a good technique initially in lifting the heavy eye of the rope, followed by a good pulling technique. Crews should make sure that there are enough people available to do the task safely.

10.4.9 When moving a load, such as a barrel or drum, rolling the load may be a safer operation than lifting it. Care must still be taken, and the use of a trolley should be considered for heavy or large barrels or drums.



10.4.10 Suitable shoes or boots should be worn for the job. Protective toecaps help to guard toes from crushing if the load slips.

10.4.11 Clothing that does not catch in the load and gives some body protection should be worn.

10.4.12 Where the work is very strenuous (e.g. due to load weight, repetitive effort over a period or environmental factors, such as a confined space or an extreme of temperature), rest should be taken at suitable intervals to allow muscles, heart and lungs to recover. Fatigue makes accidents more likely on work of this type.

10.4.13 Whenever possible, manual lifting and carrying should be organised in such a way that each person has some control over their own rate of work.

## ANNEX 10.1 FACTORS TO BE CONSIDERED

The following are examples of the factors to which the Company should have regard, and the questions they should consider when making an assessment of manual-handling operations or providing instruction for personnel.

Plain text gives the general factors and questions to be considered in the risk assessment carried out under the regulations. *Additional specific factors that may be found on board ship are included for guidance (text in italics).*

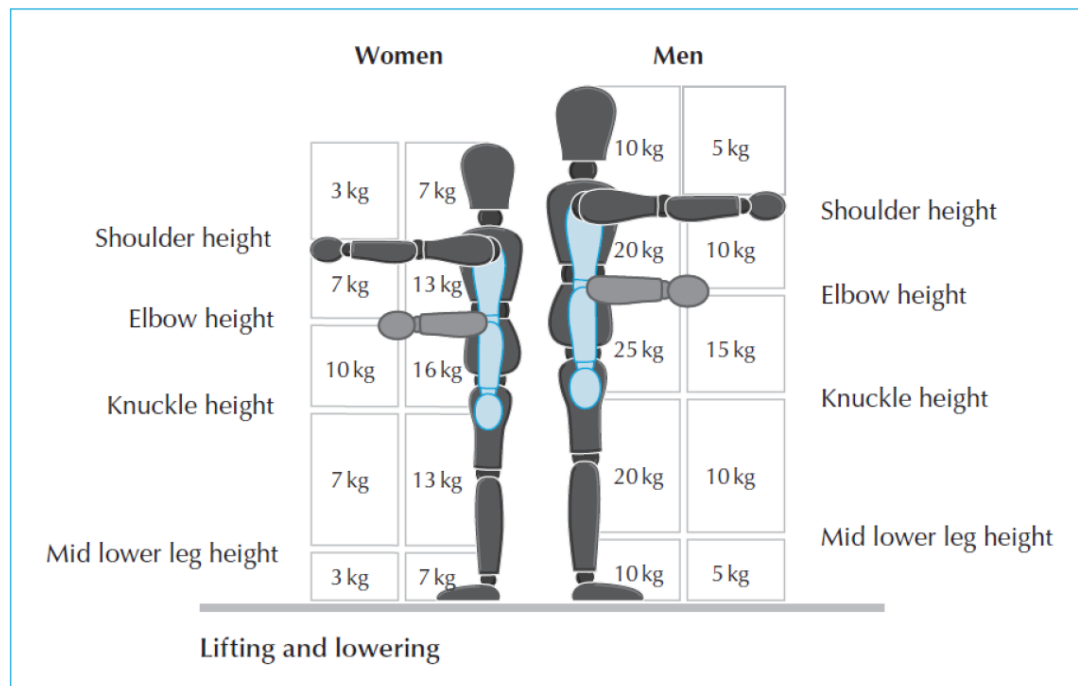
Factors	Questions
1. The tasks	<p>Do they involve:</p> <ul style="list-style-type: none"> <li>● activity that is too strenuous?</li> <li>● holding or manipulating loads at distance from trunk?</li> <li>● unsatisfactory or unstable bodily movement or posture, especially: <ul style="list-style-type: none"> <li>– twisting the trunk?</li> <li>– stooping?</li> <li>– reaching upward?</li> </ul> </li> <li>● excessive movement of loads, especially: <ul style="list-style-type: none"> <li>– excessive lifting or lowering distances?</li> <li>– excessive carrying distances?</li> </ul> </li> <li>● risk of sudden movement of loads?</li> <li>● frequent or prolonged physical effort, particularly affecting the spine?</li> <li>● insufficient rest or recovery periods?</li> <li>● a rate of work imposed by a process?</li> <li>● <i>climbing up or down stairs?</i></li> <li>● <i>handling while seated?</i></li> <li>● <i>use of special equipment?</i></li> <li>● <i>team handling?</i></li> </ul>
2. The loads	<p>Are they:</p> <ul style="list-style-type: none"> <li>● heavy?</li> <li>● bulky or unwieldy, or difficult to grasp?</li> <li>● unstable or with contents that are likely to shift?</li> <li>● likely, because of the contours and/or consistency, to injure workers, particularly if the individual collides with</li> </ul>



	<p>someone or something?</p> <ul style="list-style-type: none"> <li>● <i>wet, slippery, very cold or hot and, therefore, difficult to hold?</i></li> <li>● <i>sharp?</i></li> <li>● <i>potentially damaging/dangerous if dropped?</i></li> </ul>
3. The working environment	<ul style="list-style-type: none"> <li>● Are there space constraints preventing the handling of loads at a safe height or with good posture?</li> <li>● Is there an uneven, slippery or unstable deck surface?</li> <li>● Are there variations in level of deck surfaces (e.g. door sills) or work surfaces?</li> <li>● Are there extremes of temperature or humidity?</li> <li>● <i>Has account been taken of the sea state, wind speed and the unpredictable movement of the deck?</i></li> <li>● <i>Are there steps, stairs or ladders or self-closing doors to be negotiated?</i></li> <li>● <i>Is the area adequately lit?</i></li> <li>● <i>Is movement or posture hindered by personal protective equipment or by clothing?</i></li> </ul>
4. Individual capability	<p>Is the individual:</p> <ul style="list-style-type: none"> <li>● physically unsuited to carrying out the task, either because of the nature of the task or because of a need to protect an individual from a danger that specifically affects them? <ul style="list-style-type: none"> <li>– <i>i.e. does the job require unusual strength, height, etc.?</i></li> <li>– <i>is there a hazard to those who might reasonably be considered unsuited to the task?</i></li> <li>– <i>does it pose a risk to those who are pregnant or have a health problem?</i></li> </ul> </li> <li>● wearing unsuitable clothing, footwear or other personal effects?</li> <li>● inadequately experienced or trained?</li> <li>● inadequately equipped?</li> </ul>

The diagram below shows guidelines for safe weights for manual handling.





The guidelines for safe weight vary depending on the capacity of the individual and also the position in which the weight is held. Subject to risk assessment, lighter weights may be safely lifted with arms extended or at high or low levels. The diagram above gives guidelines, which will reduce the risk of harm. The safe weight is reduced if the seafarer has to twist or carry out the lift repeatedly (say more than 30 times per hour). Consideration should also be given to the movement of the vessel during the risk assessment for the task. If the load moves through more than one box, use the lower weight as the safe weight.

# Annex 3

## SAFE MOVEMENT ON BOARD SHIP

### COSWP Chapter 11

#### 11.1 Introduction

11.1.1 Providing conditions for safe movement on board ship is considered to be an integral part of ensuring a safe working environment on board, as required by the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997, regulation 5(2)(e). Following the principles and guidance in this chapter will generally be considered to demonstrate compliance with the duty to ensure a safe working environment on board ship. Where different measures are taken to provide a safe movement, these alternative measures must provide at least an equivalent level of safety in the operating conditions at the time.

*S.I. 1997/2962, MGN 532(M)*

11.1.2 The purpose of this chapter is to set out appropriate standards to ensure that anyone can move safely to any place on the ship to which a person may be expected to go.

11.1.3 Places on the ship where persons may be expected to go include accommodation areas as well as normal places of work and passenger areas. ‘Persons’ in this context include seafarers and other persons working on board, passengers, dock workers and other visitors to the ship on business, but exclude persons who have no right to be on the ship.

#### 11.2 General principles

11.2.1 All deck surfaces used for transit about the ship and all passageways, walkways and stairs should be properly maintained and kept free from substances liable to cause a person to slip or fall.

11.2.2 For areas used for transit, loading or unloading of cargo or for other work processes, an adequate level of lighting should be provided. Further guidance is in section 11.5 and in Annex 11.2 to this chapter.

11.2.3 The Company, employer and master are also responsible for ensuring that any permanent safety signs providing information for those moving around the ship comply with the regulations and merchant shipping notice.

11.2.4 Any opening, open hatchway or dangerous edge into, through or over which a person may fall should be fitted with secure guards or fencing of adequate design and construction. Advice on guardrails and safety fencing is given in section 11.6. These requirements do not apply where the opening is a permanent access way or where work is in progress that could not be carried out with the guards in place.

11.2.5 The ship's powered vehicles (including mobile lifting plant) may only be driven by a competent, authorised person who is able to ensure that they are used safely. Such vehicles must be properly maintained.

### 11.3 Drainage

11.3.1 Decks that need to be washed down frequently, or are liable to become wet and slippery, should be provided with an effective means of draining water away. Apart from any

open deck, these places include the galley, the ship's laundry and the washing and toilet accommodation.

11.3.2 Drains and scuppers should be regularly inspected and properly maintained.

11.3.3 Where drainage is by way of channels in the deck, these should be suitably covered.

11.3.4 Duck boards, where used, should be soundly constructed and designed and maintained so as to prevent accidental tripping.

### 11.4 Transit areas

11.4.1 Where necessary for safety, walkways on decks should be clearly marked, e.g. by painted lines or other means. Where a normal transit area becomes unsafe to use for any reason, the area should be closed until it can be made safe again.

11.4.2 Transit areas should where practicable have slip-resistant surfaces. Where an area is made slippery by snow, ice or water, sand or some other suitable substance should be spread over the area. Spillages of oil or grease, etc. should be cleaned up as soon as possible.

11.4.3 When rough weather is expected, lifelines should be rigged securely across open decks.

11.4.4 Gratings in the deck should be properly maintained and kept closed when access to the space below is not required.

11.4.5 Permanent fittings that may cause hazards to movement (e.g. pipes, single steps, framing, door arches, and top and bottom rungs of ladders) should be made conspicuous by the use of contrasting coloured, marking, lighting or signage. Temporary obstacles can also be hazardous and, if they are to be there for some time, they should be marked by appropriate warning signs.

11.4.6 When at sea, any gear or equipment stowed to the side of a passageway or walkway should be securely fixed or lashed against the movement of the ship.

11.4.7 Litter and loose objects (e.g. tools) should not be left lying around. Wires and ropes should be stowed and coiled so as to cause the least obstruction.

11.4.8 Particular attention should be given to areas to which shore-based workers and passengers have access, especially on deck, as they will be less familiar with possible hazards.

11.4.9 When deck cargo is being lashed and secured, special measures may be needed to ensure safe access to the top of, and across, the cargo.

## 11.5 Lighting

11.5.1 The level of lighting should be such as to enable obvious damage to, or leakage from, packages to be seen. When there is a need to read labels, or container plates, or to distinguish colours, the level of lighting should be adequate to allow this or other means of illumination should be provided.

11.5.2 Lighting should be reasonably constant and arranged to minimise glare and dazzle, the formation of deep shadows and sharp contrasts in the level of illumination between one area and another.

11.5.3 Where visibility is poor (e.g. due to fog, clouds of dust, or steam), which could lead to an increase in the risks of accidents occurring, the level of lighting should be increased above the recommended minimum.

11.5.4 Lighting facilities should be properly maintained. Broken or defective lights should be reported to the responsible person and repaired as soon as practicable.

11.5.5 Before leaving an illuminated area or space, a check should be made that there are no other persons remaining within that space before switching off or removing lights.

11.5.6 Unattended openings in the deck should either be kept illuminated or be properly or safely closed before lights are switched off.

11.5.7 When portable or temporary lights are in use, the light supports and leads should be arranged, secured or covered so as to prevent a person tripping, being hit by moving fittings or walking into cables or supports. Any slack in the leads should be stowed so as not to create a trip hazard. The leads should be kept clear of possible causes of damage (e.g.

running gear, moving parts of machinery, equipment and loads). If they pass through doorways, the doors should be secured open. Leads should not pass through doors in watertight bulkheads or fire door openings when the ship is at sea. Portable lights should never be lowered or suspended by their leads.

11.5.8 Where portable or temporary lighting has to be used, fittings and leads should be suitable and safe for the intended usage. To avoid risks of electric shock from mains voltage, the portable lamps used in damp or humid conditions should be of low voltage, preferably 12 volts, or other suitable precautions should be taken.

## 11.6 Guarding of openings

11.6.1 Hatchways that are open for handling cargo or stores, through which persons may fall or on which they may trip, should be closed as soon as work stops, except during short interruptions or where they cannot be closed without prejudice to safety or mechanical efficiency because of the heel or trim of the ship.

11.6.2 The guardrails or fencing should have no sharp edges and should be properly maintained. Where necessary, locking devices and suitable stops or toe-boards should be provided. Each course of rails should be kept substantially horizontal and taut throughout their length.

11.6.3 Guardrails or fencing should consist of an upper rail at a height of 1 metre and an intermediate rail at a height of 0.5 metres. The rails may consist of taut wire or taut chain.

11.6.4 Where the opening is a permanent access way, or where work is in progress which could not be carried out with the guards in place, guards do not have to be fitted during short interruptions in the work (e.g. for meals), although warning signs should be displayed where the opening is a risk to other persons.

## 11.7 Watertight doors

11.7.1 Watertight doors can inflict serious injury if their operation is not carried out correctly. Therefore, all seafarers who would have occasion to use any watertight doors should be instructed in their safe operation. Seafarers who have not been instructed in their use should not under any circumstance operate them until such training has been given. Training records should be kept. Doors should always be operated in accordance with local instructions.

*MGN 35(M+F)*

11.7.2 Class D watertight doors must always be kept closed during navigation.

11.7.3 Class C watertight doors may be opened during navigation to permit the passage of passengers or crew. The door must be immediately closed when transit through the door is complete.

11.7.4 Class B watertight doors may be opened during navigation when necessary for work in the immediate vicinity of the door. The door must be immediately closed when that work is finished.

11.7.5 Class A watertight doors are permitted by the administration to remain open during navigation. In all cases, if a watertight door is found closed it may automatically close after being opened manually so extra care must be taken.



11.7.6 Any class of watertight door may be put into bridge operation mode. If opened locally under these circumstances the door will reclose automatically with a force sufficient to crush anyone in its path as soon as the local control has been released. It is safest to treat doors as if they are in this mode at all times.

11.7.7 The local controls are positioned on each side of the door so that a person passing through may open the door and then reach to the other control to keep the door in the open position until transit is complete. As both hands are required to operate the controls, no seafarer should attempt to carry any load through the door unassisted. If it is necessary to carry anything through a watertight door in these circumstances another person should be employed to assist.

11.7.8 Notices clearly stating the method of operation of the local controls should be prominently displayed on both sides of each watertight door.

11.7.9 No one should attempt to pass through a watertight door when it is closing and/or the warning bell is sounding. In all cases, seafarers should wait until the door is fully open before attempting to pass through it.

11.7.10 Any watertight door found in a closed position must be returned to that position after opening.

11.7.11 When reading this advice, note should be made of the content of marine guidance note MGN 35(M+F), Accidents when using power-operated watertight doors.

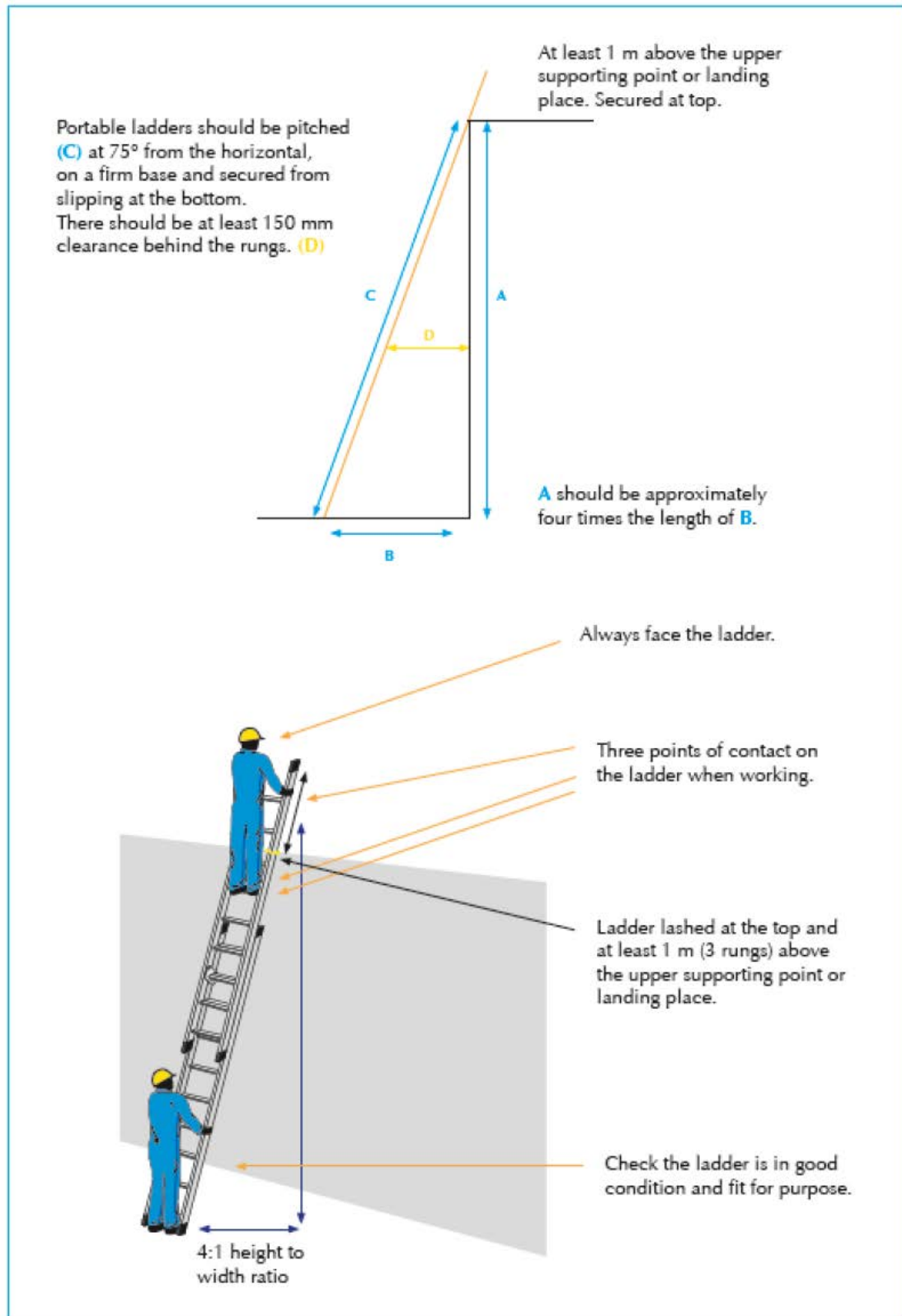
*MGN 35(M+F)*

## 11.8 Stairways, ladders and portable ladders

11.8.1 Stairways on ships are often set at a steep angle. Handrails should always be used, and where possible tools, etc. carried in a belt rather than in the hand, to leave hands free.

11.8.2 All ship's ladders should be of good construction and sound material, strong enough for the purpose for which they are used, free from patent defect and properly maintained. Ladders providing access to the hold should comply with the standards in Annex 11.1.

11.8.3 Suitable handholds should be provided at the top and at any intermediate landing place of all fixed ladders.





11.8.4 A portable ladder should only be used where no safer means of access is reasonably practicable.

11.8.5 Portable ladders should be pitched at 75° from the horizontal, properly secured against slipping or shifting sideways and be so placed as to afford a clearance of at least 150 mm behind the rungs. Where practicable, the ladder should extend to at least 1 metre above any upper landing place unless there are other suitable handholds.

## 11.9 Shipboard vehicles

11.9.1 Seafarers selected to drive the ship's powered vehicles and powered mobile-lifting appliances should be fit to do so, and have been trained for the particular category of vehicle or mobile-lifting appliance to be driven, and tested for competence.

11.9.2 Authorisations of seafarers should either be individually issued in writing or comprise a list of persons authorised to drive. These authorisations may need to be made available for inspection to port authorities.

11.9.3 Maintenance of the ship's powered vehicles and powered mobile-lifting appliances should be undertaken in accordance with the manufacturer's instructions.

11.9.4 Drivers of the ship's powered vehicles and powered mobile-lifting appliances should exercise extreme care, particularly when reversing.

## 11.10 Entry into dangerous (enclosed) spaces

11.10.1 A dangerous (enclosed) space is defined in the regulations as 'any enclosed or confined space in which it is foreseeable that the atmosphere may at some stage contain toxic or flammable gases or vapours, or be deficient in oxygen, to the extent that it may endanger the life or health of any person entering that space.' Section 15.4 gives advice on identifying these hazards.

*S.I. 1988/1638*

11.10.2 The master is required to ensure that all unattended dangerous spaces are secured against entry, except when it is necessary to enter.

11.10.3 The Company must have procedures in place for entering and working in dangerous spaces, and it is the master's responsibility to ensure these are followed. No person should enter or remain in a dangerous space unless they are trained to do so, and follow the set procedures.

11.10.4 Chapter 15 of this Code provides detailed information on the procedures for entry into dangerous spaces.

#### 11.11 Working on deck while ship is at sea

11.11.1 The responsible officer should ensure that seafarers working on deck are properly instructed in the tasks that they are required to perform.

11.11.2 Seafarers should be prohibited at all times from sitting upon the vessel's bulwark or rail.

11.11.3 Bridge watchkeeping officers should be informed of all work being performed on deck or in deck spaces.

#### 11.12 Adverse weather

11.12.1 If adverse weather is expected, lifelines should be rigged in appropriate locations on deck.

11.12.2 No seafarers should be on deck in conditions that the master considers adverse weather unless it is considered necessary for the safety of the ship, passengers and crew, or the safety of life at sea. Where possible, work should be delayed until conditions have improved, e.g. until daylight, or until the next port of call.

11.12.3 The lashings of all deck cargo should be inspected and tightened, as necessary, when rough weather is expected. Anchors should be secured and hawse and spurling pipe covers fitted and sealed when rough weather is expected, regardless of the expected voyage duration.

11.12.4 Work on deck during adverse weather should be authorised by the master and the bridge watch should be informed. A risk assessment should be undertaken, and a permit to work and a company checklist for work on deck in heavy weather completed.

11.12.5 Any seafarers required to go on deck during adverse weather should wear a lifejacket suitable for working in, a safety harness (which can be attached to lifelines) and waterproof personal protective equipment including full head protection, and should be equipped with a water-resistant UHF radio. Head-mounted torches should be considered.

11.12.6 Seafarers should work in pairs or in teams. All seafarers should be under the command of a competent person.

11.12.7 Use of stabilising fins (if fitted) to reduce rolling, and adjusting the vessel's course and speed should be considered to mitigate the conditions on deck. If possible, visible communication should be maintained from the bridge, but if not other continuous communication should be maintained.

### 11.13 General advice to seafarers

11.13.1 Seafarers and others on board must take care for their own health and safety in moving around the ship, and in particular must cooperate with any measures put in place for their safety.

*S.I. 1997/2962, Reg. 21*

11.13.2 Seafarers are reminded to take care as they move about the ship. The following list is not exhaustive but identifies points which are all too often overlooked:

- Seafarers should watch out for tripping hazards, and protrusions such as pipes, framing, etc.
- The possibility of a sudden or heavy roll of the ship should always be borne in mind.
- Suitable footwear should be worn that will protect toes against accidental stubbing and falling loads, will afford a good hold on deck and give firm support while using ladders. Extra care should be taken when using ladders whilst wearing sea boots.
- It is dangerous to swing on or vault over stair rails, guardrails or pipes.
- Injuries are often caused by jumping off hatches, etc.
- Manholes and other deck accesses should be kept closed when not being used; guardrails should be erected and warning signs posted when they are open.
- Spillage of oil, grease, soapy water, etc. should be cleaned up as soon as practicable.
- Areas made slippery by snow, ice or water should be treated with sand or some other suitable substance.

- The presence of temporary obstacles should be indicated by appropriate warning signs.
- Litter and loose objects (e.g. tools) should be cleared up.
- Wires and ropes should be coiled and stowed.
- Lifelines should be rigged securely across open decks in rough weather.
- Stairways and ladders are usually at a steeper angle than is normal ashore.
- Ladders should be secured and ladder steps kept in good condition; care should be taken when using ladders and gangways providing access to or about the vessel, particularly when wearing gloves.
- The means of access to firefighting equipment, emergency escape routes and watertight doors should never be obstructed.

# Fires in Ships

The Maritime and Coastguard Agency



Maritime and Coastguard Agency

# **GO N T E N T S**

**DOORWAYS TO DISASTER**

**FIRE DOORS - A VITAL LINE  
OF DEFENCE**

**FUEL HAZARDS**

**THE UNPLUGGED HOLE**

**A LAST CIGARETTE**

**OUT OF THE FRYING PAN**

**BURIED DANGER**

**FLASH FIRE**

**CLEAN SWEEP**

**DANGER IN A BOTTLE**

## *Make your ship a safe ship - take precautions to prevent fire.*

Every year lives are lost and millions of pounds' worth of damage is caused through fires in ships. Human error is by far the most common cause of fires. It is often a single careless act that endangers the lives of all the crew.

These brief factual accounts of fires, which occurred in several types of vessel illustrate some of the risks. Every member of the crew has a part to play in preventing fires. And this applies not only to fire-fighting methods. Take a long critical look at your ship - is there any place where failure or malfunction could bring disaster? The danger spots are machinery, accommodation and cargo spaces.

Information on fire appliances and protection required by law is readily available.

### **Make your ship a safe ship - take precautions to prevent fire.**

- Always keep fire doors closed to restrict the spread of flames and smoke
- Always keep working areas clean and tidy. Do not allow flammable waste to accumulate





- Keep oil away from hot surfaces which might ignite it - check that all feed pipes and joints are sound
- Take great care when pumping oil to ready use tanks - avoid spillage or overflow which could lead to fire
- Put out all cigarettes completely
- Comply with no smoking area signs at all times
- Switch off electrical equipment when not in use
  - be particularly careful in galleys where there are deep fat fryers
- Do not allow cargo light clusters to be buried in cargo - always check that all are accounted for after loading
- Take great care when using oxyacetylene or other equipment which might ignite flammable materials



# DOORWAYS TO DISASTER

*Never fix engine room casing doors in the open position - your life may depend on it.*

A bulk carrier of 1,322 gross tons had just gone on stand-by conditions prior to entering the port of Bayonne at the end of a voyage from Britain.

In the engine room, the Chief Engineer had started all the stand-by pumps including a lubricating oil pump (the main engine lubricating oil system under normal service conditions being supplied from main engine-driven pumps) and was in the process of putting a second generator on load when fire broke out.

The Master and Officer of the Watch, on the bridge, were alerted by flames and

smoke coming from the engine room skylights, which were open. They were able to close the port skylights but not the starboard ones, because of the heat. The remotely controlled fuel supply valves to the main engine and generator were then closed, and the Chief Engineer, having stopped the main engine, began fighting the fire with portable extinguishers.

Flames and smoke had





meanwhile passed from the engine room into the accommodation through two open doorways in the casing, the doors having been fixed in the open position with wire. The spreading fire trapped the second engineer in his cabin. He could not be released until crew members with portable extinguishers were able to make their way along the passageway to close the engine room doors. The fire fighting efforts of the

crew finally prevailed, but it took about an hour to extinguish the blaze. The cause of the fire was traced to a disused brass cock on the discharge side of the stand-by lubricating oil pump. This had broken off, allowing oil under pressure to spray onto the main exhaust system.

**Engine room casing doors should never be fixed in the open position. Remember**

**smoke can be just as lethal as heat and flames**

A fire which may be controlled or easily extinguished, can quickly become a fire which results in the crew having to abandon ship.

# FIRE DOORS - A VITAL LINE OF DEFENCE

A 24-metre fishing vessel was trawling in the fishing grounds west of Shetland. A crew of five was operating on this trip.

In the early hours of the morning the vessel was trawling slowly in a north-easterly direction, when the mate, who was on watch, discovered a fire in the galley. The skipper and crew were called and gathered in the wheelhouse, passing the galley on their way.

Although all the crew saw the fire through the open galley door, nobody shut the A60 fire door.

There followed a short

abortive attempt to fight the fire, but by that time the accommodation itself was starting to burn. The skipper called the Coastguard on the VHF radio and told them of the fire, but lost direct contact. He attempted to stop the main engine, but the controls failed to respond.

Having realised that the fire was beyond their control the crew launched both liferafts. Luckily another fishing vessel in the area, managed to pass



a line connected to a liferaft to the casualty. The crew entered the liferaft using a rope ladder over the starboard side. With all five aboard, they moved away from the burning vessel and were then lifted into the helicopter. Apart from minor burns and bruises, there were no injuries.

The galley fire is thought to have been caused by a drying cloth hung above a hot heating element on the cooker. Once alight, and fanned by strong draught from an open window into the starboard side shelter deck and an open door on the port side, the fire rapidly gained strength and entered the accommodation.

**Always close fire doors at the earliest opportunity to restrict the spread of flames and smoke.**

# FUEL HAZARDS

## *Are your oil heater relief valves in closed circuit?*



A twin-screw bulk carrier of some 19,120 gross tons was proceeding normally on diesel oil fuel. The main engines were designed to use heavy oil, but trouble was being experienced with the electric heavy oil heaters.

Repairs were carried out and power switched on, but shortly afterwards the heaters were found to be wrapped in a light grey mist. Power was immediately shut off, but while the inlet valve to one heater was being closed, the relief valve lifted and within seconds the surrounding space burst into flames, giving out dense clouds of smoke. The main engines were stopped and the heavy oil settling-tanks isolated. By

this time the smoke had become so dense that the machinery space had to be evacuated. After a roll call of engine room personnel, the CO<sub>2</sub> fire extinguishing system was operated and the fire put out. A full five hours elapsed before the engine room could be re-entered. The oil fuel heaters and ancillary equipment were all found to be badly damaged but, even worse, there was extensive damage to the



banks of electric cables above the heaters.

As the supply of diesel oil was limited, repairs to the heavy oil heaters and the replacement of electric cables were essential if the vessel was to make port under her own power. Another day passed before the work was completed and the vessel was able to proceed on her way, albeit on one engine.

The cause of the fire was traced to two factors: a

malfunction of the viscosity regulation valve on the heater outlet which caused a blockage in the outlet and its consequent overheating: and a relief valve on the heater which relieved to the saveall.

**Open-ended relief valves from oil heaters are always a potential source of danger and should be in closed circuit.** This vessel was lucky to have escaped so lightly – in bad weather the result could have been disastrous.

# THE UNPLUGGED HOLE

## *Carelessness in the engine room could be fatal*

A fishing vessel sailed from Aberdeen one morning *en route* for the fishing grounds. Normal routine was maintained until the early evening, when the engine suddenly stopped and the Skipper was alerted to smoke pouring out of the engine room.

Attempts to enter the space were frustrated at first by the dense smoke. Eventually the Second Engineer, wearing breathing apparatus, managed to get below. He found the Chief Engineer (who had been on watch but was missing when the fire was noticed) in the fore part of the engine room. His clothing, hair and the upper part of his body were on fire, but the Second Engineer managed to drag him out of

the space. The crew then beat out the flames and gave first aid to the badly burned man. The Skipper had meanwhile managed to extinguish the fire. Power was eventually restored and the vessel was able to return to port, where the Chief Engineer was quickly transferred to the intensive-care unit of the local hospital.

Subsequent investigation revealed that it was normal practice to pump up the main





engine daily service tank each watch until it overflowed through a sight glass back to the bunker tank. On this occasion a 3.5 inch BSP sounding/inspection plug had been removed from the top of the tank and not replaced. The result was that when the service tank was full, the oil flowed out of the hole in the top and down the sides into the saveall, instead of down the overflow pipe. What happened next is only

too predictable: the overflow from the saveall onto the main engine exhaust manifold, the inevitable fire, and the Chief Engineer badly burned in his efforts to control it.

**Fires in the engine room are common, and will continue to be so until engine room personnel pay greater attention both to the equipment and to the working environment.**

**This is especially important after an overhaul or period in port.**



# LAST CIGARETTE

## *Careless smoking is the most common cause of fires in ships*

A refrigerated ship of some 9,742 gross tons arrived in Port Nelson, New Zealand, early one morning after a voyage from Japan. That night the crew enjoyed an evening in port, and some of the local girls attended a party held on board.

Early the following morning fire was discovered in the accommodation, which quickly became filled with smoke. The alarm was raised and the ship's crew tackled the blaze with hoses until the shore fire brigade arrived. A roll call was held and all on board were accounted for with the exception of one deckhand. When the firemen arrived, they searched the accommodation, wearing breathing apparatus. The missing man was found unconscious in his

cabin. Despite all efforts to revive him, he was dead on arrival at the hospital. The fire was put out with no further casualties. The source of the fire was traced to an unoccupied cabin used for the storage of dirty linen. On arrival in port, a ship-to-shore telephone had been installed for the use of the crew. The Fire Officer considered that the most probable cause of the fire was the careless disposal of matches and cigarette-ends in the cabin.

**Never locate a ship-to-shore telephone in a space containing flammable material. If possible, arrange for the telephone to be located in a public place where it can be seen and is easy to get at. Always provide a container for matches and cigarette-ends alongside the telephone. A bucket or drum half-filled with sand is safest. Ashtrays are quickly**

**filled and easily upset.**

A coasting vessel of some 551 gross tons had completed loading a cargo of china clay at a Southern English port, but bad weather resulted in her sailing being postponed until the following morning. The crew went ashore for the evening. Returning to the ship later, and after a drink in the Master's cabin, all hands turned in. It was not until 07.45 the following morning, when the pilot came on

board, that smoke was detected in the accommodation. This was traced to a sailor's cabin. The door was forced, and the cabin found to be full of smoke. The sailor was dead on the floor. Investigation showed that the fire had started in the bunk and there can be no doubt that a lighted cigarette was the cause. The crewman must have fallen asleep while enjoying a last cigarette.



# OUT OF THE FRYING PAN



A 32,353gt Class 1 passenger ship, was on passage from Lisbon to Liverpool, with 1000 passengers and 500 crew on board.

The galley crew had begun preparing breakfast for passengers, when shortly after 0700 a galley fire was reported to the bridge by a fire patrol. They were operating in the galley because its loop of the fire detection and alarm system had been shut down.

An assessment party discovered that the fire was in the area of a group of three deep fat fryers. Using portable CO<sub>2</sub> extinguishers,

several attempts were required to extinguish the fire, which had spread into the ventilation ducting. The sprinkler system activated automatically and the steam smothering system was used in the ventilation ducting. The fire was reported out one hour after it was discovered.

An initial investigation by ship's staff found the power contactor of one deep fat fryer had welded closed. This prevented interruption of



power as the fat's temperature increased. This resulted in overheating and ignition of the cooking fat in the fryer.

**Deep fat fires can be extremely dangerous. If found at an early stage, cover the fryer with a metal lid or a fire blanket. On no account should such a fire be fought with a water extinguisher. This may cause an**

**explosion, spread the fire and badly burn the fire-fighter.**

*Fire extinguishers in the galley must not be of the water type.*

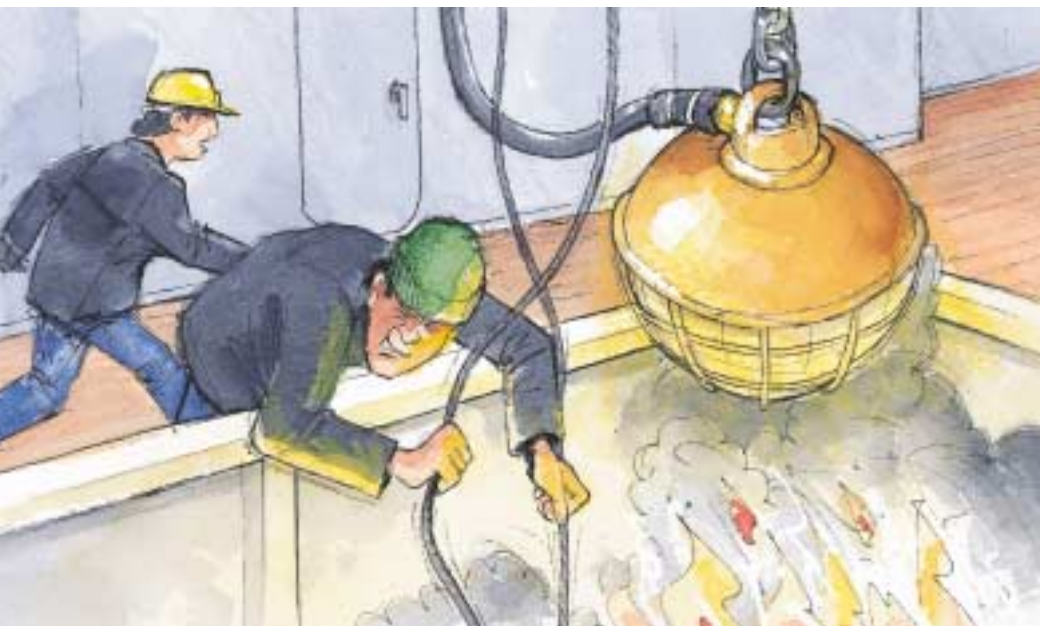
# BURIED DANGER

One evening smoke was seen coming from the no. 3 hatch vents of a bulk carrier of some 28,467 tons, en route from the USA to Italy.

Loading of yellow corn had been completed at a Mississippi port only the previous day and spontaneous combustion was suspected. The ship was immediately diverted to the nearest port while the hold vents were battened down and the boundaries of the hold were cooled with fire hoses.

When the ship arrived in Port, the authorities injected high expansion foam into the

space between the surface of the cargo and the deckhead and, some hours later, opened up the hatch to discharge the cargo under further applications of foam. Only then did a deckhand report to the Master that several days previously, while loading was taking place, he had seen a dock worker attempting to extricate from the cargo a light-cluster which had become submerged. Failing to do so,



he had unplugged the cluster and left it buried in the cargo. It was not until 200 tons of damaged cargo had been removed that the charred remains of the cluster were found and the deckhand's story verified.

**Check cargo clusters carefully after loading has been completed; the heat they generate is always a potential danger. Ensure that cargo clusters are kept**

**in a serviceable condition and placed where they do not create a fire hazard (especially when the cargo spaces are unmanned). Attention to detail and prompt reporting of the unusual prevent accidents.**

*Number  
your  
cargo  
clusters.*

# FLASH FIRE



A bulk carrier was in the North Sea carrying a cargo of coal duff from the USA to the River Tees.

Although the access hatches to the holds were gas-tight, they were opened at intervals to check the temperature of the cargo. The mast houses above were also clearly marked as 'NO SMOKING' areas because of the danger of methane gas lingering after each opening of the access hatch.

While preparing gear for their arrival in port, a seaman lit a cigarette lighter to see more clearly under a shelf in the mast house. There was a flash fire and the seaman and his mate were badly burned. Both were taken off the ship by

helicopter and rushed to hospital for treatment.

Fortunately, there was no ensuing fire.

**Always follow the 'NO SMOKING' signs.**

**Do not assume that you can smell all dangerous gases – they can linger in confined spaces for some time and will build up if not ventilated.**

**Never use a naked light where there are "No Smoking" signs. Always use the correct lighting equipment.**

## *Keep combustibles away from hot exhausts.*

Some two hours out from port with a cargo of petroleum coke, a twin-screw general cargo vessel was forced to return on one engine because fire had broken out in the engine room.

The fire apparently occurred because sacking placed over a grating to prevent crew members from slipping had fallen, together with dirt and debris, onto the propulsion and steering unit in the engine room below. These

had quickly become ignited by the hot exhaust of the unit.

The fire was soon brought under control by the shore fire brigade and damage was restricted to the electric cables controlling one of the propulsion and steering units, but the ship was delayed at great expense while repairs were carried out. Without the assistance of the fire brigade, it would have been much more serious.

**Engine room fires can spread very quickly. Be safety-conscious –**

**hold regular fire drills and learn where safety equipment is kept and how to use it.**

**Accidents can be avoided by practising good housekeeping. Clear away debris immediately. Gratings and ventilators should be cleaned regularly and oily rags and other flammable materials removed. Clean floors and gratings should not be slippery and crew should wear the right shoes.**



# ⓓ A N G E R I N A B O T T L E

*Never store gas bottles in engine rooms or take them into enclosed spaces.*

The engineer aboard a bulk carrier was using oxy-acetylene equipment to carry out minor repairs in the engine room workshop when a fire broke out near the oxygen and acetylene bottles.

Subsequent investigation revealed that it had started because of a leaking hose. The alarm was raised and the fire quickly brought under control by the engine room party.

Although on this occasion the damage was restricted to blistered and blackened paintwork in the workshop area, it could well have been much worse but for the prompt action of the fire party. An engine room fire

can have serious consequences.

**Always check that hoses on gas bottles are not leaking and that they are securely connected to the bottles. Keep the working area clean and free of sharp or jagged objects. Avoid twisting hoses or restricting your access – rapid movements can also cause accidents.**



**Leave oxy-acetylene equipment alone unless you have been trained to use it correctly. When using oxy-acetylene or other welding equipment, make sure someone knows where you are. Have a fire-watcher, ie an assistant, to stand by with a fire extinguisher to watch for sparks, smouldering or**

**outbreaks of fire. He can ensure you are not interrupted and remove discarded tools and equipment.**

*The following  
publications are available  
from Government  
bookshops and through  
booksellers:*



The Maritime & Coastguard  
Agency Fire Protection  
arrangements Instructions for  
the guidance of Surveyors  
1999.

Merchant Shipping (Fire  
Protection: Large Ships)  
Regulations 1998 Statutory  
Instrument 1998 No. 1012  
Merchant Shipping (Fire  
Protection: Small Ships)  
Regulations 1998 Statutory  
Instrument 1998 No. 1011

Merchant Shipping (Fire  
Protection) (Amendment)  
Regulations 1999 Statutory  
Instrument 1999 No. 992

*The following  
Merchant  
Shipping Notices,  
issued by the  
Department of the  
Environment  
Transport and the  
Regions are  
available from:*

iForce,  
Imber Court Business Park,  
Orchard Lane,  
East Molesey,  
Surrey  
KT8 0BZ  
Tel: 0208 957 5028

- M 681 Fixed fire smothering gas installations: siting precautions for CO<sub>2</sub> cylinders
- M 957 Fires and explosions resulting from welding and flame-cutting operations
- M 1075 Use of CO<sub>2</sub> and other fire extinguishing gases for inerting purposes
- M 1136 Fires involving oil-fired appliances
- M 1267 Fire prevention and fire fighting in ships in port
- M 1706 The carriage of military and commercial explosives
- M 1456 Prevention of fuel, lubricating and hydraulic oil fires in the machinery spaces of merchant ships and fishing vessels
- M 1494 Fire-fighting training
- M 1557 Electrical installations in small craft – fire risks

## Marine Guidance Notes

- MGN 17(M) Musters and drills and on board training and instructions
- MGN 80(M+F) Use of Halon for Fire Extinguishing on Board Ships

## Merchant Shipping Notice

- MSN 1665(M) – Fire fighting equipment
- MSN 1666(M) – Fixed fire detection alarm and extinguishing systems
- MSN 1667(M) – Fire integrity of bulkheads, decks and ventilation ducts (Large Ships)
- MSN 1668(M) – Fire integrity of bulkheads, decks and ventilation ducting (Small Ships)

- MSN 1669(M) – Special fire safety measures for ships carrying dangerous goods
- MSN 1670(M) – Exemptions
- MSN 1706(M) – The carriage of military and commercial explosives
- MSN 1733(M) – Amendments to Regulations involving MSN 1665(M) to MSN 1670(M)

As per MIN 66(M+F) the foregoing MSNs are directly related to Regulations made under the three Merchant Shipping (Fire Protection) Statutory Instruments

Also MSN 1621 – Fire dangers in machinery spaces on fishing vessels and other small vessels

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An Executive Agency of the  
Department of the Environment  
Transport and the Regions



Maritime and Coastguard Agency

**Remember: no one is a  
survivor until rescued**

Where a survival craft portable radio is available, 'Distress' messages should be transmitted, following the simple instructions provided on the equipment. If an Emergency Position Indicating Radio Beacon (EPIRB) or radar transponder is available, switch it on. Rescuers can 'home in' on these signals. Distress

flares and rockets should be used sparingly, and only when there is a likelihood of their being seen. If the sun is shining the heliograph can be used to attract attention. If sighted by a searching aircraft, it may be some time before rescue is at hand but your location will be known.



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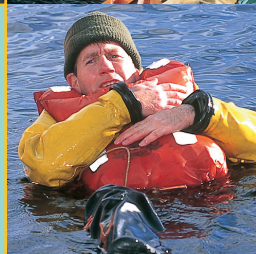
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**Transport***

MCA/075



# Personal Survival at Sea

The Maritime and Coastguard Agency



Maritime and Coastguard Agency





## PERSONAL SURVIVAL AT SEA

### FOREWORD

If you ever have to abandon ship your life will be threatened by a variety of dangers. This booklet provides a simple, basic guide to personal survival. It contains only the absolute minimum of information, outlining dangers you may encounter and providing guidance on how to overcome them.

The most common cause of death after shipwreck is hypothermia and drowning - usually because people get too cold to help themselves. Even after boarding a survival craft you could die of cold if you have not taken the necessary precautions. The epic survival voyages which attract so much publicity have nearly all occurred in tropical waters. Survival at sea for even a short period is dependent on adequate preparation and knowledge of survival techniques. Different ships have different types of survival equipment.



Do you know which types are on your ship, where they are, and how to use them?

***If not, find out!***

*You are not a survivor until you have been rescued.*

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## INITIAL ACTION ON HEARING GENERAL EMERGENCY ALARM SIGNAL

*Signal: sounding of alarms, and seven or more short blasts followed by a long blast on ship's whistle.*

- 1 Put on plenty of warm clothing. Woolly clothing is best; as many layers as possible with an anorak or oilskin as the outer layer. If available, put on an immersion suit. Remember that some immersion suits are not insulated and it is essential that warm clothing is worn before putting on the suit.**

If it should be necessary to enter the water on abandoning the ship, the initial 'cold shock' may prove disabling, or even fatal. Extra clothing will markedly reduce this shock effect, while an immersion suit could prevent it entirely.

The extra clothing or immersion suit will prolong your survival time by reducing loss of body heat. It will not weigh you down, the opposite is true:



when you enter the water the air trapped between the extra layers of clothing will help your lifejacket in keeping you afloat.

Even if you do board the survival craft without getting wet the extra clothing or immersion suit may well help to save your life while awaiting rescue. COLD, not lack of food and water, is the great killer.

*Don't panic. Don't waste time after the alarms have sounded. Final adjustments to clothing and lifejacket may be made on the way to the muster station or after arrival there.*

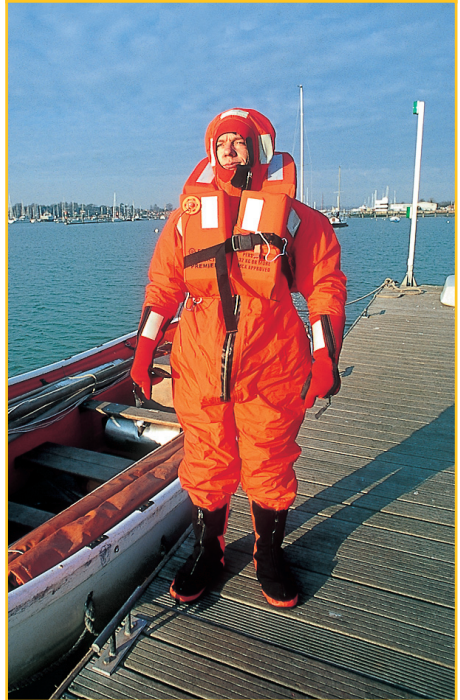
**2 Put on your lifejacket.  
Follow donning instructions.**

Without a lifejacket even good swimmers will have difficulty staying afloat in cold water because of the disabling effects of cold, shock and cramp. A lifejacket will keep you afloat without effort or swimming no matter how much clothing is worn. If unconscious a lifejacket will keep your mouth clear of water.

If your ship does not have totally enclosed lifeboats take your Thermal Protective Aid (TPA) with you to the survival craft. These may be stowed in a boat deck locker or in the lifeboat itself. Some spares will be available anyway, as part of the liferaft equipment.

**3 Go to your muster station in an orderly manner.**

The general emergency signal is not the abandon ship signal. Information on the nature of the emergency and further action to be taken will be obtained at your muster station.





## PREPARATION FOR ABANDONING SHIP

**Abandon ship only when told to do so.**

### **1 Follow instructions in preparing the ship's survival craft.**

It may or may not be necessary to abandon ship: the order to abandon ship will be given by the master/skipper. In many cases the ship itself proves to be the best lifeboat.



## **ABANDONING SHIP: PRECAUTIONS TO BE TAKEN**

**Do not abandon ship until told to do so.**

- 1 When the order is given, get into lifeboats and /or davit-launched liferafts at the embarkation deck.**

This way you will keep dry.

- 2 When the order is given, launch throw-over liferafts.**

- a) before launching make sure the painter is made fast to a strong point on the ship;

Throw-over liferafts will be secured by their painters to a hydrostatic release unit (HRU). This is a strong point. However, if the liferaft has to be transferred to another position, then the painter must be re-secured to another strong point, otherwise the liferaft will be lost. The painter is used to inflate the raft and to hold it alongside.

- b) make sure the water in the launching area is clear of people or obstructions;



**ABANDONING SHIP:  
PRECAUTIONS TO BE TAKEN  
(continued)**

**Never jump onto the canopy of a liferaft.**

**While waiting for others to board prevent raft from chafing alongside the ship.**

- c) after launching, pull and keep pulling on the painter until inflation occurs;

There may be as much as 72 metres of painter within the liferaft container which must be fully withdrawn and given a sharp pull, before inflation can occur.

- d) wait until the buoyancy tubes are fully inflated before boarding;

Premature boarding may prevent proper inflation.

- e) prevent the liferaft chafing on the ship's side if possible.

This will avoid damage to liferaft fabric.

- 3 If possible, board lifeboat or liferaft without entering the water.**

It is important to avoid entering the water if at all possible to reduce the effects of COLD.

Jumping onto the liferaft canopy could cause injuries to yourself or a person already inside and may damage the canopy.

## **ABANDONING SHIP: PRECAUTIONS TO BE TAKEN (continued)**

- 4 If it is necessary to enter the water, choose a suitable place from which to leave the ship, bearing in mind the following points:**

a) drift of the ship;

The ship may drift down on you faster than you can swim away.

b) position of any survival craft in the water;

Remember that the survival craft may drift much more quickly than you can swim. If there is no survival craft available it may be preferable to abandon the ship from the bow or

stern to get clear of the ship with more certainty. There may be difficulty in getting clear from amidships because of the ship's drift.

c) the sea state;

d) other hazards, e.g., burning oil.





## ABANDONING SHIP: PRECAUTIONS TO BE TAKEN (continued)

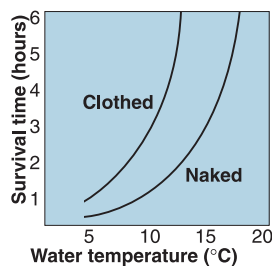
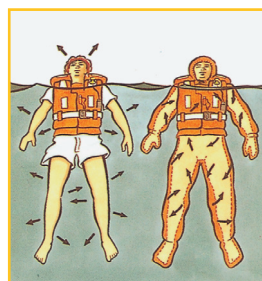
**Do not jump into lifeboats  
or onto the canopy of a liferaft.**

- 5** Do not jump into the water unless essential; use over-side ladders or if necessary, lower yourself by means of a rope or fire hose. Unless it is unavoidable, do not jump from higher than 4.5 metres into the water.

*Points to bear in mind before jumping into the water:*

- Keep lifejacket on, securely tied, and hold it down by crossing arms over chest;
- Block off nose and mouth with one hand;
- Keep feet together;
- Check below to avoid obstructions;
- Look straight ahead; jump feet first.

*Do not look down when jumping as it makes you unstable and likely to fall forward.*





## **ACTION WHEN IN THE WATER**

- 1 Avoid remaining in the water for one second longer than is necessary.**

Body heat will be lost to the surrounding water more rapidly than it can be generated. This leads to hypothermia (cold exposure), unconsciousness and death. The extra clothing worn will delay the onset of hypothermia.

- 2 Get into a survival craft as soon as possible. Otherwise get clear of the ship.**

The danger of being struck from below by surfacing wreckage is greater than from suction caused by the ship sinking.

- 3 After getting clear of the ship do not swim aimlessly. Float as still as possible in your lifejacket if you cannot get into a survival craft.**

Swimming increases heat loss.

## **ACTION WHEN IN THE WATER** **(continued)**

- 4 Activate the lifejacket light and use the whistle attached to your lifejacket to attract attention.**

These will help you to let others know where you are.

- 5 If possible, form a group with other survivors in the water.**

There is safety in numbers. A group is more easily located.

## **BOARDING A SURVIVAL CRAFT**

- 1 Boarding a survival craft unaided from the water is a difficult operation. Make maximum use of available footholds and handholds. It may help to bob down and use the buoyancy of your lifejacket to help you out of the water.**







## **ACTION TO BE TAKEN AFTER BOARDING SURVIVAL CRAFT**

- 1 Cut or slip the painter when all are on board. Use the safety knife provided in inflatable liferafts.**

The safety knife is stowed near the entrances of liferafts and is designed to avoid accidental damage to the raft.

Manoeuvre clear of the ship's side or obstructions.

Getting clear of obstructions avoids the risk of damage to the survival craft.

- 2 Stream the drogue or sea anchor when clear of the ship.**

Survival craft can drift rapidly. The drogue or sea anchor reduces the rate of drift and therefore assists those searching for you. In liferafts it holds the entrances at right angles to the weather, helps to steady the craft and greatly improves the stability in rough weather.

**ACTION TO TAKE AFTER  
BOARDING SURVIVAL CRAFT  
(continued)**

**3** Close the entrances of liferafts when everyone is inside. This keeps out the cold and wet and keeps in the warmth generated by the occupants. Rig the exposure cover in open lifeboats. If available, don a thermal protective aid. Post a lookout.

**4** Maintain the liferaft. Inflate the floor for insulation against the cold, bale out the water and check for damage or leaks. Ventilate the liferaft by maintaining a small opening.

**5** Take seasickness tablets as early as possible.

Most people - including 'hardened' sailors - suffer from seasickness in survival craft. This results in loss of body fluid and incapacitation.



## 6 Rig the radar reflector and EPIRB or SART if available.

### PRINCIPLES FOR SURVIVAL

Regardless of how near rescue services may be, you must take action from the outset to safeguard yourself against immediate threats to your life. Having done so you should consider the next greatest threat and protect yourself against that, and so on in a sequence of priorities. **Without this approach only the lucky will survive.**

First and foremost, protection should be against the dangers of the environment. **Protection** has a higher priority than indicating **location**, and since it is possible to survive many days without **water** and many weeks without **food**, both protection and location have higher priorities than food and water.

**Do not attempt to sail away from the area of the sinking ship.** Search for survivors will commence at the last known position of the ship. Survival craft should be kept together to provide a bigger location target; there will also be more survival aids to share.

## BAS POLICY ON ALCOHOL AND DRUGS

### 1. Introduction

This notice outlines the BAS policy for managing alcohol and drug issues. It provides a practical approach that reflects:

- BAS terms and conditions of service for staff and conditions of passage for visitors,
- UK law,
- the remote and dangerous environment it operates in,
- BAS's commitment to the health and welfare of its employees.

The policy focuses on BAS's remote research stations, but also covers offices, ships and any other locations where BAS staff may work.

This notice covers all staff and sets the required standard for all visitors who work or travel with the Survey. Aircrew and Mariners additionally have to conform to specific legislation that applies to their duties (as set out in their conditions of service, the Merchant Navy code of Conduct and or UK legislation).

This BAS policy is linked to a NERC policy. **NERC Policy Notice 6.7 (Alcohol and Drug Misuse)** describes the corporate approach based on matters arising in the UK at Swindon Office, a Research Centre or Institute. For the purpose of clarity, the BAS policy will take precedence in all our remote locations.

This policy is under regular review.

### 2. Aims and Objectives

BAS aims to have a workplace free from the misuse of alcohol and drugs.

The objectives of this policy are:

1. To provide practical and clear rules about alcohol and drugs that support and maintain a safe and effective working environment for all wherever BAS operates.
2. To outline responsibilities for staff and management.
3. To provide guidance on the safe and sensible drinking of alcohol (noting that alcohol consumption may not be permitted in some circumstances).
4. To provide information to help identify individuals at an early stage who may have alcohol/(prescription) drug-related problems, and provide guidance on how to deal with these as a medical problem.

### 3. Legal Background

There are important laws that underpin this policy and form the basis of the approach to managing alcohol and drug issues:

- *The Health and Safety at Work etc. Act 1974 and the Merchant Shipping and Fishing Vessels (Health and Safety at Work) regulations 1997* require NERC as the employer to take reasonable care for the health and safety of staff and of other persons affected by BAS activities.
- As a consequence BAS exercises a twenty-four hour duty of care for staff and visitors when working on ships or in the Antarctic.
- The Acts also place direct responsibility on individuals to take reasonable care of their own health and safety and that of others.
- The *Railway and Transport Safety Act 2003* applies maximum blood alcohol levels for pilots of aircraft and ships crew when on duty. The BAS Board has decided that the limits in this Act will apply equally to non-marine staff when working during scientific cruises.

In summary, whilst BAS has a legal duty of care, all staff and visitors are also **individually responsible** for ensuring that their personal behaviour does not jeopardise the safety of BAS Operations or the health and safety of people working with the Survey.

### 4. The Policy

#### **Alcohol - In the Workplace and in Transit**

- 4.1. All staff and visitors must comply with the rules for the provision and consumption of alcohol that apply at their work location as agreed by the BAS Board and applied by local management e.g. the Base Commander or Master. Rules may vary slightly to reflect the nature of the environment and the size of the community, but will have general principles in common regarding safe drinking levels (see also paragraph 5.5).

Whilst on board a vessel or at a research station all individuals need to be able to perform the duties allocated to them safely, including an emergency situation. The individual must be able to muster without assistance. No individual can ever regard themselves as being totally “off duty” when at a research station, on a plane or ship.

- 4.2. It is neither acceptable nor permitted for any staff or visitors to:
- a) Work whilst under the influence of more than the UK legal limit of alcohol for driving.
  - b) Drive or operate machinery whilst under the influence of more than the UK legal limit of alcohol for driving.
  - c) Put others at risk by abusing alcohol.
  - d) Damage the reputation of BAS and NERC through actions arising from alcohol abuse.



- 4.3. The same rules apply when staff are on BAS-organised transit to their work location i.e. travelling on 'official duty'. It is not acceptable to abuse alcohol in transit, nor present oneself for transit under the influence of/suffering the effects of excess alcohol (for example when flying on a BAS plane, a commercial or military airline, or on a stop-over en route South or to the UK). It should be noted that Pilots have the legal right and responsibility to refuse passage to individuals who appear to be drunk.
- 4.4. During commercial charters in the North Sea the consumption of alcohol is completely prohibited on board our vessels for crew, staff and visitors.
- 4.5. There may be occasions when management wish to allow alcoholic drinks during the working day at the Cambridge office (or permit an increased supply of alcoholic drinks than the norm at a Research Station) to celebrate a significant event e.g. the visit of a VIP, a retirement, Midwinter celebration or Christmas. This is permitted provided and assuming:
- Individuals accept and take responsibility for their personal circumstances as to whether it would be appropriate to drink alcohol.
  - The supply is limited to a reasonable and proportionate amount.
  - Non alcoholic beverages are also available.
  - The events are timed so that wherever possible resumption of formal work is not required.
  - The special occasions are exactly that i.e. special and infrequent.
  - Emergency arrangements in the Antarctic or at sea are not compromised (this may require some staff not to drink alcohol at all).

#### **Drugs – In the Workplace and in Transit**

- 4.6. BAS will not tolerate the use of illegal drugs anywhere within its operation at any time. It is neither acceptable nor permitted for any staff or visitors to:
- a) Work whilst under the influence of any drugs, illegal or prescribed, that may have a dangerous effect on performance.
  - b) Drive or operate machinery whilst under the influence of any drugs, illegal or prescribed, that may have a dangerous effect on performance.
  - c) Put others at risk by abusing drugs.
  - d) Damage the reputation of BAS and NERC through actions arising from drug abuse.
- 4.7. Anyone:
- suspected by management of being under the influence of illegal drugs,
  - found in the possession of illegal drugs,
  - suspected of supplying illegal drugs; or
  - abusing prescription drugs,

will be suspended immediately and will be subject to disciplinary and legal procedures.

- 4.8. Staff working overseas who are taking prescription medicines that may affect performance are expected to inform their line manager/manager on location who may need to consult BASMU.

Disciplinary action in line with the procedures set out in **Appendix A** will apply to those who do not comply with this policy.

## **5. Medical Problems with Alcohol and Prescribed Drugs**

- 5.1. Addiction or dependency on alcohol or prescribed drugs is a recognised medical problem. Where individuals advise BAS of their condition (or it becomes clear through performance or discussion with management) BAS will aim to manage it in line with NERC Policy Notice 6.7, offering counselling and, where available, medical support.
- 5.2. During service at sea and in the Antarctic it may not be appropriate for safety reasons to make unqualified use of the guidelines in Policy Notice 6.7. Lack of facilities, access to senior management and the safety requirements of Antarctic operations may require procedures to be suspended until they can be conducted in the UK.
- 5.3. When counselling and medical treatment for addiction fails or where the individual refuses to co-operate with management, disciplinary action (as outlined in **Appendix A**) will be taken. If the problem occurs overseas, repatriation to the UK will normally be required if this has not already taken place.
- 5.4. Staff who seek treatment and rehabilitation for alcohol or prescribed drug problems, will retain normal job security and development opportunities unless they are considered unfit for a given job for performance reasons, safety reasons, or by the BAS Medical Unit (BASMU) or another NERC appointed health professional.
- 5.5. BAS will not provide counselling or other on-going support for a medical problem relating to the use of illegal drugs.

## **6. Practical Guidance for Individuals and Managers**

Information about safe limits and the health issues relating to alcohol is attached to this policy at **Appendix B**. Information, education and training on the misuse of alcohol is available from a variety of sources including BAS/NERC Welfare services, BASMU and BAS Human Resources. Information on drugs is attached to this policy at **Appendix C**.

## **7. Summary of Responsibilities**

### **Individuals**

- 7.1. Every person working on a BAS ship or research station or in transit or any other BAS location must take personal responsibility for their own alcohol consumption.

They are required do this to safeguard not only their own health and safety but also that of their colleagues and of BAS operations.

**They must:**

- Comply with the BAS Policy on Alcohol and Drugs.
- Limit their intake of alcohol taking into account the BAS Medical Unit guidelines (**Appendix B**) and their knowledge of how alcohol affects them.
- Co-operate with management on the implementation of this policy.
- Not take any alcohol on board BAS ships or research stations without the Masters' or Base Commanders prior approval.
- Inform their manager of any prescription medicine that they need to use that may affect their performance.

**Management**

**7.2. Managers must:**

- Comply with the BAS Policy on Alcohol and Drugs.
- Implement the BAS Policy on Alcohol and Drugs.
- Identify and communicate to staff safety critical jobs/activities where working under any influence of alcohol or drugs would present an imminent danger to health and safety.
- Identify individuals who may be jeopardising health, safety, performance and their ability to carry out their duties effectively and take action to rectify the situation.
- Offer support to individuals who advise that they have a dependency or addiction problem (alcohol or prescription drugs only, not illegal drugs).
- Take appropriate disciplinary action against individuals who refuse to co-operate in implementing this policy.
- Consider alcohol or drug use as possible contributory factors in any accidents, incidents or near misses and include this in reports.

## Appendix A

### BAS Disciplinary Process for Incidents of Alcohol or Drug Misuse

This guidance is allied to **NERC Disciplinary Procedures (Policy Notice 6.2)**, and is applicable in the BAS specific circumstances and locations described below. It sets out a process for Base Commanders (BC) and Line Managers (LM) that will be followed when the misuse of alcohol or drugs is evident. All Non-BAS staff and visitors are expected to meet BAS standards of behaviour in the use of alcohol and drugs; instances of abuse/suspected abuse will be referred to their employers.

**Note:** Masters on BAS ships will be required to use the relevant section of the 'Merchant Navy Code of Conduct' when incidents involve Mariners signed under Articles. The rules relating to Masters are different and need to be referred to BAS Human Resources.

The following policy will apply when dealing with all non-mariners on board BAS vessels and all incidents involving Mariners who are signed off Articles e.g. in transit or shore side.

#### Alcohol

Incidences of misuse fall into 4 main categories:

- anti-social behaviour (including noise, violence or a hostile atmosphere);
- adverse impact on performance and ability to work;
- chronic and acute health problems;
- safety, including personal safety and the ability to respond in an emergency.

They will all be treated in the same way (except in respect of consideration of mitigating circumstances where a medical problem has been pre-advised).

#### **First Incident**

- The BC/Line Manager/Master may treat a first incident as a minor offence (although this will depend on the circumstances at the time, and the degree of damage/operational and reputational risk involved).
- An immediate oral reprimand will be issued, making clear that any further occurrence is likely to result in more serious disciplinary action.
- There is no requirement to give individuals a written record of the reprimand, but it is recommended that a brief note of the discussion (i.e. date, theme and initials) is recorded for future reference. If a line manager issues an oral warning, the BC/Master should be informed.

#### **Repeat/Repeated Incidents/Serious First Incident**

- BCs/Line Manager (LM)/Masters are required to contact BAS Human Resources for guidance as soon as possible. This is obviously critical when there are any injuries or when any external authorities are involved.
- The BC/LM/Master will inform the individual orally that the matter is potentially serious and that formal disciplinary procedures may be used. BAS Human

Resources will then liaise with management to carry out any necessary investigation, which may include taking statements from witnesses.

- The Head of Human Resources, consulting with the Head of Corporate Services and relevant senior management will consider the evidence and make a decision as to: whether there is a case to answer; whether the matter may be dealt with informally; or whether a formal disciplinary panel is required.
- If a formal disciplinary panel is required the individual will be charged in writing and will be required to attend a hearing (with the right to be accompanied by a Trade Union Representative, colleague or friend not involved in the incident if desired). Individuals will be given the opportunity to make a statement in writing beforehand, and to give their account at the hearing itself.
- After the hearing BCs/LMs/Masters will send a note of the meeting and any other relevant documentary evidence to the Head of Human Resources, who will liaise with the Director, BAS. If the charge is considered proven a penalty will be applied. Penalties that may be applied include a written warning, demotion, suspension without pay or removal of Antarctic or other bonuses. Individuals may also be required to compensate BAS for any loss.
- In serious cases that are considered gross misconduct (in line with Policy Notice 6.2), individuals can expect to be dismissed.
- Staff may appeal the outcome of a disciplinary hearing in line with the procedure set out in Policy Notice 6.2.
- BAS reserves the right to accelerate the process or repatriate any member of staff before the above process is complete when to do otherwise could jeopardise the safety and or well-being of the individual involved, or unduly affect BAS operations.

For further details about disciplinary processes and appeal procedures, staff are advised to consult their specific terms and conditions of service and or speak to BAS Human Resources.

### **Drugs**

BAS does not tolerate the use of illegal drugs. A first offence will be treated as a serious breach of discipline requiring immediate formal action. If South, individuals are likely to be repatriated immediately (or as soon as practicable) to the UK, followed by dismissal if the charge is considered proven.

## **Appendix B**

### **Guidance on Alcohol Consumption**

#### **Introduction**

BAS recognises that alcohol can play a useful role in providing a diversion from the pressures of work when used in moderation, off duty, for social and relaxation purposes. It also recognises that a research station or vessel can be a person's home for long periods as well as a place of work. However, the abuse of alcohol is a very high-risk activity for individuals, their colleagues and BAS operations. When the work location is remote, the risk is even greater. The emphasis therefore must be on moderation and application of the general policy.

The maximum blood alcohol level for a professional seaman (including Masters and other professional seafarers) who is on duty is the same as for driving in the UK, 80 milligrams (mg) of alcohol in 100 millilitres (ml) of blood or 35 micrograms of alcohol in 100ml of breath. This also applies to non-marine staff when working during scientific cruises, and when a mariner is not on duty but in the event of an emergency would be required to take action to protect the safety of passengers.

The limit for Pilots and aircrew and Air Traffic Controllers is 20mg in 100ml of blood or 9 micrograms in 100ml of breath. For aircraft Maintenance Engineers the limits are the same as for ships crew set out in the previous paragraph.

#### **Advice on Amount of Alcohol Consumed**

The BAS Senior Medical Officer recommends that for operational purposes personal alcohol consumption should not exceed 21 units/week for men or 14 units/week for women. This is lower than the maximum consumption advised by the government in UK which is 28 units/week for men and 21/week for women, but BASMU consider that the unique nature of the Antarctic environment makes a lower level sensible for the following reasons:

- Alcohol can have dangerous physiological effects in modifying the body's response to cold.
- Accidents are more likely with greater alcohol consumption.
- Greater alcohol consumption can have deleterious effects on the group social dynamics.
- Medical care for the chronic effects of alcohol is more difficult in the Antarctic.

A unit is equal to:

- a half pint of normal strength beer
- a single measure (25ml) of spirits or a small glass of wine (125mls) ;
- strong lagers, beers or cider should be counted as 3 to 4 measures per pint

The "standard" wine glass is only 125mls, and "standard" wine is 10% alcohol. Most wines are 12-14% alcohol and most glasses are 175mls. Each glass is usually therefore about 1.6 to 2.2 units.

There is medical evidence that a very moderate amount of alcohol is beneficial to your health. It does not matter in what form this is consumed (there is no evidence that red wine is better than anything else).

Ideally individuals should aim for a couple of alcohol free days a week. Frequent binge drinking (drinking more than 5 or 6 units in one sitting) is unhealthy, potentially unsafe and should be avoided.

Everyone's individual response to alcohol varies, but as a general guide one unit of alcohol will give a blood concentration of about 20mg% (the driving limit in UK is 80mg%, in many other countries however it is 50mg% and the Government is considering reducing it to this level). It takes at least an hour to get rid of one unit from the body's systems. So the faster you drink, the higher your blood alcohol level will become.

Sensible drinking is therefore paced drinking.

If you are likely to be required to respond to an emergency you should always try to keep below the UK legal driving level as any increase above this leads to marked deterioration in your ability to react, think straight, and generally do your job.

If you drink a lot, it will take many hours to eliminate all the alcohol in your body. If your blood alcohol is 160mg/100ml at 0200, you will not be below the driving limit until 0700-0900. You will not be completely sober until 1000-1200. Remember this if you are required to operate machinery next morning after a party.

## **Effects of Alcohol**

These can be split into two; the effects of a lot of alcohol at one time (acute or binge effects) and those which happen over a longer time span (chronic effects).

Binge drinking incurs considerable risks from:

- Alcohol poisoning.
- Irrational behaviour.
- Choking and death through inhalation of vomit.
- Increased risk of injury.
- Interpersonal violence.

Research has demonstrated that there is an increased risk of accidents due to:

- Impaired judgement.
- Reduced reaction times.
- Failure to respond appropriately to emergencies.

Those who work under the influence of drink or are incapacitated by drink are unable to carry out their duties safely and are a risk to the health and safety of their colleagues as well as themselves.

Alcohol dilates peripheral blood vessels and can lead to problems maintaining the core body temperature; this is especially dangerous in the weather conditions prevalent in the Antarctic.

Regular, excessive consumption of alcohol can lead to:

- Deterioration in personal health.
- Liver damage.
- Lowered resistance to infection.
- Changes in behaviour.
- Alcohol dependence and more serious potentially fatal medical conditions in the long term.
- Serious potentially fatal medical conditions such as Liver Cirrhosis, Pancreatitis and Oesophageal Varices in the longer term.

### **Signs of Alcohol Misuse**

These include:

- Hand tremor.
- Facial flushing and bleary eyes.
- Proneness to accidents.
- Moodiness, irritability and lethargy.
- Decreased work performance, poor time keeping and/or absenteeism.
- The shakes (delirium tremens).

Some of these symptoms may also be indicative of general ill health.



## **Appendix C**

### **Drug Misuse**

#### **General**

Drug misuse is defined as the possession (without prescription), supply or production of controlled drugs and substances listed in the Misuse of Drugs Act 1971 (including cocaine and crack, ecstasy and GHB, heroin and other opiates, LSD, amphetamines (speed), barbiturates, some minor tranquillisers and cannabis).

Whether deliberate or unintentional it is an offence to possess, supply or produce any of these substances, or to knowingly allow drugs to be used, supplied or produced anywhere on BAS premises or ships.

It is an offence under UK law for a professional seaman or aircrew to be under the influence of a drug whilst on duty if that drug impairs their judgement or ability to do their job.

It is not illegal for an individual to possess drugs prescribed by a doctor for their own use. Possession of these drugs for medicinal use on BAS premises is not a disciplinary offence. Staff and visitors should note however that prescribed drugs must not be passed to others. Individuals must be aware of their duties under health and safety legislation and ensure that, whilst under the influence of prescribed drugs, they do not carry out activities that could create a danger to themselves or others.

The use of solvents or materials containing solvents as intoxicants is illegal and is not allowed anywhere on BAS premises or ships.

#### **Recognising Cases of Drug Misuse**

A drug problem in an individual is identifiable in various ways and drugs affect different people in different ways.

The signs include:

- Increased short-term sick absence.
- Changes in appearance.
- Loss of efficiency.
- Behavioural changes.
- More frequent mistakes and accidents.
- Memory loss.
- Deterioration in relationships with other people.
- Poor time keeping and unexpected absences.

#### **Line Manager's Responsibilities**

It is not a line manager's responsibility to diagnose drug abuse, but to identify problems with performance. If a drug problem is suspected managers must immediately advise senior management and seek advice from BAS Human Resources.

**Base Commanders, ships Masters and senior management are entitled to search premises and seize illegal substances brought on to BAS premises or ships when there is a reasonable suspicion that such substances are present.**

## The sun protection six-point code

- Keep your top on. Clothing forms a barrier to the sun's harmful rays – especially tightly woven fabrics.
- Wear a hat with a brim or a flap that covers the ears and the back of the neck – these areas can easily get sunburnt.
- Stay in the shade whenever possible, during your breaks and especially at lunch time.
- Use a high factor sunscreen of at least SPF15 on any exposed skin. Apply as directed on the product.
- Drink plenty of water to avoid dehydration.
- Check your skin regularly for any unusual moles or spots. See a doctor promptly if you find anything that is changing in shape, size or colour, itching or bleeding.

## Further information

*Keep your top on* INDG147(rev1) 1998 HSE Books, also available in priced packs of 20 ISBN 0 7176 1578 2. A leaflet on sun protection for outdoor workers.

While every effort has been made to ensure the accuracy of the references listed in this publication, their future availability cannot be guaranteed.

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: [www.hsebooks.co.uk](http://www.hsebooks.co.uk) (HSE priced publications are also available from good booksellers.)

For information about health and safety ring HSE's InfoLine Tel: 08701 545500 Fax: 02920 859260 e-mail: [hseinformationservices@natbrit.com](mailto:hseinformationservices@natbrit.com) or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG. You can also visit HSE's website: [www.hse.gov.uk](http://www.hse.gov.uk)

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 20 from HSE Books, ISBN 0 7176 1982 6. Single free copies are also available from HSE Books.

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# Sun protection



advice for employers of  
**outdoor workers**



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If you are an employer or manager responsible for people whose work keeps them outside for most of the day, please read this leaflet. It gives advice on reducing the health risks for your employees when they are working in the sun.

Exposure to ultraviolet (UV) radiation from the sun can cause skin damage including sunburn, blistering, skin ageing and in the long term can lead to skin cancer. Skin cancer is the most common form of cancer in the UK, with over 40 000 new cases diagnosed each year.

UV radiation should be considered an occupational hazard for people who work outdoors.

## Who is at risk?

- People with pale skin are most at risk of skin damage, especially those with fair or red hair, with a lot of freckles or with a family history of skin cancer.
- People with brown or black skin are at low risk but people of all skin colours can suffer from overheating and dehydration.

## As an employer you can..

- Include sun protection advice in routine health and safety training. Inform workers that a tan is not healthy – it is a sign that skin has already been damaged by the sun.
- Encourage workers to keep covered up during the summer months – especially at lunch time when the sun is at its hottest. They can cover up with a long-sleeved shirt, and a hat with a brim or flap that protects the ears and neck.
- Encourage workers to use sunscreen of at least SPF (Sun Protection Factor) 15 on any part of the body they can't cover up and to apply it as directed on the product. They might prefer to use a spray or an alcohol-based (non-greasy) sunscreen.

- Encourage workers to take their breaks in the shade, if possible, rather than staying out in the sun.
- Consider scheduling work to minimise exposure.
- Site water points and rest areas in the shade.
- Encourage workers to drink plenty of water to avoid dehydration.
- Keep your workers informed about the dangers of sun exposure – make use of the Health and Safety Executive (HSE) leaflet *Keep your top on* [see 'Further information'].
- Encourage workers to check their skin regularly for unusual spots or moles that change size, shape or colour and to seek medical advice promptly if they find anything that causes them concern.

Consulting your employees and their safety representatives is important. Take their views into account when introducing any new sun safety initiatives.

## What are the benefits to your company?

- Fewer absence days through sunburn.
- A healthier and better-informed workforce.
- Reduced risk to employees of skin cancer from long-term sun exposure.





# SHIPBOARD GARBAGE DISPOSAL

This notice explains the basic garbage disposal practices to be followed onboard to comply with MARPOL 73/78 Annex V and provisions of the Antarctic Treaty. Full details of the ship's Garbage Management Plan are contained in the Master's Standing Orders.

No garbage of any type is to be discharged directly overboard unless express permission has been granted by the Chief Officer.

All personnel are required to separate garbage and dispose of it in the correct manner as set out below.

GARBAGE TYPE	BIN	FINAL DISPOSAL
Dry Plastics and Synthetic materials	WHITE LIDDED	Shore facility
Paper, Cardboard, Fruit Peel, Tea Bags, Egg Shells, Milk cartons, Sanitary Towels, Condoms, Bones and heavy skins from the galley.	BLUE LIDDED	Incinerator or Shore facility in port
Cans and Bottles, Broken Glass and Crockery.	RED LIDDED	Shredded then sacked and stored to be discharged to a shore facility. Direct to shore facility in port without shredding.
Oil and Paint Impregnated Rags and Cotton waste.	YELLOW LIDDED	Stored and discharged to shore facility.
Aerosols and Batteries	GREEN LIDDED	Stored and discharged to shore facility.
Wet Food Slops	Slop Buckets then Waste food disposer	The comminuted waste will be discharged directly overboard except within 12nm of the coast when it will be held in the ship's retention tank. In certain ports wet food slops will be discharged directly to a shore facility.
Wet Plastic Food Wrappings	Waste Chest deep freezer	Contents to be compacted as necessary and replaced in chest freezer. Contents to be discharged to shore facility.
Waste Poultry Products	Treated by boiling for at least 10 minutes	Comminuted as wet food slops or Incinerated
Cooking Oil	Dirty Lub Oil Tank	Shore facility.
Incinerator Ash	Collected	Shore facility
Waste FO, Lub Oil, Hydraulic Oil	Dirty Lub Oil Tank	Shore facility.
Fluorescent Tubes and Lamps	To be handed to Electrical Officer	Shore facility.
Cargo Hold Waste	Collected	Shore facility.
Hazardous / Medical Waste	Refer to the Chief Officer	Shore facility.
Bilge Waste	Bilge Retention Tank	Shore facility or via oily water separator outside restricted areas.