

# Enclosed Spaces

## Contents

Deaths Still Happening .....	1
Making the Same Mistakes .....	2
Identifying an Enclosed Space .....	2
Stevedores.....	3
What Training is Needed? .....	4
Conclusion.....	4
IMO Recommendations .....	5



## Deaths Still Happening

Few aspects of personal safety on ships have received more attention than the importance of following the correct procedures before entering an enclosed space. Unfortunately, fatalities and serious injuries continue to happen with relentless regularity - almost every one of which could have been prevented if the correct procedures had been followed.

Serious efforts have been made by many different sectors of the shipping industry to raise awareness of the dangers of entering enclosed spaces. Despite all these efforts, the death toll continues to mount.

### Disclaimer

The purpose of this publication is to provide a source of information which is additional to that available to the maritime industry from regulatory, advisory, and consultative organisations. Whilst care is taken to ensure the accuracy of any information made available no warranty of accuracy is given and users of that information are to be responsible for satisfying themselves that the information is relevant and suitable for the purposes to which it is applied. In no circumstances whatsoever shall North be liable to any person whatsoever for any loss or damage whatsoever or howsoever arising out of or in connection with the supply (including negligent supply) or use of information.

Unless the contrary is indicated, all articles are written with reference to English Law. However it should be noted that the content of this publication does not constitute legal advice and should not be construed as such. Members should contact North for specific advice on particular matters

# Enclosed Spaces

This briefing aims to provide yet another reminder about the correct procedures which must be followed before entering an enclosed space to be sure of coming out alive.

Included in this briefing is the text of the IMO's Revised Recommendations for Entering Enclosed Spaces Aboard Ships (Resolution A.1050(27)), which contains advice on assessment of risk, testing of atmospheres and precautions during entry. It also covers hazards related to specific types of cargo, including oxygen-depleting cargoes and materials.

The advice within the briefing has a straightforward aim, that of protecting personnel through the safe and proper implementation of entry procedures - from the correct identification of a confined or enclosed space through to atmospheric testing, safe rescue procedures and an appreciation of the hazards to be found within such dangerous spaces.

Safe working in enclosed spaces must be a top priority within a vessel's safety management system. But accidents, sometimes involving highly experienced personnel, continue to happen despite the introduction of modern safety management systems, procedures and techniques.

## Making the Same Mistakes

The story behind the majority of incidents is all too familiar. One person enters an enclosed space without having taken the necessary precautions then collapses from either lack of oxygen or toxic fumes. The collapsed person is then seen by a second person who, without taking any precautions, attempts a rescue and he or she also collapses. It is not unknown for even a third or fourth person to be overcome in the same way in the belief that they can do better. Eventually, someone stops to think and follows the correct procedures. An emergency party, with the correct rescue equipment, is mustered and carries out a controlled rescue. Unfortunately, asphyxiation can be very rapid, and will often result in emergency crews recovering multiple fatalities.

It is vital to stress the fact that an unplanned rescue will most likely end in tragedy as personnel repeatedly rush into lethal atmospheres under the misconception that they will be able to save colleagues. According to the International Association of Classification Societies (IACS)

over 50% of the workers who die in confined spaces are attempting to rescue other workers.

It is also vital to remember that personnel should never trust their senses to determine if the air in a confined space is safe. Many toxic gases and vapours cannot be seen or smelt, nor can personnel determine the level of oxygen present without properly testing the atmosphere.

What is most surprising is that enclosed space accidents appear to involve a wide range of people, including highly qualified and experienced seafarers as well as stevedores and even surveyors.

It is perhaps understandable, from a human point of view, to appreciate that one's first reaction on seeing a collapsed colleague is to rush to their assistance. Whilst the intention is good, it is virtual suicide - compounding an already tragic situation.

Almost all the people who die in enclosed spaces have received training and are well aware of the correct procedures. In the agony of the moment, they choose to disregard those procedures.

Letting your guard down just once can be fatal – vigilance saves lives and adherence to this advice will underpin any existing efforts to enter enclosed spaces safely.

## Identifying an Enclosed Space

Identifying a space as enclosed and therefore potentially dangerous will often be sufficient to deter crew members from entering until proper preventative measures can be put in place.

International Maritime Organization (IMO) recommendations published in an annex to resolution A.1050(27) suggest enclosed spaces can be identified by asking the following questions.

- Is the space provided with limited openings for entry and exit?
- Is the space subject to poor natural ventilation?
- Is the space not designed for continuous occupancy?

If the answer to any of these questions is 'yes', the space should not be entered until an appropriate assessment of risk has been carried out.

# Enclosed Spaces

## Warning signs

In addition to discussing enclosed spaces during familiarisation training, posting 'Enclosed Space' prohibition signs adjacent to access points may act as a timely reminder of the need to take suitable precautions before entering.



## Rules and regulations

In the UK, the Merchant Shipping Regulations state that procedures for ensuring safe entry to, and working in, dangerous spaces should be clearly laid down by the ship operators and that the master should ensure such procedures are observed on board ship.

The regulations further state that, except where necessary for entry, a ship should ensure entrances to unattended dangerous spaces are either kept closed or otherwise secured against entry.

Other flag administrations have similar rules and regulations. Whilst the ISM Code does not contain such explicit rules and regulations, they are certainly implied within a properly constituted safety management system. Indeed, there are few who would doubt such regulations represent good practice, irrespective of flag.

## Stevedores

### Controlling stevedore entry into enclosed spaces

IMO Resolution A.1050(27), which provides comprehensive guidance on procedures for entering

enclosed spaces on ships, defines 'enclosed spaces' as those with limited openings for entry and exit, unfavourable natural ventilation and not designed for continuous worker occupancy.

Clearly this includes many cargo spaces, so it is vital when loading and discharging that access by stevedores is carefully monitored and controlled in compliance with the ship's enclosed space entry procedures.

As with any enclosed space on a ship, the atmosphere in a cargo space may be deficient in oxygen, contain flammable gases or vapours, or contain toxic gases or vapours. Many types of cargo create specific hazards. For example, certain packaged dangerous goods may contain flammable, toxic or corrosive gases or vapours that displace oxygen. On ships carrying solid bulk cargoes, dangerous atmospheres may develop in cargo spaces and adjacent spaces. Cargo spaces may also be fumigated.

Oxygen depletion is a particular hazard from some cargo, caused by self-heating, oxidation of metals and ores, or decomposition of vegetable oils, animal fats, grain and other organic materials or their residues. Materials such as grain, some types of wood, fishmeal, and scrap metal are known to be capable of causing oxygen depletion. This list is not exhaustive; oxygen depletion may also be caused by other materials of vegetable or animal origin, by flammable or spontaneously combustible materials, and by materials with a high metal content.

### Controlling stevedore access

It is therefore vital that the ship's safety management system includes proper procedures for entry into enclosed spaces, and that they are rigorously followed. More importantly, it is essential that these procedures control how stevedores gain access to cargo compartments.

In order to ensure safety, a competent person should always make a preliminary assessment of any potential hazards in the space to be entered, taking into account the cargo carried, or previously carried, ventilation of the space and other relevant factors. The competent person's preliminary assessment should determine the potential for the presence of an oxygen-deficient, flammable or toxic atmosphere. The procedures to be followed for testing the atmosphere in the space and for the entry should be decided on the basis of the preliminary assessment.

# Enclosed Spaces

No stevedore should open or enter a cargo space unless authorised by the master or responsible duty officer and unless the appropriate safety procedures laid down for the particular ship have been followed.

## What Training is Needed?

MAIIF statistics have identified the following as the most common contributory factors in enclosed space accidents:

- Complacency leading to lapses in procedures
- Lack of knowledge
- Potentially dangerous spaces not being identified
- Would-be rescuers acting on instinct and emotion rather than knowledge and training.

Because many people tend to respond to instinct rather than what they have been told, theoretical training should be reinforced by frequent practical drills and exercises involving the whole crew.

Practice does not just make perfect, it also makes permanent and instinctive.

*Posters can also help people remember what they have been taught. North's posters are reproduced in this briefing and high resolution copies can be downloaded from the Club's website: [www.nepia.com](http://www.nepia.com)*



## Conclusion

Fatalities will only be prevented when shipowners and managers implement, and ensure compliance with, procedures on board that incorporate relevant national legislation, international recommendations and industry best practice.

All potentially dangerous spaces should be clearly identified to crew members and suitable warning signs posted adjacent to their access points.

Crew members should comply with their company procedures each and every time they enter an enclosed space for whatever reason.

Following a decision to enter an enclosed space, senior officers and safety officials should properly plan and prepare the entry ensuring that the correct equipment and suitably trained personnel are available. The master or responsible officer should always complete an appropriate risk assessment and use an 'Entry into Enclosed Spaces permit'.

Such permits may incorporate a suitable checklist card.

# Enclosed Spaces

## IMO Recommendations

### IMO Recommendations for Entering Enclosed Spaces Aboard Ships - Annex to Resolution A1050 (27) - adopted 30 November 2011

#### 1 INTRODUCTION

The atmosphere in any enclosed space may be oxygen-deficient or oxygen-enriched and/or contain flammable and/or toxic gases or vapours. Such unsafe atmospheres could also subsequently occur in a space previously found to be safe. Unsafe atmospheres may also be present in spaces adjacent to those spaces where a hazard is known to be present.

#### 2 DEFINITIONS

2.1 Enclosed space means a space which has any of the following characteristics:

2.1.1 limited openings for entry and exit;

2.1.2 inadequate ventilation; and

2.1.3 is not designed for continuous worker occupancy, and includes, but is not limited to, cargo spaces, double bottoms, fuel tanks, ballast tanks, cargo pump-rooms, cargo compressor rooms, cofferdams, chain lockers, void spaces, duct keels, inter-barrier spaces, boilers, engine crankcases, engine scavenge air receivers, sewage tanks, and adjacent connected spaces. This list is not exhaustive and a list should be produced on a ship-by-ship basis to identify enclosed spaces.

2.2 *Adjacent connected space* means a normally unventilated space which is not used for cargo but which may share the same atmospheric

characteristics with the enclosed space such as, but not limited to, a cargo space access way.

2.3 *Competent person* means a person with sufficient theoretical knowledge and practical experience to make an informed assessment of the likelihood of a dangerous atmosphere being present or subsequently arising in the space.

2.4 *Responsible person* means a person authorized to permit entry into an enclosed space and having sufficient knowledge of the procedures to be established and complied with on board, in order to ensure that the space is safe for entry.

2.5 *Attendant* means a person who is suitably trained within the safety management system, maintains a watch over those entering the enclosed space, maintains communications with those inside the space and initiates the emergency procedures in the event of an incident occurring.

#### 3 SAFETY MANAGEMENT FOR ENTRY INTO ENCLOSED SPACES

3.1 The safety strategy to be adopted in order to prevent accidents on entry to enclosed spaces should be approached in a comprehensive manner by the company.

3.2 The company should ensure that the procedures for entering enclosed spaces are included among the key shipboard operations concerning the safety of the personnel and the ship, in accordance with paragraph 7 of the International Safety Management (ISM) Code.

3.3 The company should elaborate a procedural implementation scheme which provides for training in the use of atmospheric testing equipment in such spaces and a Schedule of regular onboard drills for crews.

3.3.1 Competent and responsible persons should be trained in enclosed space hazard recognition, evaluation, measurement, control and elimination, using standards acceptable to the Administration.

# Enclosed Spaces

3.3.2 Crew members should be trained, as appropriate, in enclosed space safety, including familiarization with onboard procedures for recognizing, evaluating and controlling hazards associated with entry into enclosed spaces.

3.4 Internal audits by the company and external audits by the Administration of the ship's safety management system should verify that the established procedures are complied with in practice and are consistent with the safety strategy referred to in paragraph 3.1.

## 4 ASSESSMENT OF RISK

4.1 The company should ensure that a risk assessment is conducted to identify all enclosed spaces on board the ship. This risk assessment should be periodically revisited to ensure its continued validity.

4.2 In order to ensure safety, a competent person should always make a preliminary assessment of any potential hazards in the space to be entered, taking into account previous cargo carried, ventilation of the space, coating of the space and other relevant factors. The competent person's preliminary assessment should determine the potential for the presence of an oxygen-deficient, oxygen-enriched, flammable or toxic atmosphere. The competent person should bear in mind that the ventilation procedures for an adjacent connected space may be different from the procedures for the ventilation of the enclosed space itself.

4.3 The procedures to be followed for testing the atmosphere in the space and for entry should be decided on the basis of the preliminary assessment. These will depend on whether the preliminary assessment shows that:

4.3.1 There is minimal risk to the health or life of personnel entering the space; or

4.3.2 There is no immediate risk to health or life but a risk could arise during the course of work in the space; or

4.3.3 a risk to health or life is identified.

4.4 Where the preliminary assessment indicates minimal risk to health or life or potential for a risk to arise during the course of work in the space, the precautions described in sections 5, 6, 7 and 8 should be followed, as appropriate.

4.5 Where the preliminary assessment identifies a risk to life or health, if entry is to be made, the additional precautions specified in section 9 should also be followed.

4.6 Throughout the assessment process, there should be an assumption that the space to be entered is considered to be hazardous until positively proved to be safe for entry.

## 5 AUTHORIZATION OF ENTRY

5.1 No person should open or enter an enclosed space unless authorized by the master or the nominated responsible person and unless the appropriate safety procedures laid down for the particular ship have been followed.

5.2 Entry into enclosed spaces should be planned and the use of an entry permit system, which may include the use of a checklist, is recommended. An Enclosed Space Entry Permit should be issued by the master or the nominated responsible person, and completed by the personnel who enter the space prior to entry. An example of the Enclosed Space Entry Permit is provided in the appendix.

## 6 GENERAL PRECAUTIONS

6.1 Entry doors or hatches leading to enclosed spaces should at all times be secured against entry, when entry is not required.

6.2 A door or hatch cover which is opened to provide natural ventilation of an enclosed space may, wrongly, be taken to be an indication of a safe atmosphere and therefore, an attendant may be stationed at the entrance or the use of a mechanical barrier, such as a rope or chain positioned across the opening with an attached warning sign, could prevent such accidental entry.

# Enclosed Spaces

6.3 The master or the responsible person should determine that it is safe to enter an enclosed space by ensuring that:

6.3.1 potential hazards have been identified in the assessment and as far as possible isolated or made safe;

6.3.2 the space has been thoroughly ventilated by natural or mechanical means to remove any toxic or flammable gases and to ensure an adequate level of oxygen throughout the space;

6.3.3 the atmosphere of the space has been tested as appropriate with properly calibrated instruments to ascertain acceptable levels of oxygen and acceptable levels of flammable or toxic vapours;

6.3.4 the space has been secured for entry and properly illuminated;

6.3.5 a suitable system of communication between all parties for use during entry has been agreed and tested;

6.3.6 an attendant has been instructed to remain at the entrance to the space whilst it is occupied;

6.3.7 rescue and resuscitation equipment has been positioned ready for use at the entrance to the space and rescue arrangements have been agreed;

6.3.8 personnel are properly clothed and equipped for the entry and subsequent tasks; and

6.3.9 a permit has been issued, authorizing entry.

The precautions in subparagraphs .6 and .7 may not apply to every situation described in this section. The person authorizing entry should determine whether an attendant and the positioning of rescue equipment at the entrance to the space are necessary.

6.4 Only trained personnel should be assigned the duties of entering, functioning as attendants or functioning as members of rescue teams. Ships' crews with rescue and first aid duties should be drilled periodically in rescue and first aid procedures. Training should include as a minimum:

6.4.1 identification of the hazards likely to be faced during entry into enclosed spaces;

6.4.2 recognition of the signs of adverse health effects caused by exposure to hazards during entry; and

6.4.3 knowledge of personal protective equipment required for entry.

6.5 All equipment used in connection with entry should be in good working condition and inspected prior to use.

## 7 TESTING THE ATMOSPHERE

7.1 Appropriate testing of the atmosphere of a space should be carried out with properly calibrated equipment by persons trained in the use of the equipment. The manufacturers' instructions should be strictly followed. Testing of the space should be carried out before any person enters the space and at regular intervals thereafter until all work is completed. Where appropriate, the testing of the space should be carried out at as many different levels as is necessary to obtain a representative sample of the atmosphere in the space. In some cases it may be difficult to test the atmosphere throughout the enclosed space without entering the space (e.g. the bottom landing of a stairway) and this should be taken into account when assessing the risk to personnel entering the space. The use of flexible hoses or fixed sampling lines, which reach remote areas within the enclosed space, may allow for safe testing without having to enter the space.

7.2 For entry purposes, steady readings of all of the following should be obtained:

7.2.1 21% oxygen by volume by oxygen content meter;

**Note:** National requirements may determine the safe atmosphere range.

7.2.2 not more than 1% of lower flammable limit (LFL) on a suitably sensitive combustible gas indicator, where the preliminary assessment has determined that there is potential for flammable gases or vapours; and

# Enclosed Spaces

7.2.3 not more than 50% of the occupational exposure limit (OEL)\* of any toxic vapours and gases. If these conditions cannot be met, additional ventilation should be applied to the space and re-testing should be conducted after a suitable interval.

\* It should be noted that the term Occupational Exposure Limit (OEL) includes the Permissible Exposure Limit (PEL), Maximum Admissible Concentration (MAC) and Threshold Limit Value (TLV) or any other internationally recognized terms.

7.3 Any gas testing should be carried out with ventilation to the enclosed space stopped, and after conditions have stabilized, in order to obtain accurate readings.

7.4 Where the preliminary assessment has determined that there is potential for the presence of toxic gases and vapours, appropriate testing should be carried out, using fixed or portable gas or vapour detection equipment. The readings obtained by this equipment should be below the occupational exposure limits for the toxic gases or vapours given in accepted national or international standards, in accordance with paragraph 7.2. It should be noted that testing for flammability or oxygen content does not provide a suitable means of measuring for toxicity, nor vice versa.

7.5 It should be emphasized that the internal structure of the space, cargo, cargo residues and tank coatings may also present situations where oxygen-deficient areas may exist, and should always be suspected, even when an enclosed space has been satisfactorily tested as being suitable for entry. This is particularly the case for spaces where the path of the supply and outlet ventilation is obstructed by structural members or cargo.

## 8 PRECAUTIONS DURING ENTRY

8.1 The atmosphere should be tested frequently whilst the space is occupied and persons should be instructed to leave the space should there be deterioration in the conditions.

8.2 Persons entering enclosed spaces should be provided with calibrated and tested multi-gas

detectors that monitor the levels of oxygen, carbon monoxide and other gases as appropriate.

8.3 Ventilation should continue during the period that the space is occupied and during temporary breaks. Before re-entry after a break, the atmosphere should be re-tested. In the event of failure of the ventilation system, any persons in the space should leave immediately.

8.4 Particular care should be exhibited when working on pipelines and valves within the space. If conditions change during the work, increased frequency of testing of the atmosphere should be performed. Changing conditions that may occur include increasing ambient temperatures, the use of oxygen-fuel torches, mobile plant, work activities in the enclosed space that could evolve vapours, work breaks, or if the ship is ballasted or trimmed during the work.

8.5 In the event of an emergency, under no circumstances should the attending crew member enter the space before help has arrived and the situation has been evaluated to ensure the safety of those entering the space to undertake rescue operations. Only properly trained and equipped personnel should perform rescue operations in enclosed spaces.

## 9 ADDITIONAL PRECAUTIONS FOR ENTRY INTO A SPACE WHERE THE ATMOSPHERE IS KNOWN OR SUSPECTED TO BE UNSAFE

9.1 Spaces that have not been tested should be considered unsafe for persons to enter. If the atmosphere in an enclosed space is suspected or known to be unsafe, the space should only be entered when no practical alternative exists. Entry should only be made for further testing, essential operation, safety of life or safety of a ship. The number of persons entering the space should be the minimum compatible with the work to be performed.

9.2 Suitable breathing apparatus, e.g. of the air-line or self-contained type, should always be worn, and only personnel trained in its use should be allowed to enter the space. Air-purifying respirators should not be used as they do not provide a supply of



# Enclosed Spaces

clean air from a source independent of the atmosphere within the space.

- 9.3 Persons entering enclosed spaces should be provided with calibrated and tested multi-gas detectors that monitor the levels of oxygen, carbon monoxide and other gases as appropriate.
- 9.4 Rescue harnesses should be worn and, unless impractical, lifelines should be used.
- 9.5 Appropriate protective clothing should be worn, particularly where there is any risk of toxic substances or chemicals coming into contact with the skin or eyes of those entering the space.
- 9.6 The advice in paragraph 8.5 concerning emergency rescue operations is particularly relevant in this context.

## 10 HAZARDS RELATED TO SPECIFIC TYPES OF SHIPS OR CARGO

### 10.1 Dangerous goods in packaged form

- 10.1.1 The atmosphere of any space containing dangerous goods may put at risk the health or life of any person entering it. Dangers may include flammable, toxic or corrosive gases or vapours that displace oxygen, residues on packages and spilled material. The same hazards may be present in spaces adjacent to the cargo spaces. Information on the hazards of specific substances is contained in the International Maritime Dangerous Goods (IMDG) Code, the Emergency Procedures for Ships Carrying Dangerous Goods (EMS) and Material Safety Data Sheets (MSDS)\*. If there is evidence or suspicion that leakage of dangerous substances has occurred, the precautions specified in section 9 should be followed.

\* Refer to the *Recommendations for material safety data sheets (MSDS) for MARPOL Annex I oil cargo and oil fuel* (resolution MSC.286(86)).

- 10.1.2 Personnel required to deal with spillages or to remove defective or damaged packages should be appropriately trained and wear suitable

breathing apparatus and appropriate protective clothing.

### 10.2 Liquid bulk

The tanker industry has produced extensive advice to operators and crews of ships engaged in the bulk carriage of oil, chemicals and liquefied gases, in the form of specialist international safety guides. Information in the guides on enclosed space entry amplifies these recommendations and should be used as the basis for preparing entry plans.

### 10.3 Solid bulk

On ships carrying solid bulk cargoes, dangerous atmospheres may develop in cargo spaces and adjacent spaces. The dangers may include flammability, toxicity, oxygen depletion or self-heating, as identified in the shipper's declaration. For additional information, reference should be made to the International Maritime Solid Bulk Cargoes (IMSBC) Code.

### 10.4 Use of Nitrogen as an inert gas\*

Nitrogen is a colourless and odourless gas that, when used as an inert gas, causes oxygen deficiency in enclosed spaces and at exhaust openings on deck during purging of tanks and void spaces and use in cargo holds. It should be noted that one deep breath of 100% nitrogen gas will be fatal.

\* Refer to the Guidelines on tank entry for tankers using nitrogen as an inerting medium MSC.1/Circ.1401).

### 10.5 Oxygen-depleting cargoes and materials

A prominent risk with such cargoes is oxygen depletion due to the inherent form of the cargo, for example, self-heating, oxidation of metals and ores or decomposition of vegetable oils, fish oils, animal fats, grain and other organic materials or their residues. The materials listed below are known to be capable of causing oxygen depletion. However, the list is not exhaustive. Oxygen depletion may also be caused by other

# Enclosed Spaces

materials of vegetable or animal origin, by flammable or spontaneously combustible materials and by materials with a high metal content, including, but not limited to:

- 10.5.1 grain, grain products and residues from grain processing (such as bran, crushed grain, crushed malt or meal), hops, malt husks and spent malt;
- 10.5.2 oilseeds as well as products and residues from oilseeds (such as seed expellers, seed cake, oil cake and meal);
- 10.5.3 copra;
- 10.5.4 wood in such forms as packaged timber, round wood, logs, pulpwood, props (pit props and other propwood), woodchips, woodshavings, wood pellets and sawdust;
- 10.5.5 jute, hemp, flax, sisal, kapok, cotton and other vegetable fibres (such as esparto grass/Spanish grass, hay, straw, bhusa), empty bags, cotton waste, animal fibres, animal and vegetable fabric, wool waste and rags;
- 10.5.6 fish, fishmeal and fishscrap;
- 10.5.7 guano;
- 10.5.8 sulphidic ores and ore concentrates;
- 10.5.9 charcoal, coal, lignite and coal products;
- 10.5.10 direct reduced iron (DRI);
- 10.5.11 dry ice;
- 10.5.12 metal wastes and chips, iron swarf, steel and other turnings, borings, drillings, shavings, filings and cuttings; and
- 10.5.13 scrap metal.

## 10.6 Fumigation

When a ship is fumigated, the detailed recommendations contained in the Recommendations on the safe use of pesticides

in ships (MSC.1/Circ.1358) should be followed. Spaces adjacent to fumigated spaces should be treated as if fumigated.

## 11 CONCLUSION

Failure to observe simple procedures can lead to persons being unexpectedly overcome when entering enclosed spaces. Observance of the principles and procedures outlined above will form a reliable basis for assessing risks in such spaces and for taking necessary precautions.

*The reproduction of the text of IMO Assembly Resolution A.1050(27) has been done with the agreement of the IMO Publishing Service, London. The International Maritime Organization does not, however, accept any responsibility for the authenticity of this text and, in case of doubt, the original text of Assembly Resolution A.1050(27) published by IMO shall prevail.*