IMO Assembly resolutions

Resolution A.489(XII)
adopted on 19 November 1981

Safe stowage and securing of cargo units and other entities in ships other than cellular containerships

THE ASSEMBLY,

RECALLING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization,

RECOGNIZING that there is a need to improve standards of stowage and securing of cargo units and other entities in ships other than cellular containerships,

RECOGNIZING ALSO that special attention should be paid to the stowage of cargo in cargo units and on vehicles,

BELIEVING that the universal application of improved standards would be greatly facilitated if all cargo units, vehicles and other entities for shipment were provided with means for applying portable securing gear,

CONSIDERING that a universal improvement in the standards could best be achieved on an international basis,

1 ADOPTS the Guidelines on the safe stowage and securing of cargo units and other entities in ships other than cellular containerships, the text of which is annexed to the present resolution;

2 RECOMMENDS Governments to issue guidelines for the safe stowage and securing of cargo units and other entities in ships other than cellular containerships in conformity with the annexed Guidelines and, in particular, to require such ships entitled to fly the flag of their State to carry a Cargo Securing Manual as described in the annexed Guidelines.

Annex
Guidelines on the safe stowage and securing of cargo units and other entities in ships other than cellular containerships

1 *Cargo units and other entities* in this context means wheeled cargo, containers, flats, pallets, portable tanks, packaged units, vehicles, etc., and parts of loading equipment which belong to the ship and which are not fixed to the ship.

2 These Guidelines apply to the securing of cargo units or other entities on open or closed decks of ships other than cellular containerships and ships specially designed and fitted for the purpose of carrying containers. Application of the Guidelines should always be at the master's discretion.

3 Applicable parts of the IMDG Code and resolution A.288(VIII) on stowage and securing of containers on deck in ships which are not specially designed and fitted for the purpose of carrying containers* should be observed.

4 Shippers' special advice or guidelines regarding handling and stowage of individual cargo units should be observed.

5 When reasonable, cargo units and other entities should be provided with means for safe application of portable securing gear. Such means should be of sufficient strength to withstand the forces which may be encountered on board ships in a seaway.

6 Cargo units and other entities should be stowed in a safe manner and secured as necessary to prevent tipping and sliding. Due regard should be paid to the forces and accelerations to which the cargo units and other entities may be subjected.

* This resolution has been revoked by A.714(17).

7 Ships should be provided with fixed cargo securing arrangements and with portable securing gear. Information regarding technical properties and practical application of the various items of securing equipment on board should be provided.

8 Administrations should ascertain that every ship to which these Guidelines apply is provided with a Cargo Securing Manual appropriate to the characteristics of the ship and its intended service, in particular the ship's main dimensions, its hydrostatic properties, the weather and sea conditions which may be expected in the ship's trading area and also the cargo composition.

9 Where there is reason to suspect that cargo within any unit is packed or stowed in an unsatisfactory way, or that a vehicle is in a bad state of repair, or where the unit itself cannot be safely stowed and secured on the ship, and may therefore be a source of danger to ship or crew, such a unit or vehicle should not be accepted for shipment.

Cargo Securing Manual

10 The information contained in the Cargo Securing Manual should include the following items as appropriate:

.1 details of fixed securing arrangements and their locations (pad eyes, eyebolts, elephant feet, etc.);

.2 location and stowage of portable securing gear;

.3 details of portable securing gear including an inventory of items provided and their strengths;

.4 examples of correct application of portable securing gear on various cargo units, vehicles and other entities carried on the ship;

.5 indication of the variation of transverse, longitudinal and vertical accelerations to be expected in various positions on board the ship.

Resolution A.533(13)

adopted on 17 November 1983

Elements to be taken into account when considering the safe stowage and securing of cargo units and vehicles in ships

THE ASSEMBLY,

RECALLING Article 16(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations concerning maritime safety,

RECALLING FURTHER that at its twelfth session it adopted resolution A.489(XII) regarding safe stowage and securing of cargo units and other entities in ships other than cellular containerships,

TAKING ACCOUNT of the IMO/ILO guidelines for training in the packing of cargo in freight containers,

RECOGNIZING that cargo units and vehicles are transported in increasing numbers on seagoing ships,

RECOGNIZING FURTHER that the cargo is stowed on and secured to cargo units and vehicles in most cases at the shipper's premises or at inland terminals and transported by road or rail to ports prior to the seagoing voyage and that the cargo on cargo units and vehicles may not always be adequately stowed or secured for safe sea transport,

REALIZING that adequately stowed and secured cargoes on cargo units and vehicles for road and rail transport in most cases would also be capable of withstanding the forces imposed on them during the sea leg of the transport,

ACKNOWLEDGING that there is a need for cargo units and vehicles presented for transport by sea to be fitted with satisfactory securing arrangements for securing them to the ship, arrangements for the securing of the cargo within the cargo unit or vehicle to facilitate its safe stowage and securing therein and for ships to be fitted with adequate securing points,

BELIEVING that the universal application of improved standards and securing arrangements is best facilitated if the elements to be taken into account when considering such matters are known to, and considered by, all links in the transport chain,

BELIEVING FURTHER that this can best be achieved on an international basis,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its forty-eighth session,

1 INVITES Governments to issue recommendations to the different links in the transport chain in their countries, responsible for the transport of cargo units and vehicles intended for, and including, sea transport, taking into account the elements set out in the annex to this resolution;

2 REQUESTS the Secretary-General to bring these elements to the attention of Member Governments and international organizations responsible for the safety of road, rail and sea transport in order that they can be taken into account in the design and construction of cargo units and vehicles and the design and construction of the ships in which they are carried.

Annex

Elements to be taken into account when considering the safe stowage and securing of cargo units* and vehicles in ships

The elements which should be taken into account relate specifically to the safe shipment of cargo units including vehicles. The aim is to indicate to the various parties involved the principal factors and features which need to be considered when designing and operating the ship or presenting the cargo unit, or vehicle, for such shipment. In addition, it is hoped that the elements will facilitate and promote better understanding of the problems and the needs of the masters of ships so engaged.

* *Cargo units* in this context means wheeled or tracked cargo, containers, flats, portable tanks, vehicles and the ship's mobile cargo handling equipment not fixed to the ship.

1 The parties involved

1.1 The elements are intended primarily for the information and guidance of the following parties which, it is considered, are in some way associated with either the design or the operation of the ship or, alternately, with the design, presentation or loading of cargo units including vehicles. They are:

.1 shipbuilders;
.2 shipowners;
.3 shipmasters;
.4 port authorities;
.5 shippers;
.6 forwarding agents;
.7 road hauliers;
.8 stevedores;
.9 cargo unit and vehicle manufacturers;
.10 insurers;
.11 railway operators; and
.12 packers of containers at inland depots.

2 General elements

2.1 It is of the utmost importance to ensure that:

.1 cargo units including vehicles intended for the carriage of cargo in sea transport are in sound structural condition and have an adequate number of securing points of sufficient strength so that they can be satisfactorily secured to the ship. Vehicles should, in addition, be provided with an effective braking system; and

.2 cargo units and vehicles are provided with an adequate number of securing points to enable the cargo to be adequately secured to the cargo unit or vehicle so as to withstand the forces, in particular the transverse forces, which may arise during the sea transport.

3 Elements to be considered by the shipowner and shipbuilder

3.1 The ship should be provided with an adequate number of securing points of sufficient strength, a sufficient number of items of cargo securing gear of sufficient strength and a Cargo Securing Manual. In considering the number and strength of the securing points, items of cargo securing gear and the preparation of the Cargo Securing Manual, the following elements should be taken into account:

.1 duration of the voyage;
.2 geographical area of the voyage;
.3 sea conditions which may be expected;
.4 size, design and characteristics of the ship;
.5 dynamic forces under adverse weather conditions;
.6 types of cargo units and vehicles to be carried;
.7 intended stowage pattern of the cargo units and vehicles; and
.8 weight of cargo units and vehicles

3.2 The Cargo Securing Manual should provide information on the characteristics of cargo securing items and their correct application.

3.3 Ship's mobile cargo handling equipment not fixed to the ship should be provided with adequate securing points.

4 Elements to be considered by the master

4.1 When accepting cargo units or vehicles for shipment and having taken into account the elements listed in paragraph 3.1 above, the master should be satisfied that:

.1 all decks intended for the stowage of cargo units including vehicles are, in so far as is practicable, free from oil and grease;
.2 cargo units including vehicles are in an apparent good order and condition suitable for sea transport, particularly with a view to their being secured;
.3 the ship has on board an adequate supply of cargo securing gear which is maintained in sound working condition;

.4 cargo units including vehicles are adequately stowed and secured to the ship; and

.5 where practicable, cargoes are adequately stowed on and secured to the cargo unit or vehicle.

4.2 In addition, cargo spaces should be regularly inspected to ensure that the cargo, cargo units and vehicles remain safely secured throughout the voyage.

5 Elements to be considered by the shipper, forwarding agents, road hauliers and stevedores (and, where appropriate, by the port authorities)

5.1 Shippers or any other party involved with presenting cargo units including vehicles for shipment should appreciate that such items can be subjected to forces of great magnitude, particularly in the transverse direction and especially in adverse weather conditions. Consequently, it is of importance that they should be constantly aware of this fact and that they ensure that:

.1 cargo units including vehicles are suitable for the intended sea transport;

.2 cargo units including vehicles are provided with adequate securing points for the securing of the cargo unit or vehicle to the ship and the cargo to the cargo unit or vehicle;

.3 the cargo in the cargo unit or vehicle is adequately stowed and secured to withstand the forces which may arise during sea transport; and

.4 in general the cargo unit or vehicle is clearly marked and provided with documentation to indicate its gross weight and any precautions which may have to be observed during sea transport.

Resolution A.581(14)

adopted on 20 November 1985

Guidelines for securing arrangements for the transport of road vehicles on ro-ro ships

THE ASSEMBLY,

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

RECALLING ALSO resolution A.489(XII) on safe stowage and securing of cargo units and other entities in ships other than cellular containerships and MSC/Circ.385 of 8 January 1985* containing the provisions to be included in a Cargo Securing Manual to be carried on board ships,

BEARING IN MIND resolution A.533(13) on elements to be taken into account when considering the safe stowage and securing of cargo units and vehicles in ships,

TAKING ACCOUNT of the revised IMO/ILO Guidelines for the packing of cargo in freight containers and vehicles,

RECOGNIZING that the marine transport of road vehicles on ro-ro ships is increasing,

RECOGNIZING ALSO that a number of serious accidents have occurred because of inadequate securing arrangements on ships and road vehicles,

RECOGNIZING FURTHER the need for the Organization to establish guidelines for securing arrangements on board ro-ro ships and on road vehicles,

REALIZING that, given adequately designed ships and properly equipped road vehicles, lashings of sufficient strength will be capable of withstanding the forces imposed on them during the voyage,

REALIZING FURTHER that certain requirements for side guards, particularly those positioned very low on road vehicles, will obstruct the proper securing of the road vehicles on board ro-ro ships and that appropriate measures will have to be taken to satisfy both safety aspects,

BELIEVING that application of the guidelines will enhance safety in the transport of road vehicles on ro-ro ships and that this can be achieved on an international basis,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-first session,

1 ADOPTS the Guidelines for Securing Arrangements for the Transport of Road Vehicles on Ro-Ro Ships set out in the annex to the present resolution;

2 URGES Member Governments to implement these Guidelines at the earliest possible opportunity in respect of new ro-ro ships and new vehicles and, as far as practicable, in respect of existing vehicles which may be transported on ro-ro ships;

3 REQUESTS the Secretary-General to bring these Guidelines to the attention of Member Governments and relevant international organizations responsible for safety in design and construction of ships and road vehicles for action as appropriate.

* Refer to the Revised guidelines for the preparation of the Cargo Securing Manual (MSC.1/Circ.1353/Rev.2).

Annex*

Guidelines for securing arrangements for the transport of road vehicles on ro-ro ships

Preamble

In view of experience in the transport of road vehicles on ro-ro ships, it is recommended that these Guidelines for securing road vehicles on board such ships should be followed. Shipowners and shipyards, when designing and building ro-ro ships to which these Guidelines apply, should take sections 4 and 6 particularly into account. Manufacturers, owners and operators of road vehicles which may be transported on ro-ro ships should take sections 5 and 7 particularly into account.

1 Scope

1.1 These Guidelines for securing and lashing road vehicles on board ro-ro ships outline in particular the securing arrangements on the ship and on the vehicles, and the securing methods to be used.

2 Application

2.1 These Guidelines apply to ro-ro ships which regularly carry road vehicles on either long or short international voyages in unsheltered waters. They concern:

.1 road vehicles as defined in 3.2.1, 3.2.2, 3.2.3 and 3.2.5 with an authorized maximum total mass of vehicles and cargo of between 3.5 and 40 tonnes; and

.2 articulated road trains as defined in 3.2.4 with a maximum total mass of not more than 45 tonnes, which can be carried on ro-ro ships.

2.2 These Guidelines do not apply to buses.

2.3 For road vehicles having characteristics outside the general parameters for road vehicles (particularly where the normal height of the centre of gravity is exceeded), the location and the number of securing points should be specially considered.

3 Definitions

3.1 *Ro-ro ship* means a ship which has one or more decks either closed or open, not normally subdivided in any way and generally running the entire length of the ship, in which goods (packaged or in bulk, in or on road vehicles (including road tank vehicles), trailers, containers, pallets, demountable or portable tanks or in or on similar cargo transport units or other receptacles) can be loaded or unloaded, normally in a horizontal direction.

3.2 In these Guidelines the term *road vehicle*† includes:

.1 *Commercial vehicle*, which means a motor vehicle which, on account of its design and appointments, is used mainly for conveying goods. It may also be towing a trailer.

.2 *Semi-trailer*, which means a trailer which is designed to be coupled to a semi-trailer towing vehicle and to impose a substantial part of its total mass on the towing vehicle.

.3 *Road train*, which means the combination of a motor vehicle with one or more independent trailers connected by a draw-bar. (For the purpose of section 5 each element of a road train is considered a separate vehicle.)

.4 *Articulated road train*, which means the combination of a semi-trailer towing vehicle with a semi-trailer.

.5 *Combination of vehicles*, which means a motor vehicle coupled with one or more towed vehicles. (For the purpose of section 5 each element of a combination of vehicles is considered a separate vehicle.)

4 Securing points on ship's decks

4.1 The ship should carry a Cargo Securing Manual in accordance with resolution A.489(XII), containing the information listed and recommended in paragraph 10 of the annex to that resolution.

* The text of paragraphs 4.2.3 and 6.1 has been amended by MSC/Circ.812 of 16 June 1997. The text of paragraph 6.1 has been further amended by MSC.1/Circ.1355 of 30 June 2010. Member Governments are invited to bring these amendments to the attention of all parties concerned, with a view to implementing them as soon as possible.

† Refer to ISO Standard No. 3833.

4.2 The decks of a ship intended for road vehicles as defined in 3.2 should be provided with securing points. The arrangement of securing points should be left to the discretion of the shipowner provided that for each road vehicle or element of a combination of road vehicles there is the following minimum arrangement of securing points:

.1 The distance between securing points in the longitudinal direction should in general not exceed 2.5 m. However, there may be a need for the securing points in the forward and after parts of the ship to be more closely spaced than they are amidships.

.2 The athwartships spacing of securing points should not be less than 2.8 m nor more than 3 m. However, there may be a need for the securing points in the forward and after parts of the ship to be more closely spaced than they are amidships.

.3 The maximum securing load (MSL) of each securing point should be not less than 100 kN. If the securing point is designed to accommodate more than one lashing (*y* lashings), the MSL should be not less than $y \times 100$ kN.*

4.3 In ro-ro ships which only occasionally carry road vehicles, the spacing and strength of securing points should be such that the special considerations which may be necessary to stow and secure road vehicles safely are taken into account.

5 Securing points on road vehicles

5.1 Securing points on road vehicles should be designed for securing the road vehicles to the ship and should have an aperture capable of accepting only one lashing. The securing point and aperture should permit varying directions of the lashing to the ship's deck.†

5.2 The same number of securing points (not less than two and not more than six) should be provided on each side of the road vehicle in accordance with the provisions of 5.3.

5.3 Subject to the provisions of notes 1, 2 and 3 hereunder, the minimum number and minimum strength of securing points should be in accordance with the following table:

Gross vehicle mass (GVM) (tonnes)	Minimum number of securing points on each side of the road vehicle	Minimum strength without permanent deformation of each securing point as fitted (kN)
3.5 t $\leq$ GVM $\leq$ 20 t	2	$\frac{GVM \times 10 \times 1.2}{n}$ where *n* is the total number of securing points on each side of the road vehicle.
20 t $<$ GVM $\leq$ 30 t	3	
30 t $<$ GVM $\leq$ 40 t	4	

Note 1: For road trains, the table applies to each component, i.e. to the motor vehicle and each trailer, respectively.

Note 2: Semi-trailer towing vehicles are excluded from the table above. They should be provided with two securing points at the front of the vehicle, the strength of which should be sufficient to prevent lateral movement of the front of the vehicle. A towing coupling at the front may replace the two securing points.

Note 3: If the towing coupling is used for securing vehicles other than semi-trailer towing vehicles, this should not replace or be substituted for the above-mentioned minimum number and strength of securing points on each side of the vehicle.

5.4 Each securing point on the vehicle should be marked in a clearly visible colour.

5.5 Securing points on vehicles should be so located as to ensure effective restraint of the vehicle by the lashings.

5.6 Securing points should be capable of transferring the forces from the lashings to the chassis of the road vehicle and should never be fitted to bumpers or axles unless these are specially constructed and the forces are transmitted directly to the chassis.

5.7 Securing points should be so located that lashings can be readily and safely attached, particularly where side-guards are fitted to the vehicle.

5.8 The internal free passage of each securing point's aperture should be not less than 80 mm but the aperture need not be circular in shape.

* This is the text of paragraph 4.2.3 as amended by MSC/Circ.812 of 16 June 1997.

† If more than one aperture is provided at a securing point, each aperture should have the strength for the securing point shown in the table in 5.3.

5.9 Equivalent or superior securing arrangements may be considered for vehicles for which the provisions of table 5.3 are unsuitable.

6 Lashings

6.1 The maximum securing load (MSL) of lashings should not be less than 100 kN and they should be made of material having suitable elongation characteristics. However, for vehicles not exceeding 15 tonnes (GVM), lashings with lower MSL values may be used. The required number and MSL of lashings may be calculated according to annex 13 to the *Code of Safe Practice for Cargo Stowage and Securing* (CSS Code), taking into consideration the criteria mentioned in paragraph 1.5.1 of the Code.*

6.2 Lashings should be so designed and attached that, provided there is safe access, it is possible to tighten them if they become slack. Where practicable and necessary, the lashings should be examined at regular intervals during the voyage and tightened as necessary.

6.3 Lashings should be attached to the securing points with hooks or other devices so designed that they cannot disengage from the aperture of the securing point if the lashing slackens during the voyage.

6.4 Only one lashing should be attached to any one aperture of the securing point on the vehicle.

6.5 Lashings should only be attached to the securing points provided for that purpose.

6.6 Lashings should be attached to the securing points on the vehicle in such a way that the angle between the lashing and the horizontal and vertical planes lies preferably between 30° and 60°.

6.7 Bearing in mind the characteristics of the ship and the weather conditions expected on the intended voyage, the master should decide on the number of securing points and lashings to be used for each voyage.

6.8 Where there is doubt that a road vehicle complies with the provisions of table 5.3, the master may, at his discretion, load the vehicle on board, taking into account the apparent condition of the vehicle, the weather and sea conditions expected on the intended voyage and all other circumstances.

7 Stowage

7.1 Depending on the area of operation, the predominant weather conditions and the characteristics of the ship, road vehicles should be stowed so that the chassis are kept as static as possible by not allowing free play in the suspension of the vehicles. This can be done, for example, by compressing the springs by tightly securing the vehicle to the deck, by jacking up the chassis prior to securing the vehicle or by releasing the air pressure on compressed air suspension systems.

7.2 Taking into account the conditions referred to in 7.1 and the fact that compressed air suspension systems may lose air, the air pressure should be released on every vehicle fitted with such a system if the voyage is of more than 24 hours' duration. If practicable, the air pressure should be released also on voyages of a shorter duration. If the air pressure is not released, the vehicle should be jacked up to prevent any slackening of the lashings resulting from any air leakage from the system during the voyage.

7.3 Where jacks are used on a vehicle, the chassis should be strengthened in way of the jacking-up points and the position of the jacking-up points should be clearly marked.

7.4 Special consideration should be given to the securing of road vehicles stowed in positions where they may be exposed to additional forces. Where vehicles are stowed athwartship, special consideration should be given to the forces which may arise from such stowage.

7.5 Wheels should be chocked to provide additional security in adverse conditions.

7.6 Vehicles with diesel engines should not be left in gear during the voyage.

7.7 Vehicles designed to transport loads likely to have an adverse effect on their stability, such as hanging meat, should have integrated in their design a means of neutralizing the suspension system.

7.8 Stowage should be arranged in accordance with the following:

.1 The parking brakes of each vehicle or of each element of a combination of vehicles should be applied and locked.

.2 Semi-trailers, by the nature of their design, should not be supported on their landing legs during sea transport unless the landing legs are specially designed for that purpose and so marked. An uncoupled semi-trailer should be supported by a trestle or similar device placed in the immediate area of the drawplate so that the connection of the fifth wheel to the kingpin is not restricted. Semi-trailer designers should consider the space and the reinforcements required and the selected areas should be clearly marked.

* This is the text of paragraph 6.1 as amended by MSC.1/Circ.1355 of 30 June 2010.

Resolution A.854(20)

adopted on 27 November 1997

Guidelines for developing shipboard emergency plans for ships carrying materials subject to the INF Code

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention of the International Maritime Organization concerning the function of this Assembly in relation to regulations and guidelines concerning maritime safety, the prevention and control of marine pollution from ships, and other matters concerning the effect of shipping on the marine environment,

HAVING ADOPTED, by resolution A.853(20), amendments to the INF Code on shipboard emergency plans and notification in the event of an incident involving materials subject to the Code,

RECOGNIZING the need to have a consistent approach to the development of shipboard emergency plans,

HAVING CONSIDERED the recommendations made by the MSC at its sixty-eighth session and by the MEPC at its thirty-ninth session and fortieth session:

1 ADOPTS the Guidelines for Developing Shipboard Emergency Plans for Ships Carrying Materials subject to the INF Code set out at annex to this resolution; and

2 URGES Governments, in implementing the provisions referring to this subject in the INF Code, to use the Guidelines set out at annex to this resolution.

Annex
Guidelines for developing shipboard emergency plans for ships carrying materials subject to the INF Code

Foreword

These Guidelines, prepared by the Marine Environment Protection Committee of the International Maritime Organization (IMO), contain information for the preparation of Shipboard Emergency Plans for Ships Carrying Materials Subject to the IMO *Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium, and High-Level Radioactive Wastes in Flasks on board Ships* (INF Code). These Guidelines were developed as part of the work assigned by the Assembly to the Committees regarding the review and amendment of the INF Code.

The main objectives of these Guidelines are:

– to assist shipowners in preparing comprehensive shipboard emergency plans for ships carrying INF Code materials; and

– to assist in responding to shipboard emergencies involving INF Code materials and in providing information in accordance with international law to authorities involved in assisting or handling incidents at sea involving INF Code materials.

In the interest of uniformity, Governments are requested to refer to these Guidelines when preparing appropriate national regulations. While in port or an offshore terminal, the carriage of a shipboard emergency plan for ships carrying materials subject to the INF Code should be subject to inspection by duly authorized officers.

The type of emergency planning and preparedness that is needed for responding to transport incidents involving INF Code materials is, to some extent, similar to that required for responding to transport accidents involving non-radioactive hazardous or noxious substances. Accordingly, emergency response organizations and personnel may apply the concepts used to respond to incidents involving other types of hazardous or noxious substances, employing special knowledge, skills and equipment to deal effectively with the wide range of possible consequences of incidents involving INF Code materials.

In the case where a ship is required to have a shipboard emergency plan by other international instruments, the plan provided for in these Guidelines may be combined with such other plans. In this case, the title of such a combined plan should be “Shipboard Marine Emergency Plan”.

1 Introduction

1.1 These Guidelines have been developed to assist in the preparation of Shipboard Emergency Plans for Ships carrying Materials Subject to the INF Code ("Plan(s)"). These Guidelines were developed as part of the work assigned by the Assembly regarding the review and amendment of the INF Code, particularly in view of paragraph 27* of the Code. The Plan(s) should be approved in accordance with the Code.

Definitions for the purpose of these Guidelines

1.2 *Incident* means any occurrence or series of occurrences, including loss of container integrity, having the same origin which results or may result in a release, or probable cargo release of INF Code materials.

1.3 *Shipboard Emergency Plan* or *Plan* means a document that is tailored to a particular ship carrying INF Code materials and contains the procedures to be followed to ensure shipboard preparedness for responding to emergencies.

1.4 *Release* means the escape of INF Code material from its containment system or the loss of an INF Code package.

1.5 The Guidelines are comprised of three sections:

.1 *Introduction:* This section provides a general overview of the subject matter and introduces the reader to the basic concept of the Guidelines and the Plans that are expected to be developed from them.

.2 *Essential provisions:* This section provides those elements that should, at a minimum, be included in a Plan.

.3 *Additional provisions:* This section provides guidance concerning the inclusion of other information in the Plan. Such information may be required by local authorities in ports visited by the ship, or it may be added to provide additional assistance to the ship's master when responding to an emergency situation. The section also provides guidance on updating and training and exercises to test the plan.

Concept of the Guidelines

1.6 The Guidelines are intended to provide a starting point for the preparation of specific Shipboard Emergency Plans for each ship engaged in transporting INF Code materials. Plan writers are cautioned that they should consider in their Plans the many variables that apply to their ships. Some of these variables include: type and size of ship, category of INF Code materials and their physical properties, route, and shore-based management structure. The Guidelines are not intended to be a compilation of menu items from which the Plan writer can select certain sections and produce a workable Plan, but rather a process to ensure preparedness for responding to emergencies. For a Plan to be effective, it should be carefully tailored to the particular ship for which it is intended. Properly used, the Guidelines will ensure that all appropriate issues are considered in developing the Plan.

Concept of the Plan

1.7 The Plan is intended to assist personnel in avoiding the further escalation of an incident and in dealing with an actual or potential release of INF Code materials. Its primary purpose is to set in motion the necessary actions to avoid or minimize a release and to mitigate its effects. Regardless of the magnitude of an incident, effective planning ensures that the necessary actions are taken in a structured, logical, safe, and timely manner.

1.8 The Plan should provide for small or routine emergencies. However, it should also include guidance to assist the master in meeting the demands of a large-scale incident, should the ship become involved in one.

1.9 The need for a predetermined and properly structured Plan is clear when one considers the pressures and multiple tasks facing personnel confronted with an emergency situation. In the heat of the moment, lack of proper planning will often result in confusion, mistakes, and failure to advise key people. Delays will be incurred and time will be wasted, time during which the situation may well worsen. As a consequence, the ship, its personnel, and the public may be exposed to increasing hazards, and greater environmental damage may result.

1.10 Shipboard emergency plans should be realistic, practical, and easy to use. They should be understood by ship management personnel, both on board and ashore, and be evaluated, reviewed, and updated regularly.

1.11 The Plan is envisioned as a simple document. Use of summarizing flow charts or checklists to guide the master through the various actions and decisions required during an incident response is highly encouraged. These can provide a quickly visible and logically sequenced form of information which can reduce error and oversight during emergency situations. Inclusion of extensive background information on the ship or cargo should be avoided, as this is generally available elsewhere. If such information is relevant, it should be kept in annexes where it will not make it more difficult for ship personnel to locate operative parts of the Plan.

1.12 An example of a summarizing flow chart referred to in 1.11 is included in appendix I.

* This corresponds with paragraph 10.2 of the *International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on board Ships* (INF Code).

1.13 Also, since the Plan is intended to be a document used on board by master and officers of the ship, it is imperative that one copy in the language understood by crew members with responsibilities under the Plan, as well as an English copy, is carried on board. A change in the master and officers which brings about an attendant change in their working languages would require the issuance of the Plan in the new language.

Responsibilities for action

1.14 Responsibilities for preparing and dealing with a marine transport incident involving INF Code materials are generally divided among several entities: Governments, organizations, and persons. The severity, or potential severity, of the incident in terms of its consequences typically would determine the level of response and involvement of these entities.

1.15 The consignor or shipper is responsible for ensuring that, before the transport of INF Code material, carriers are made fully aware of the procedures to be followed, both on board the ship and by shore-based organizations, in the event of an incident involving such materials. It is the responsibility of the consignor or shipper to know and comply with all applicable international, national, State, or local regulations or guidelines pertaining to the shipment of INF Code materials, and how to deal with all the potential difficulties anticipated when shipping by sea. In addition, the consignor should make available to the carrier the appropriate technical information, emergency instructions, and notification information. Generally, the consignor should be prepared to assist in an emergency response to an incident involving any INF Code materials by providing timely and detailed information about shipments and to send immediately emergency response/support assets to an incident site, if required. The planning for such assistance should be complementary to the Plan.

1.16 The carrier also has responsibilities both for safety during transport and in the event of an incident. In general, both the carrier and the consignor should be prepared to respond immediately to an incident involving INF Code materials. The carrier also has the responsibility to know and comply with all applicable regulations pertaining to the carriage of INF Code materials. This may include being informed of the different response procedures in all areas along the route; ensuring that if an incident occurs, it is properly and rapidly assessed by people knowledgeable in responding to incidents involving INF Code material; ensuring that proper emergency instructions are carried on board the ship; facilitating a prompt response by the consignor/shipper and crew in the event of an incident; and ensuring that all required notifications are accomplished in an expeditious manner. Specifically, carrier personnel should ensure that they immediately inform the nearest coastal State, the consignor, and other appropriate authorities and act according to the Plan.

1.17 Distribution of the Plan should be as follows:

- the shipowner and operator should both keep a copy of the Plan and ensure that at least one copy is carried on board.

1.18 The Plan should clearly emphasize the following:

- Without interfering with shipowners' liability, some coastal States consider that it is their responsibility to define techniques and means to be taken against a marine pollution incident and approve such operations which might cause further pollution. States are in general entitled to do so under the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973.

1.19 Planning for incidents involving INF Code materials should be approached as part of a process which also includes the emergency response plans of local authorities and organizations. As noted in 1.15 above, the carriers are to be made fully aware of the international, national, State and local regulations pertaining to the shipment of INF Code materials and potential difficulties anticipated when shipping by sea by the consignor or shipper.

1.20 The content of each Plan should be determined by a consideration of the type of ship used for transporting INF Code materials, the packages used for transport, and the potential consequences of related transport incidents. Appendix II provides additional sources of information that may be useful in developing a Plan.

1.21 A shipowner or operator with multiple ships may prepare one plan with a separate ship-specific annex for each ship covered by the Plan and a separate geographic-specific appendix for each coastal State in which the ship(s) operate.

2 Essential provisions of shipboard emergency plan for ships carrying materials subject to the INF Code

2.1 In accordance with paragraph 27* of the Code, the Plan at a minimum should contain:

.1 the procedure to be followed by the master or other persons having charge of the ship in reporting an incident involving INF Code materials, as required by paragraph 29;†

.2 the list of authorities or persons to be contacted in the event of an incident involving INF Code materials;

.3 a detailed description of the action to be taken immediately by persons on board to prevent, reduce or control the release, and mitigate the consequences of the loss, of INF Code materials following the incident; and

* This corresponds with paragraph 10.2 of the INF Code.

† This corresponds with paragraph 11.1 of the INF Code.

.4 the procedures and point of contact on the ship for coordinating shipboard action with national and local authorities.

2.2 The Plan should provide specific information regarding the ship, including:

.1 the ship name, country of registry, call sign, and IMO identification number, if applicable;

.2 the name, address, and procedures for contacting the consignor, consignee, shipper, shipowner or operator on a 24-hour basis; and

.3 identification of communication equipment on board.

The coastal State report

2.3 Paragraphs 29 and 30* of the INF Code provide that the nearest coastal State should be notified of an actual or probable release. The intent of this provision is to ensure that coastal States are informed without delay of any incident giving rise to pollution, or threat of pollution, of the marine environment, or in the event of damage, failure or breakdown of a ship carrying INF Code materials, so that appropriate action may be taken.

2.4 ***When required.*** The Plan should provide clear, concise guidance to enable the master to determine when a report to the coastal State is required.

2.5 ***Actual release***. A report to the nearest coastal State is required whenever there is any release of INF Code materials. A report should also be made in the event of damage, failure, or breakdown of a ship carrying INF Code materials which affects the safety of the ship, including allision, collision, grounding, fire, explosion, structural failure, flooding, and cargo shifting; and results in the impairment of the safety of navigation, including the failure or breakdown of steering gear, propulsion system, electrical generating system and essential shipborne navigational aids.

2.6 ***Probable release***. The Plan should give the master guidance in evaluating a situation which, though not involving an actual release, would present a risk of a release and thus require a report. In judging whether there is such a risk and whether a report should be made, the following factors, as a minimum, should be taken into account:

.1 the nature of the damage, failure or breakdown of the ship, machinery, equipment or the loss of cargo container integrity;

.2 ship location and proximity to land or other navigational hazards;

.3 weather, tide, current, and sea state; and

.4 traffic density.

2.7 It is impracticable to lay down precise definitions of all types of situations involving risks which would warrant an obligation to report. As a general guideline, the master should make a report in cases of:

.1 damage, failure, or breakdown which affects the safety of the ship, such as allision, collision, grounding, fire, explosion, structural failure, flooding, or cargo shifting;

.2 failure or breakdown of machinery or equipment which results in impairment of safety of navigation, such as failure or breakdown of steering gear, propulsion, electrical generating system, and essential shipboard navigational aids; and

.3 loss of cargo container integrity that may involve a release or probable release of INF Code materials.

2.8 ***Information required***. The Plan shall specify, in appropriate detail, the procedure for making the initial report to the coastal State. The Organization's Guidelines on Reporting in resolution A.648(16) provide necessary detail for the Plan writer. The Plan should include a prepared message form, an example of which is included in appendix III to these Guidelines. Coastal States are encouraged to take note of the information in this appendix and accept it as sufficient information. Supplementary or follow-up reports should as far as possible use the same format.

2.9 The initial reporting by on-board personnel should include answers to the following questions:

.1 Are there any injuries on board;

.2 Is there (or was there) a fire near the INF Code materials;

.3 What kind of radiological or chemical hazards exist; and

.4 What are the meteorological conditions, including wind direction?

List of persons, agencies and organizations to be contacted

2.10 The ship involved in an incident involving INF Code material will have to communicate with both coastal State or port contacts and ship interest contacts. The Plan should include descriptions of the primary and secondary communications methods by which notifications will be made.

2.11 When compiling such contact lists, due account should be taken of the need to provide 24-hour contact information and to provide alternatives to the designated contact. These details should be routinely updated to take account of

* These correspond with paragraphs 11.1 and 11.2 of the INF Code.

personnel changes and changes to telephone, fax, e-mail and telex numbers. Clear guidance should also be provided regarding the preferred means of communication (telephone, fax, e-mail, telex, etc.).

Coastal State contacts

2.12 In order to expedite response and minimize damage from an incident involving INF Code material, it is essential that the nearest coastal States be notified without delay.

2.13 The Plan should include as an appendix the list of agencies or officials of Administrations responsible for receiving and processing reports of incidents involving INF Code materials. In the absence of a listed focal point, or should any undue delay be experienced in contacting the responsible authority by direct means, the master should be advised to contact the nearest rescue coordination centre, coastal radio station, or designated ship movement reporting station by the quickest available means to accomplish the report. See IMO List of National Operational Contact Points.

Port contacts

2.14 For ships in port, notification of local agencies will speed response. Information on regularly visited ports should be included as an appendix to the Plan. Where this is not feasible, the Plan should require the master to obtain details concerning local reporting procedures upon arriving in port.

Ship interest contacts

2.15 The Plan should provide details of all parties with an interest in the ship to be advised in the event of an incident. This information should be compiled in the form of a contact list. When compiling such lists, it should be remembered that, in the event of a serious incident, ship's personnel may be fully engaged in saving life and taking steps to control and minimize the effects of the incident. They should therefore not be hampered by having onerous communications requirements imposed on them.

2.16 Procedures will vary between companies but it is important that the Plan clearly specifies who will be responsible for informing the various interested parties such as cargo owners, insurers and salvage interests. It is also essential that both the ship's Plan and its company's shoreside Plan are coordinated to guarantee that all parties having an interest are advised and that duplication of reports is avoided.

2.17 In addition to any radiological expertise of the crew, radiological monitoring and assessment may be delivered by specialized monitoring teams. The Plan should identify points of contact for such teams on a 24-hour basis so that they can be notified expeditiously when their assistance is required.

Shipboard emergency procedures

2.18 Ship personnel will almost always be in the best position to take quick action to prevent, reduce, or control the release of INF Code material from their ship. The Plan should provide the master with clear guidance on how to accomplish such action for a variety of situations. The Plan should identify situations where standard operating procedures or detailed guidance will ensure that the emergency response is prompt, coordinated and efficient. The Plan should not only outline action to be taken, but should also identify who on board is responsible as well as the tasks of various crew members, so that confusion during the emergency can be avoided.

2.19 This section of the Plan will vary widely from ship to ship. Differences in ship size, construction, equipment, manning, and even route may result in shifting emphasis being placed on various aspects of this section. As a minimum, the Plan should provide the master with guidance to address emergencies affecting the safe operation of the ship and procedures to counter actual or potential emergencies involving INF Code materials, including:

.1 Procedures for safe removal from the ship of INF Code materials or packages that may have been damaged during loading or unloading.

.2 Various checklists or other means which will ensure that the master considers all appropriate factors when addressing the specific incident. The following are examples of casualties which should be considered:

.2.1 grounding or stranding;

.2.2 fire/explosion;

.2.3 collision;

.2.4 hull failure, serious structural failure, flooding, and/or heavy weather damage, or icing;

.2.5 excessive list;

.2.6 equipment failure (e.g. main propulsion, steering gear, etc.);

.2.7 containment system failure (e.g. release of INF Code cargo, contamination yielding a hazardous condition, or loss of cargo);

.2.8 security threats;

.2.9 submerged or foundered; and

.2.10 wrecked.

Procedures for the crew to prevent, reduce, or control a release of INF Code material

2.20 Loss or damage to the ship may result in the loss of cargo packages. However, for cargo incidents not resulting from a ship incident, a suspected cargo leak which is detected in time and handled properly will not necessarily constitute an imminent threat to the crew or the safe operation of the vessel. However, procedures for dealing with the following incidents should be developed and practised:

.1 abnormal radiation levels detected by remote monitoring instruments;

.2 discovery of abnormal loose contamination on clothing, shoes or in spaces outside of the cargo hold;

.3 flask coolant loss or leak;

.4 movement or shifting of a flask from its transport position;

.5 unexpected temperature rise at the flask surface; and

.6 dropping a flask during loading or unloading.

2.21 In addition to the checklists and personnel duty assignments, the Plan should provide the master with guidance concerning priority actions, stability and stress considerations, and cargo transfer.

Priority actions

2.22 This section outlines some general considerations that apply to a wide range of casualties. The Plan should provide ship-specific guidance to the master concerning these considerations.

.1 In responding to an incident, the master's priority will be to ensure the safety of personnel and the ship and to take action to prevent escalation of the incident. In casualties involving a release of INF Code materials, immediate consideration should be given to measures aimed at preventing contamination of personnel, such as altering course so that the ship is upwind of the released or lost cargo, shutting down non-essential air intakes, using protective clothing, etc. When it is possible to manoeuvre, the master, in conjunction with the appropriate shore authorities, may consider moving the ship to a more suitable location to facilitate emergency repair work, cargo transfer operations, or to reduce the threat posed to any particularly sensitive ocean or shoreline areas. Such manoeuvring should be coordinated with the coastal State.

.2 Prior to considering remedial action, the master will need to obtain detailed information on the damage sustained by the ship and INF Code material containers. A visual inspection should be carried out when it is safe to do so. An adequate number of trained crew members should be on board to assess the situation by means of standard equipment and radiological assessment procedures which will enable proper decisions to be made as to what further action is necessary. In certain cases, radiological monitoring and assessment teams may be required to assess properly any consequences of an incident involving the release of INF Code materials. The initial assessment should include consideration of three basic issues:

.2.1 confirming the quantity and type of INF Code materials involved;

.2.2 ascertaining whether the integrity of shipping containers or packages has been breached; and

.2.3 assessing, by monitoring with appropriate instrumentation, the radiological hazards that exist, if any.

.3 On the basis of the results of the initial measurements, the master should assess the need for radiological experts to provide advice. The measurement information should be recorded on a map or sketch of the area of the incident to document the measurement results.

.4 Having assessed the damage sustained, the master will be in a position to decide what action should be taken to prevent or minimize a further or more serious release, and a sufficient number of adequately trained crew members should be on board to assist in such action. Where appropriate, the Plan should provide a list of information required for making damage stability and damaged longitudinal strength assessments.

.5 Ships' crew as well as fire-fighting and radiological monitoring teams may require protective clothing and respiratory protection equipment. Equipment should be pre-selected to protect against radioactive contamination and inhalation of airborne radioactive material.

Cargo transfer

2.23 For those INF Code materials where cargo transfer is practicable, the Plan should provide guidance on the procedures to be followed for ship-to-ship transfer of cargo. Reference may be made in the Plan to existing company guides. A copy of such company procedures for ship-to-ship transfer operations should be kept with the Plan. The Plan should address the need for coordinating this activity with the coastal State, as such operation may be subject to its jurisdiction.

Mitigation activities

2.24 When the safety of both the ship and personnel has been addressed, the master can initiate mitigating activities according to the guidance given by the Plan. The Plan should address such as aspects as:

.1 physical, chemical and radiological properties of the INF Code materials involved;

.2 containment and other response techniques;

.3 isolation procedures;

.4 decontamination of personnel; and

.5 safe storage of any contaminated materials.

2.25 In order to have the necessary information available to respond to the situations referred to in 2.19 and 2.20, certain plans, drawings, and ship-specific details, such as a layout of a general arrangement plan, should be available on board. The Plan should show where current cargo, bunker, and ballast information – including quantities and specifications – are available.

Security

2.26 Ships may be subject to bomb threats, sabotage, and unauthorized visitors. If not handled properly, these incidents can pose a hazard to the safe operation of the ship. Standard procedures will also prevent over-reaction on the part of the crew which could lead to personnel injury. Procedures should be developed for:

.1 bomb threats and resulting search;

.2 search of visitors, luggage, vehicles, and freight during times of heightened threats; and

.3 gangway procedures, including action in the event of unauthorized boarders.

National and local coordination

2.27 Quick, efficient coordination between the ship and coastal State or other involved parties becomes vital in mitigating the effects of an incident involving INF Code materials. The Plan should address the need, where appropriate, to contact the coastal State for consultation and/or authorization regarding mitigating actions. See also 1.15 above.

2.28 The identities and roles of various national and local authorities involved vary widely from State to State and from port to port. Approaches to responsibility for release response also vary. Some coastal States have agencies that take charge of response immediately and subsequently bill the owner for the cost. In other coastal States, responsibility for initiating response is placed on the shipowner.

3 Additional provisions

3.1 In addition to the provisions identified as core provisions, additional guidance may be provided in the Plan. The topics of such guidance include provision of diagrams and drawings; ship-carried response equipment, including radiological monitoring equipment; public affairs; record-keeping; product response information; and reference materials.

Plans and diagrams

3.2 In addition to the plans required by 2.25 above, other details concerning the ship's design and construction may be appended to the Plan or their location identified.

Response equipment

3.3 Ships may carry on board equipment to assist in response. The type and quantity of this equipment may vary depending on the type of INF Code materials carried. The Plan should indicate an inventory of such equipment. It should also provide directions for safe use and guidelines to assist the master in determining when such use is warranted. Care should be exercised to ensure that the use of such equipment by the crew is practical and consistent with safety considerations. The Plan should establish personnel responsibilities for the deployment of the equipment, its oversight, and maintenance. In order to ensure its safe and effective use, the Plan should also provide for crew training in the use of it.

Shoreside response coordinator or qualified individual

3.4 The Plan should provide guidance, if applicable, for the master for requesting and coordinating initial response actions with the person responsible for mobilizing shoreside response personnel and equipment.

Planning standards

3.5 To facilitate consideration of the amount of response resources which should be requested, possible scenarios should be analysed and accordingly planned for.

Public information

3.6 The shipowners may want to include in the Plan guidance for the master in dealing with the distribution of information to the news media. Such guidance should be fashioned to reduce the burden on ship's personnel already busy with the emergency at hand.

Record-keeping

3.7 As with any other incident that may eventually involve liability, compensation, and reimbursement issues, the owner may want to include in the Plan guidance for the keeping of appropriate records of the INF Code material incident. Apart from detailing all actions taken on board, records might include communications with outside authorities, owners, and other parties, and decisions and information passed and received. Details on the radiological monitoring undertaken should also be recorded.

Plan review

3.8 Regular review of the Plan by the owner, operator, or master is recommended to ensure that the specific information contained therein is current. A feedback system should be employed which will allow quick capture of changing information and incorporation of it into the Plan. This feedback system should incorporate the following two means:

.1 Periodic review: the Plan should be reviewed by the owner or operator at least yearly to capture changes in local law or policy, contact names and numbers, ship characteristics, or company policy; and

.2 Event review: after any use of the Plan in response to an incident, its effectiveness should be evaluated by the owner or operator and modifications made accordingly.

Plan exercises

3.9 The Plan will be of little value if it is not made familiar to the personnel who use it. Training and regular exercises will ensure that the Plan functions as expected and that the contacts and communications specified are accurate. Such training and exercises may be held in conjunction with other shipboard training and exercises and appropriately logged. Where ships carry response equipment, hands-on experience with it by crew members will greatly enhance safety and effectiveness in an emergency situation. After the performance of such exercises, the Plan may need to be modified.

Training procedures

3.10 The Plan may address the training procedures and programmes of the shipowner or operator to assure an acceptable level of knowledge and professionalism in the crew. The consignors and carriers involved in the transport of INF Code materials should provide training related to their emergency instructions and the potential hazards of the types of materials involved. Training programmes should be geared to the roles that personnel should play in responding to an incident. Provisions should be made for periodic brief refresher training in order to maintain the proficiency of all personnel in the emergency response organization and to review incident experience and practical problems. Guidance on the use of radiological monitoring equipment carried on board should also be provided.

3.11 The purpose of training is to provide basic information to the ship's crew. The training should cover in brief the subjects clearly applicable to such incidents. The information should include the fundamentals of first aid, radiological hazards, protective measures, and transport regulations (especially those aspects concerning transport documents, markings, labels and placards and fire control). Basic principles to protect people from radiation exposure and radioactive contamination and to control the spread of contamination should be included in the training. The preparation of standard training material is recommended to facilitate the success of such a training project.

Technical training

3.12 A more extensive training programme is necessary to maintain the skills of the master and ship's officers. Training for these persons should include, at a minimum, incident assessment techniques using radiological monitoring instruments, implementation of protective measures, use of protective clothing and equipment, basic meteorology, and further detailed instructions on the transport regulations and on the packaging of radioactive materials.

Exercise and drill procedures

3.13 The Plan may also address the exercise and drill programme to be carried out by the vessel owner or operator to maintain an appropriate level of preparedness. Exercise scenarios could be developed and used to test the response capabilities and skills of the master and the crew. Exercises could be based upon realistic accident exercise scenarios designed to test all major aspects of the plans. Exercises should aim at testing the effectiveness of communication links, the mobilization of emergency resources and specialized teams, and of the cooperation between agencies and services involved. Another objective of the exercises is to strengthen the confidence of the personnel that they can adequately handle an incident. Equipment and instruments specified in the emergency plans could be used in exercises. Exercises should be clearly identified as such in communications or messages related thereto.

3.14 Drills, which are more limited in scope than exercises, are designed to develop, test and maintain special skills of individuals. For example, a communications and notification drill might test the proficiency of personnel in giving notification of an incident, alerting various organizations, and in operating communications equipment. A fire-fighting drill could be limited to the operation of fire-fighting equipment. Thus, drills can be considered as subsets of exercises, i.e. many drills conducted at the same time, in a coordinated fashion, constitute an exercise.

3.15 Provision may be made for the critique of drills and exercises by qualified observers. The results of drills and exercises should be used as a basis for improving the emergency plans, as appropriate. Recording of communications and videotaping the exercises are valuable aids for learning by the participants. Reports and critiques of actual emergencies should also be used as training aids.

3.16 Provision should be made for testing radiological instruments, communications and other equipment. The condition of equipment should be checked periodically, in conjunction with drills or exercises, and at other times, as warranted. A record of all drills and exercises should be maintained on board the ship showing date and results of the event. Additionally, any faults or deficiencies identified should be documented and corrected quickly.

Salvage

3.17 The Plan should contain information on the crew's responsibilities in an incident where a ship is partially or fully disabled, and what constitutes dangerous conditions. A decision process should be outlined in the Plan that will aid the master in determining when salvage assistance should be obtained. The decision process should include, but not be limited to, the following:

.1 Nearest land or hazard to navigation;

.2 Ship's set and drift;

.3 Location and time of impact with hazard based on ship's set and drift;

.4 Estimated time of incident repair; and

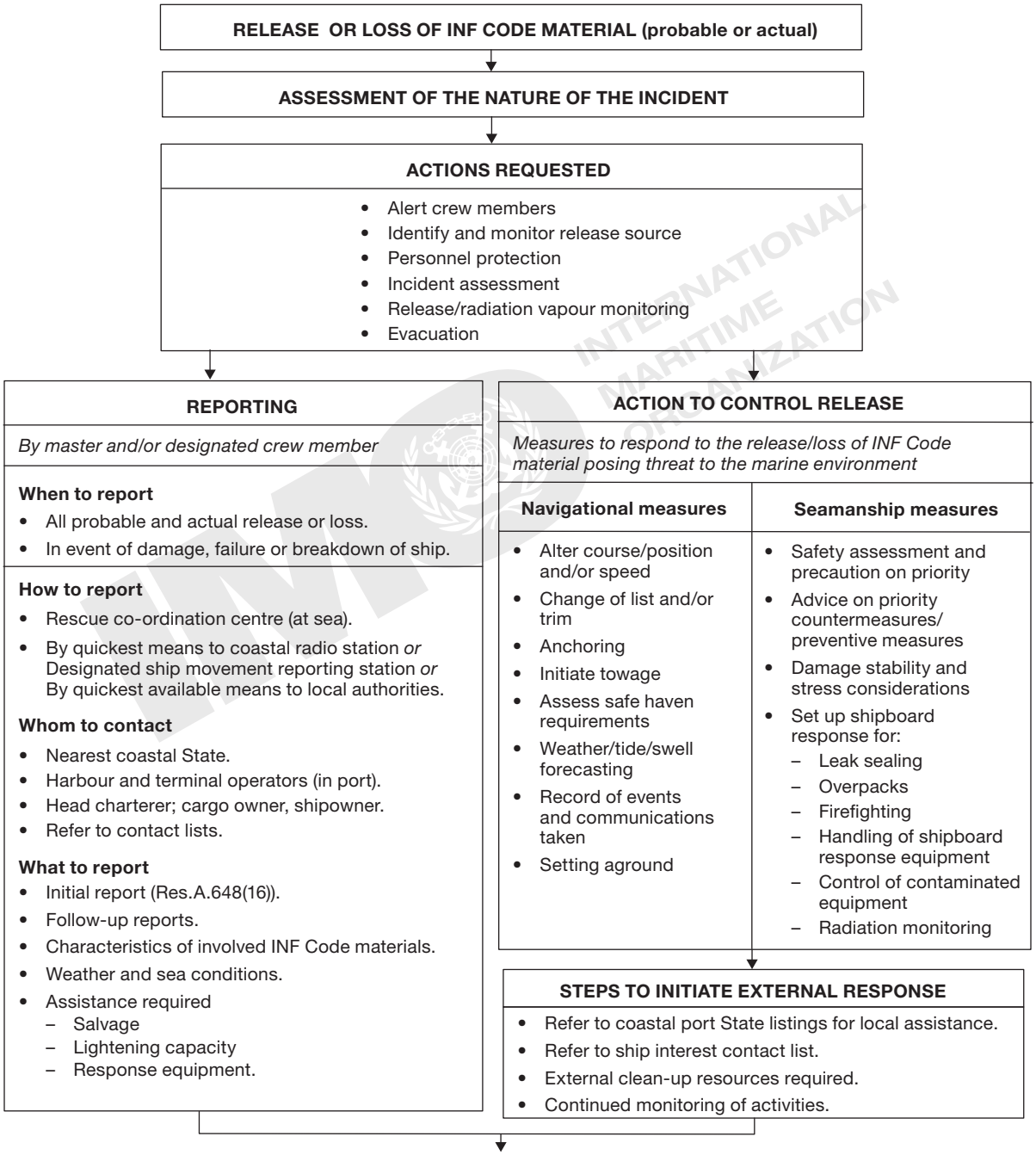
.5 Determination of nearest capable assistance and response time (i.e. for tug assistance, the time it will take to get on scene and secure the tow). When an incident occurs to a ship under way that reduces its manoeuvrability, the master needs to determine the window of opportunity considering the response time of assistance, regardless of estimated time of repair. It would not be prudent to hesitate in calling for assistance when the time needed to repair something goes beyond the window of opportunity.

3.18 Plans should contain lists and means of contacting and securing salvage assistance.

Appendix I
Shipboard Marine Pollution Emergency Plan for INF Code materials

Example summary flow chart

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to an incident involving INF Code materials based on the Guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given for inclusion of specific references to the Plan. The steps are designed to assist ship personnel in actions to prevent or control the release or loss of INF Code materials. These steps fall into two main categories – reporting and action.



Appendix II
Additional references for the development of emergency plans for ships transporting material subject to the INF Code

American National Standard (ANSI) for Highway Route Controlled Quantities of Radioactive Materials – Domestic Barge Transport, ANSI N14.24 (1985) (available in English, French, Russian and Spanish).

Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on board Ships, International Maritime Organization (IMO), (Res. A.748(18)) (available in English, French and Spanish).

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, International Atomic Energy Agency (IAEA) (1986).

Convention on Early Notification of a Nuclear Accident, IAEA, INFCIRC/335 (1986).

Convention on the Physical Protection of Nuclear Material, IAEA, INFCIRC/274/Rev.1 (1979).

Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material, IAEA, Safety Series No. 87 (1988) (ISBN 92-0-123088-5) (available in English).

International Basic Safety Standards for Protection against Ionizing Radiation and the Safety of Radiation Sources, IAEA, Safety Series Number 115 (1996).

International Convention on Oil Pollution Preparedness, Response and Co-operation, IMO (1990) (ISBN 92-801-1267-8) (available in English, French and Spanish).

International Maritime Dangerous Goods (IMDG) Code, IMO (available in English, French and Spanish).

Manual on Oil Pollution, Section II, Contingency Planning, IMO (1995) (ISBN 92-801-1330-5) (available in English, French and Spanish).

Regulations for the Safe Transport of Radioactive Material 1985, IAEA, Safety Series No. ST-1 (as amended, 1996) (ISBN 92-0-104996-X) (available in English, French, Russian and Spanish).

Appendix III

SHIPBOARD EMERGENCY PLAN FOR VESSELS CARRYING INF CODE MATERIALS
SAMPLE FORMAT FOR INITIAL NOTIFICATION

AA (SHIP NAME, CALL SIGN, FLAG)

BB (DATE AND TIME OF EVENT, UTC)

D D H H M M

CC (POSITION, LAT, LONG)

d d d m N S

d d d m m E W

OR DD (BEARING, DISTANCE FROM LANDMARK)

d d d

n miles

EE (COURSE)

d d d

FF (SPEED, KNOTS)

kn kn 1/10

LL (INTENDED TRACK)

MM (RADIO STATION(S) GUARDED)

NN (DATE AND TIME OF NEXT REPORT, UTC)

D D H H M M

PP (TYPE AND QUANTITY OF CARGO ON BOARD)

QQ (BRIEF DETAILS OF DEFECTS/DEFICIENCIES/DAMAGE)

RR (BRIEF DETAILS OF POLLUTION, RADIOLOGICAL OR CHEMICAL HAZARDS THAT EXIST)

SS (BRIEF DETAILS OF WEATHER AND SEA CONDITIONS)

direction

speed (Beaufort)

direction

height (m)

TT (CONTACT DETAILS OF SHIP'S OWNER/OPERATOR/AGENT)

UU (SHIP SIZE AND TYPE)

LENGTH: (m) BREADTH: (m) DRAUGHT: (m) TYPE:

XX (ADDITIONAL INFORMATION)

Footnote: The alphabetical reference letters in the above format are from "General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants" adopted by the International Maritime Organization by resolution A.851(20), as amended. The letters do not follow the complete alphabetical sequence as certain letters are used to designate information required for other standard reporting formats, e.g., those used to transmit route information.

Resolution A.984(24)

adopted on 1 December 2005

Facilitation of the carriage of IMDG Code class 7 radioactive materials including those in packaged form used in medical or public health applications

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

HAVING CONSIDERED the general purpose of the Convention on Facilitation of International Maritime Traffic, 1965, as amended, in particular article III,

REAFFIRMING that chapter VII of the International Convention for the Safety of Life at Sea, 1974, as amended (1974 SOLAS Convention) and the International Maritime Dangerous Goods (IMDG) Code contain sufficient and adequate provisions for the safe carriage of dangerous goods in packaged form including IMDG Code class 7 radioactive materials,

BEING AWARE of difficulties encountered in the carriage of certain IMDG Code class 7 radioactive materials including those used for medical or public health applications,

BEING CONCERNED about the potential adverse consequences that denial of carriage of IMDG Code class 7 radioactive materials used in medical applications, for example cobalt-60 and those radioisotopes used in radiotherapy and nuclear medicine, might have on public health,

NOTING the efforts of the Facilitation Committee, at its thirty-first and thirty-second sessions, to address and resolve the issue, and in particular the approval of FAL.6/Circ.12 on "Difficulties encountered in the shipment of the IMDG Code class 7 radioactive materials and, in particular, cobalt-60",

NOTING ALSO the work done by the International Atomic Energy Agency (IAEA) in an effort to assist in the alleviation of the difficulties encountered in the carriage of IMDG Code class 7 radioactive materials,

NOTING FURTHER the progress made by the IAEA in conjunction with the International Federation of Air Line Pilots' Associations on the problems related to refusals of air shipments of radioactive materials, in particular those used for medical applications, and the establishment, by the General Conference of the IAEA, through resolution GC(49)/RES/9, of a steering committee to oversee the resolution of the problem, as recommended by the IAEA Transport Safety Standards Committee,

ALSO NOTING that cessation of the transport of radioactive materials, except those used in medical or public health applications, through the regions of small island developing States is an ultimate desired goal of small island developing States and some other countries, and recognizing the right of freedom of navigation in accordance with international law,

RECOGNIZING the diverse and important uses of radioactive material, including cobalt-60, and the need to ensure the effective and efficient carriage of this medical isotope for the benefit of public health,

1 INVITES Member Governments to note that carriage of IMDG Code class 7 radioactive materials, when carried out in compliance with the relevant provisions of chapter VII of the 1974 SOLAS Convention, the IMDG Code and the recommendations contained in MSC/Circ.675 on "Recommendations on the safe transport of dangerous cargoes and related activities in port areas", meets the necessary safety requirements and should be facilitated;

2 ALSO INVITES Member Governments to recognize the beneficial uses of IMDG Code class 7 radioactive materials in packaged form used in medical or public health applications and to facilitate their expeditious transportation;

3 FURTHER INVITES Member Governments to work with relevant national authorities and industry associations to raise the required level of awareness and to help alleviate the difficulties encountered in the carriage of IMDG Code class 7 radioactive materials including those in packaged form used in medical or public health applications;

4 URGES Member Governments and non-governmental organizations with consultative status to bring to the attention of the Facilitation Committee any instances, together with the associated reasons, where the carriage of IMDG Code class 7 radioactive materials, including those in packaged form used in medical or public health applications, encounter difficulties or are refused carriage aboard ship or in or through ports, so as to enable the Facilitation Committee to consider the matter further; to determine the actions required, and to report to the twenty-fifth regular session of the Assembly on the progress made towards resolving these issues;

5 REQUESTS the Facilitation Committee, in cooperation with other bodies of the Organization, to continue to work with a view to resolving difficulties encountered in the carriage of all IMDG Code class 7 radioactive materials, including those used in medical or public health applications, and to continue to cooperate with the IAEA in this respect;

6 AGREES that resolution of the difficulties encountered in the carriage of IMDG Code class 7 radioactive materials requires continued cooperation between the Organization and the IAEA and with any bodies the latter may set up to deal with the issue;

7 REQUESTS ALSO the Secretary-General to explore the possibility of establishing an ad hoc mechanism within the Organization to coordinate efforts to speedily resolve difficulties in the carriage of IMDG Code class 7 radioactive materials, in close cooperation with the IAEA.

Resolution A.1072(28)*

adopted on 4 December 2013

Revised Guidelines for a structure of an integrated system of contingency planning for shipboard emergencies

THE ASSEMBLY

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO that the 1994 International Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, adopted amendments to that Convention introducing, inter alia, a new chapter IX on Management for the Safe Operation of Ships, which makes compliance with the International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) mandatory,

BEING AWARE that shipboard emergency plans addressing different categories of emergencies are required under the provisions of the 1974 SOLAS Convention, as amended, and the *International Convention for the Prevention of Pollution from Ships, 1973*, as modified by the Protocol of 1978 relating thereto, as amended,

RECALLING resolution A.852(20), by which it adopted the *Guidelines for a structure of an integrated system of contingency planning for shipboard emergencies*, containing guidance to assist in the preparation and use of a module structure of an integrated system of shipboard emergency plans,

BEING CONCERNED that the presence on board ships of different and non-harmonized emergency plans may be counterproductive in case of an emergency,

RECOGNIZING that many ships already make use of comprehensive and effective emergency plans, such as the Shipboard Oil Pollution Emergency Plan (SOPEP),

CONSCIOUS of the need that human element aspects are borne in mind when rules and recommendations affecting shipboard operations are considered for adoption,

WISHING to assist shipowners, ship operators and other parties concerned in transposing, where this has not yet been done, the provisions regulating emergency plans into a coherent contingency regime,

HAVING CONSIDERED the recommendations made by the Marine Environment Protection Committee at its sixty-fourth session and the Maritime Safety Committee at its ninety-first session,

1 ADOPTS the Revised Guidelines for a structure of an integrated system of contingency planning for shipboard emergencies, as set out in the annex to the present resolution;

2 INVITES Governments, in the interests of uniformity, to accept the aforementioned structure as being in conformity with the provisions for the development of the shipboard emergency plans required by various instruments adopted by the Organization;

3 INVITES Governments to refer to these Revised Guidelines when preparing appropriate national legislation;

4 REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Revised Guidelines under review and amend them as necessary in the light of experience gained;

5 REVOKES resolution A.852(20) with effect from 1 July 2014.

* As amended by its Corr.1.

Annex

Revised guidelines for a structure of an integrated system of contingency planning for shipboard emergencies

Contents

Preface

These Guidelines, prepared by the Maritime Safety Committee and the Marine Environment Protection Committee of the International Maritime Organization, contain guidance to assist in the preparation of an integrated system of contingency planning for shipboard emergencies. It is intended to be used for the preparation and use of a module structure of an integrated system of shipboard emergency plans.

The high number of non-harmonized shipboard contingency plans justifies the development of an integrated system and the harmonization of the structure of contingency plans.

Shipboard emergency preparedness is required under paragraphs 1.2.2.2 and 8 of the International Safety Management (ISM) Code, as amended, referred to in chapter IX of the SOLAS Convention, as amended, under chapter III, regulation 24-4 of the SOLAS Convention, as adopted at the SOLAS Conference in November 1995, and under MARPOL, Annex I, regulation 37.

To implement the SOLAS and MARPOL regulations, there must be shipboard procedures and instructions. These Revised Guidelines provide a framework for formulating procedures for the effective response to emergency situations identified by the company and shipboard personnel.

In this context, the main objectives of these Revised Guidelines are:

.1 to assist companies in translating the requirements of the regulations into action by making use of the structure of the integrated system;

.2 to integrate relevant shipboard emergency situations into such a system;

.3 to assist in the development of harmonized contingency plans which will enhance their acceptance by shipboard personnel and their proper use in an emergency situation; and

.4 to encourage Governments, in the interests of uniformity, to accept the structure of the integrated system as being in conformity with the provisions for development of shipboard contingency plans as required by various IMO instruments, and to refer to these Revised Guidelines when preparing appropriate national legislation.

1 General remarks

1.1 The ISM Code establishes an international standard for the safe management and operation of ships by defining elements which must be taken into account for the organization of company management in relation to ship safety and pollution prevention. Since emergencies, as well as cargo spillage, cannot be entirely controlled, either through design or through normal operational procedures, emergency preparedness and pollution prevention should form part of the company's ship safety management. For this purpose, every company is required by the ISM Code to develop, implement and maintain a Safety Management System (SMS).

1.2 Within this SMS, potential emergency shipboard situations should be identified and procedures should be established to respond to them.

1.3 If the preparation of response actions for the many possible varying types of emergency situations which may occur are formulated on the basis of a complete and detailed case-by-case consideration, a great deal of duplication will result.

1.4 To avoid duplication, shipboard contingency plans must differentiate between "initial actions" and the major response effort involving "subsequent response", depending on the emergency situation and the type of ship.

1.5 A two-tier course of action provides the basis for a modular approach, which can avoid unnecessary duplication.

1.6 It is recommended that a uniform and integrated system of shipboard emergency plans should be treated as part of the ISM Code, forming a fundamental part of the company's individual SMS.

1.7 An illustration of how such a structure of a uniform and integrated system of shipboard emergency plans with its different modules can be incorporated into an individual SMS is shown in appendix 1.

2 Integrated system of contingency planning for shipboard emergencies

2.1 Scope

2.1.1 The integrated system of shipboard emergency plans (hereinafter referred to as the "system") should provide a framework for the many individual contingency plans (hereinafter referred to as the "plans"), tailored for a variety of potential emergencies, for a uniform and modular designed structure.

2.1.2 Use of a modular designed structure will provide a quickly visible and logically sequenced source of information and priorities, which can reduce error and oversight during emergency situations.

2.2 Structure of the system

2.2.1 The structure of the system comprises the following six modules, the titles of which are:

Module I: Introduction

Module II: Provisions

Module III: Planning, preparedness and training

Module IV: Response actions

Module V: Reporting procedures

Module VI: Annex(es).

An example of the arrangement of these modules is shown in appendix 2.

2.2.2 Each module should contain concise information to provide guidance and to ensure that all appropriate and relevant factors and aspects, through the various actions and decisions during an emergency response, are taken into account.

2.3 Concept of the system

2.3.1 The system is intended as a tool for integrating the many different plans into a uniform and modular structured frame. The broad spectrum of the many required plans which may be developed by a company will result in the duplication of some elements (e.g. reporting) of these plans. Such duplication can be avoided by using the modular structure of the system referred to in 2.2.1.

2.3.2 Although the initial action taken in any emergency will depend upon the nature and extent of the incident, there are some immediate actions which should always be taken – the so-called "initial actions" (see appendix 4). Therefore, a distinction within the plans between "initial actions" and "subsequent response", which depends on variables like the ship's cargo, type of the ship, etc., will help to assist shipboard personnel in dealing with unexpected emergencies and will ensure that the necessary actions are taken in a priority order.

2.3.3 "Subsequent response" is the implementation of the procedures applicable to the emergency.

3 System modules

3.1 General principles

3.1.1 As a starting point for the preparation of the system, appendix 3 provides guidance and a quick overview concerning the kind of information which may be inserted into the individual system modules.

3.1.2 Above all, the system should be developed in a user-friendly way. This will enhance its acceptance by shipboard personnel.

3.1.3 For the system as well as the associated plans to be effective it must be carefully tailored to the individual company and ship. When doing this, differences in ship type, construction, cargo, equipment, manning and route have to be taken into account.

3.2 Details of the individual modules

3.2.1 *Module I: Introduction*

3.2.1.1 The system should contain a module entitled "Introduction".

3.2.1.2 The content of this module should provide guidance and an overview of the subject-matter.

3.2.1.3 The following is an example of an introductory text:

"**Introduction**

1 The system is intended to prepare shipboard personnel for an effective response to an emergency at sea.

2 The prime objective of the system is to provide guidance to shipboard personnel with respect to the steps to be taken when an emergency has occurred or is likely to occur. Of equal benefit is the experience of those involved in developing the plan.

3 The purpose of the system is to integrate contingency plans for shipboard emergency situations and to avoid the development of different, non-harmonized and unstructured plans which would hamper their acceptance by shipboard personnel and their proper use in an emergency situation. Therefore, the system and its integrated plans should be structured and formatted in their layout and content in a consistent manner.

4 The aim of the system is to ensure the most timely and adequate response to emergencies of varied size and nature, and to remove any threat of serious escalation of the situation. Additionally, the system provides a structure to prevent critical steps from being overlooked.

5 The system and associated plans should be seen as dynamic, and should be reviewed after implementation and improved through the sharing of experience, ideas and feedback.

6 It should be kept in mind that there could be problems in communication due to differing language or culture of the shipboard personnel. The system, as well as the integrated plans, will be documented for use on board by the master, officers and relevant crew members of the ship, and the documents must be available in the working language of the crew. Any change in personnel which results in a change in the crew's working language requires plans to be issued in the new language. The module should provide information to this effect.

7 The system is to be seen as a tool for implementing the requirements of paragraphs 1.2.2.2 and 8 of the ISM Code, or similar regulations in other IMO instruments, in a practical manner."

3.2.2 *Module II: Provisions*

3.2.2.1 This module should contain information and explanations on how the system could be developed on the basis of suggestions for improvement made by the individual company and shipboard personnel.

3.2.2.2 The primary objective of shipboard emergency prevention, preparedness and response activities should be to develop and implement an efficient and effective system which will minimize the risks to human life, the marine environment and property, with a continuous effort towards improvement.

3.2.2.3 To achieve this objective, there is a need for coordination of, and consistency in, safety procedures between the company and its ships. Therefore, the module should require that company shore-based and shipboard contingency planning and response are consistent and appropriately linked.

3.2.2.4 Safety involves "top-down" and "bottom-up" commitment to active development and application of safety procedures and practices by all persons, both ashore and afloat, including management.

3.2.2.5 Free and open communication when evaluating emergency procedures, taking into consideration accidents and near misses when using this system, should be pursued with the objective of improving accident prevention, preparedness and response aboard ships. The module should take care of this recommendation by providing information for the implementation of an error reduction strategy with appropriate feedback and procedures for modification of plans.

3.2.2.6 In summary, the module should inform the system user about the most important requirements with which, at a minimum, the plans should comply. The following main elements should be addressed in the module:

.1 procedures to be followed when reporting an emergency;

.2 procedures for identifying, describing and responding to potential emergency shipboard situations; and

.3 programmes/activities for the maintenance of the system and associated plans.

3.2.3 *Module III: Planning, preparedness and training*

3.2.3.1 This module should provide for emergency training and education of shipboard personnel with a view to developing general awareness and understanding of actions to be taken in the event of an emergency.

3.2.3.2 The system and plans will be of little value if the personnel who are to use them are not made familiar with them. Module III should therefore provide practical information which enables each key member of the shipboard personnel to know in advance what their duties and responsibilities are and to whom they are to report under the plans. Responsibility should be assigned for each emergency system, and it should be incumbent on the company that all relevant officers and crew members should understand, be trained in and be capable of operating the emergency systems, such as fixed fire extinguishing systems, emergency generator, emergency steering, fire pumps, etc.

3.2.3.3 Successful management of an emergency or marine crisis situation depends on the ability of the shipboard personnel, the company, and external emergency coordinating authorities to muster sufficient resources in the right positions quickly.

3.2.3.4 An important goal of planning, preparedness and training programmes should be to increase awareness of safety and environmental issues.

3.2.3.5 Training should be at regular intervals and, in particular, be provided to shipboard personnel transferred to new assignments.

3.2.3.6 Records of all emergency drills and exercises conducted ashore and on board should be maintained and be available for verification. The drills and exercises should be evaluated as an aid to determining the effectiveness of documented procedures and identifying system improvements.

3.2.3.7 When developing plans for drills and exercises, a distinction should be made between full-scale drills involving all the parties that may be involved in a major incident and exercises limited to the ship and/or the company.

3.2.3.8 Feedback is essential for refining emergency response plans and emergency preparedness based on the lessons learned from previous exercises, accident investigations or real emergencies, and provides an avenue for continuous improvement. Feedback should ensure that the company, as well as the ship, is prepared to respond to shipboard emergencies (see summarizing flow diagram in appendix 1).

3.2.3.9 In conclusion, the module should, as a minimum, provide information on the procedures, programmes or activities developed in order to:

.1 familiarize shipboard personnel with the provisions of the system and plans;

.2 provide training for shipboard personnel about the system and plans, in particular for personnel transferred to new assignments;

.3 schedule regular drills and exercises to prepare shipboard personnel to deal with potential shipboard emergency situations;

.4 coordinate the shipboard personnel and the company's actions effectively, and include and take note of the aid which could be provided by external emergency coordinating authorities; and

.5 prepare a workable feedback system.

3.2.4 *Module IV: Response actions*

This module should provide guidance for shipboard personnel in an emergency when the ship is underway, berthed, moored, at anchor, in port or dry-dock.

3.2.4.1 In an emergency, the best course of action to protect the personnel, ship, marine environment and cargo requires careful consideration and prior planning. Standards for shipboard procedures to protect personnel, stabilize conditions and minimize environmental damage when an incident occurs should therefore be developed.

3.2.4.2 In this context reference is made to the guidelines already developed by the Organization, which contain information to provide a starting point and to assist personnel in the preparation of plans for individual ships.

3.2.4.3 The variety of plans to be incorporated in the system should be simple documents which outline procedures different from those used for daily routine operations. With normal operational procedures very difficult problems can be handled, but an emergency situation, whether on the ship at sea or in a port, can extend those involved beyond their normal capabilities.

3.2.4.4 In order to keep the plans held by ship and shore identical, and to reduce possible confusion in an emergency as to who is responsible for which action, plans should make clear whether the action should be taken by shipboard personnel or shoreside personnel.

3.2.4.5 Taking these particulars into consideration, the module "Response actions" should comprise main groupings of emergency shipboard situations.

3.2.4.6 Potential emergency situations should be identified in the plans, including, but not limited to, the following main groups of emergency:

.1 fire;

.2 damage to the ship;

.3 pollution;

.4 unlawful acts threatening the safety of the ship and the security of its passengers and crew;

.5 personnel accidents;

.6 cargo-related accidents; and

.7 emergency assistance to other ships.

In order to give the company the necessary flexibility for identifying, describing and responding to further shipboard emergency situations, more specific types of emergency should be included in the main groups.

3.2.4.7 The above-mentioned main groups can be further subdivided to cover the majority of shipboard emergencies. The detailed response actions should be formulated so as to set in motion the necessary steps to limit the consequence of the emergency and the escalation of damage following, for example, a collision or grounding.

3.2.4.8 The company should identify all possible situations where shipboard contingency planning would be required relative to the operational requirements, ship's type, equipment and trade. The company should consider which shipboard contingency plans should be reviewed and/or updated whenever changing trade patterns.

3.2.4.9 In all cases priority should be given to actions which protect life, the marine environment and property, in that order. This means that "initial actions" which are common for all ships, regardless of their type and the cargoes carried, should be fully taken into account when formulating "subsequent response" procedures.

3.2.4.10 The planning of subsequent response actions should include information relating to the individual ship and its cargo, and provide advice and data to assist the shipboard personnel. Examples of such information are listed below:

.1 Information on:

  .1 the number of persons aboard; and

  .2 the cargo carried (e.g. dangerous goods, etc.);

.2 Steps to initiate external response:

  .1 search and rescue coordination;

  .2 buoyancy, strength and stability calculations;

  .3 engagement of salvors/rescue towage;

  .4 lightering capacity; and

  .5 external clean-up resources;

.3 Ship drift characteristics; and

.4 General information:

  .1 cooperation with national and port authorities; and

  .2 public relations.

3.2.4.11 Although shipboard personnel should be familiar with the plan, ease of reference is an important element in compiling and using an effective plan. Allowance must be made for quick and easy access to essential information under stressful conditions. Appendices 3 and 4 show a detailed picture of the sequence of priorities for "initial actions" in an emergency situation and their link with the "subsequent response".

3.2.4.12 In summary, the module should guide those responsible for developing the system on what should be included in emergency plans, namely:

.1 coordination of response efforts;

.2 response procedures for the entire spectrum of possible accident scenarios, including methods that protect life, the marine environment and property;

.3 the person or persons identified by title or name as being in charge of all response activities;

.4 the communication lines used for ready contact with external response experts;

.5 information concerning the availability and location of response equipment; and

.6 reporting and communication procedures on board ship.

A flow chart depicting a seven-step approach for emergency plan(s) implementation is presented in section 4.

3.2.5 *Module V: Reporting procedures*

3.2.5.1 A ship involved in an emergency situation, or in a marine pollution incident will have to communicate with the appropriate ship interest contacts and coastal State or port contacts. Therefore the system must specify in appropriate detail the procedures for making the initial report to the parties concerned. This module should take care of the following:

3.2.5.2 Every effort should be made to assure that information regarding:

.1 ship interest contacts;

.2 coastal State contacts; and

.3 port contacts,

for reporting emergencies are part of the system and are regularly updated.

3.2.5.3 The establishment and maintenance of rapid and reliable 24-hour communication lines between the ship in danger and emergency control centre(s), company's main office and national authorities (RCC, points of contact), is important.

3.2.5.4 Those managing response operations on board and services assisting ashore should keep each other mutually informed of the situation.

3.2.5.5 Details such as telephone, telex and telefax numbers must be routinely updated to take account of personnel changes. Clear guidance should also be provided regarding the preferred means of communication.

3.2.5.6 In this context, reference is made to the Organization's guidelines and other national specific plans which give sufficient guidance on the following reporting activities necessary:

.1 when to report;

.2 how to report;

.3 whom to contact; and

.4 what to report.

3.2.6 *Module VI: Annex(es)*

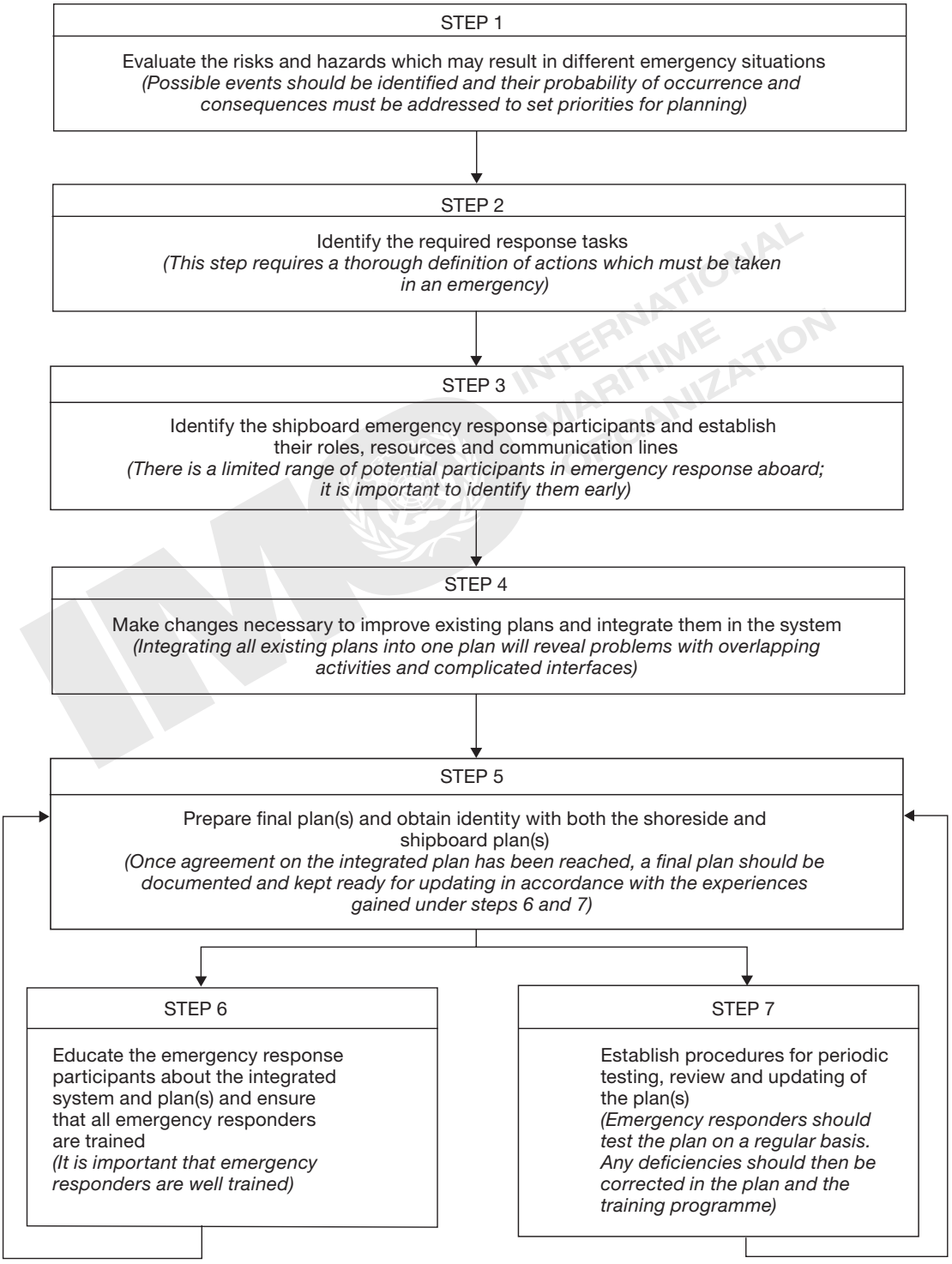
In addition to the information required to respond successfully to an emergency situation, other requirements that will enhance the ability of shipboard personnel to locate and follow up operative part 5 of the plan may be required.

4 Example format for a procedure of a selected emergency situation

An example format for a procedure of a selected emergency situation referred to in 3.2.4 is shown in the flow chart below.

Emergency plan(s) implementation flow-chart

This flow-chart outlines the step-wise approach to carrying out the emergency plan(s) implementation. It indicates steps or objectives to be achieved rather than specific procedures to be followed. Based on experience, a seven-step approach to implementing the plan(s) can be set out which leads to a useful and effective integrated emergency response plan.



1.5
MODULE IV

Response actions

Fire	Damage to the ship	Pollution	Unlawful acts threatening . . . . and crew	Personnel accidents	Cargo-related accidents	Emergency assistance to other ships
▼						

Emergency Group: **Fire**

Doc. No.: . . . . . Page 1 of 4
Issue date: . . . . . Revision date: . . . . . .

1 **Purpose and scope**

The following procedure defines modes of actions/activities and measures to be taken in case of a **Fire** aboard the vessel. This procedure is a guide but under no circumstances restricts the master's discretion.

2 **Responsibilities**

The master is responsible for the organizational prerequisites for **Fire** emergency handling and for the availability and immediate use of the fire-fighting systems and safety equipment available but should delegate the various tasks to suitable qualified officers.

3 **Measures to be taken**

→ **"Initial actions"**

3.1 ***Measures by the person who observes the fire first***

- Activate nearest fire alarm
-
-
-
- } *[to be developed by the company]*

3.2 ***Measures by the navigational officer of the watch***

- Activate general alarm
- Call master
-
-
-
-
-
- } *[to be developed by the company]*

MODULE IV: Response actions

Emergency Group: **Fire**

Doc. No.: . . . . . Page 2 of 4
Issue date: . . . . . Revision date: . . . . . .

3.3 *Measures by the master*

- Introduce organized fire-fighting activities
- Keep fire-fighting system(s) – fixed and mobile – ready
-
-
-
-
-
-
-
-
- *[to be developed by the company]*
- Make analysis of situation; consider priority of measures
- Start/continue fire-fighting measures (activate fire-fighting system(s) available)
- Monitor progress of fire-fighting measures
- Collect additional information

MODULE VI

Annex(es)

- Plans, diagrams
- Cargo information
- . . . . . .
- . . . . . .

- Prepare for transmission of distress call/situation report (use prepared standardized format)
- Prepare for record keeping

Follow-up actions

- Prepare for bunker/ballast tank operations (if necessary)
- Call for external response (if necessary)
- Check necessity of abandoning vessel
- Disembark passengers (if necessary)

MODULE V

Reporting procedures

MODULE IV: Response actions	
Emergency Group: **Fire**	
Doc. No.:	Page 3 of 4
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3.3 ***Measures by the master*** *(continuation)*

- Assess (structural) damage to vessel and/or cargo
- Check vessel's seaworthiness, buoyancy, stability, trim, list, etc.
- Observe weather forecasts
- Check measures against cargo-associated or other hazards caused by fire (spillage of marine pollutants, released gases, cargo securing, oil spillages, etc.)

MODULE VI

Annex(es)

- Plans, diagrams
- Cargo information
- . . . . . .
- . . . . . .

MODULE V

Reporting procedures

Emergency Group Pollution

e.g. **SOPEP**

- Start taking of evidence
- Keep fire watch at fire location
- Restore normal ship routine/operation
- Make used fire-fighting equipment operational
- Transmit final report

END

MODULE IV: Response actions

Emergency Group: **Fire**

Doc. No.: . . . . . Page 4 of 4
Issue date: . . . . . Revision date: . . . . . .

4 **Additional measures in case of fire aboard in port**

- Inform harbour/shoreside fire brigade →
- Hand over fire control plans to harbour/shoreside fire brigade
- Inform agency/owner →

→ **MODULE V** — Reporting procedures

- Keep international shore connection ready

- Check completeness of crew/passengers/guests, etc.
- Inform fire brigade about hazardous/dangerous goods →

→ **MODULE VI** — Annex(es)

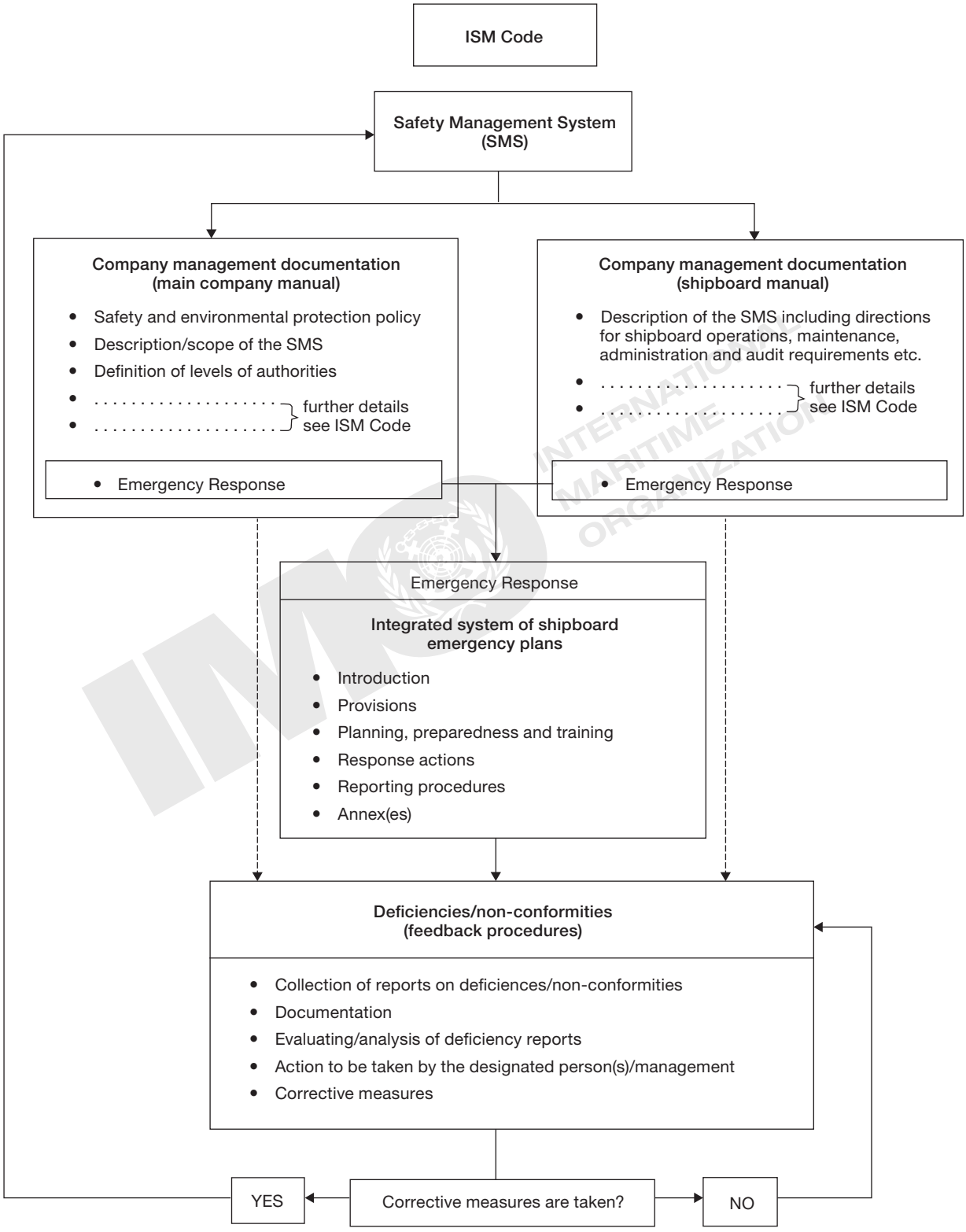
5 **Non-conformity report**

All non-conformities/deficiencies of which the master, officers and responsible crew members became aware in connection with fire-fighting measures should be collected, recorded and sent to the company/designated person(s) or other nominated person(s) as soon as possible →

→ **MODULE II** — Provisions

MODULE V
Reporting procedures
Emergency Group: **Fire**
1 The master is obliged to report details and to inform all interested parties about the **Fire** emergency and the actions taken so far by means of the fastest telecommunication channels available. 2 In case of a **Fire** the following reporting procedures are recommended: 2.1 **Alert** by radiocommunication ships in the vicinity; 2.2 If the ship stays in or is near port refer to • coastal State contact list • port contact list for assistance; 2.3 **Notify** all relevant ship interest contacts who are to be advised in an emergency (reference is made to ship interest contact list).

Appendix 1
Incorporation of an integrated system of shipboard emergency plans into the company's individual safety management system (SMS) as required by the ISM Code



Appendix 2
The module structure of an integrated system for shipboard emergency plans

Module I – Introduction

- Introduction text

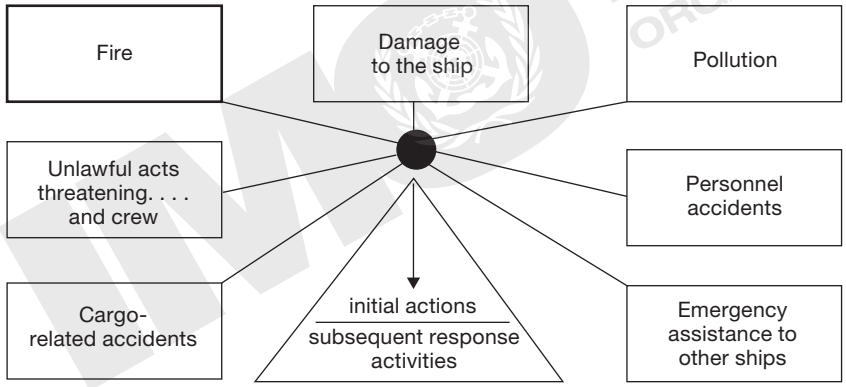
Module II – Provisions

- Basic information
- Maintenance of the system and associated plans
- Consistency between the system and associated plans/feedback system

Module III – Planning, preparedness and training

- Provisions and information for emergency training and education
- Familiarization with the shipboard and shoreside system associated plans
- Responsibilities/communication lines established with all parties involved
- Information of external co-ordinating authorities/provision for regular drills

Module IV – Response actions



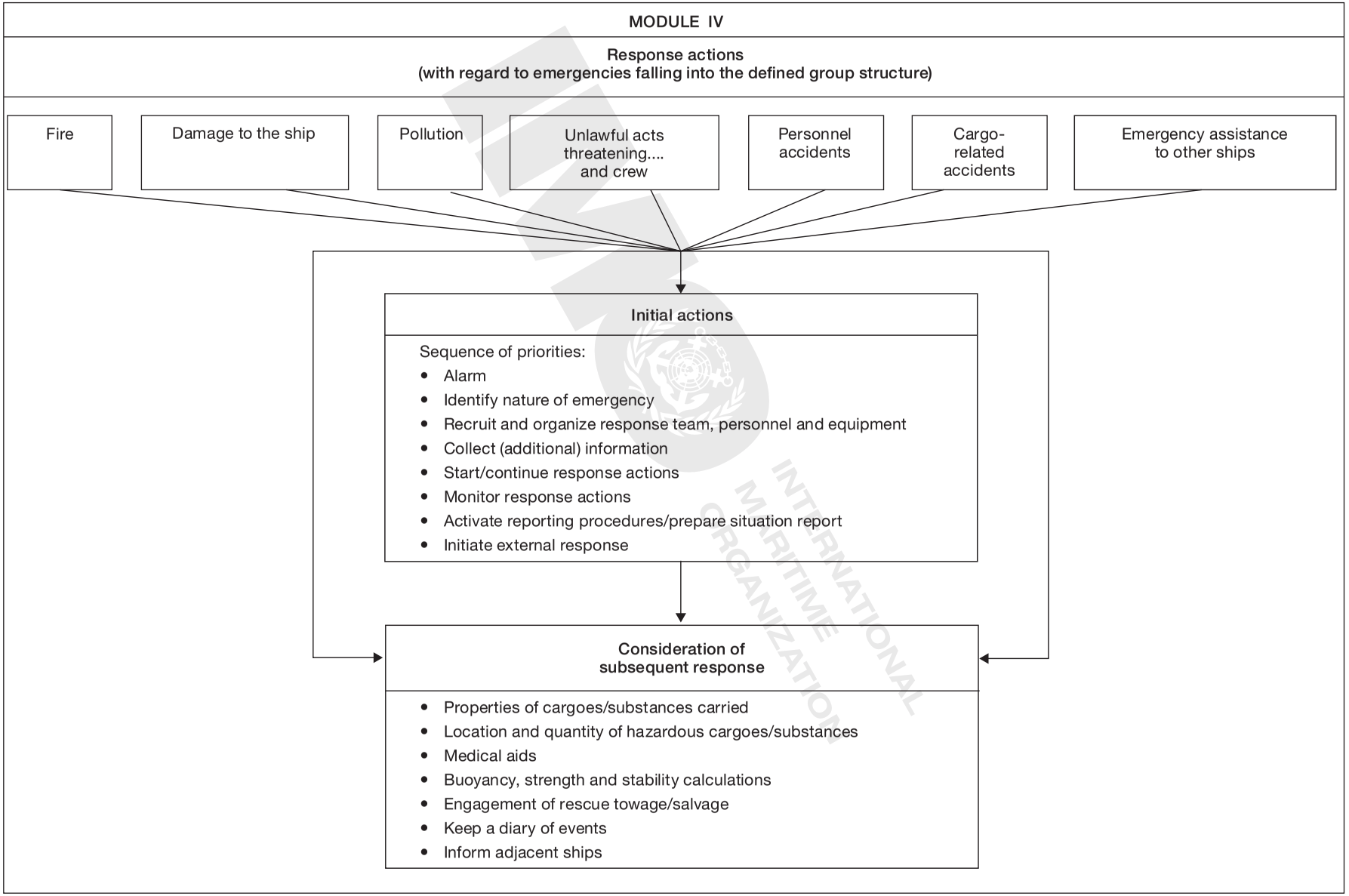
Module V – Reporting procedures

- When to report
- How to report
- Whom to contact
- What to report

Module VI – Annex(es)

- Plans and diagrams concerning details of the ship's general arrangement
- Bunker and ballast information
- Additional documents (e.g. list of contact points)
- Industry guidelines
- Cargo information, etc.

Appendix 3


MODULE IV
Response actions
(with regard to emergencies falling into the defined group structure)
Fire
Damage to the ship
Pollution
Unlawful acts threatening.... and crew
Personnel accidents
Cargo-related accidents
Emergency assistance to other ships
Initial actions
Sequence of priorities:
• Alarm
• Identify nature of emergency
• Recruit and organize response team, personnel and equipment
• Collect (additional) information
• Start/continue response actions
• Monitor response actions
• Activate reporting procedures/prepare situation report
• Initiate external response
Consideration of subsequent response
• Properties of cargoes/substances carried
• Location and quantity of hazardous cargoes/substances
• Medical aids
• Buoyancy, strength and stability calculations
• Engagement of rescue towage/salvage
• Keep a diary of events
• Inform adjacent ships

Appendix 4