

ASSEMBLY
20th session
Agenda item 9

RESOLUTION A.852(20)
adopted on 27 November 1997

**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,

BEING CONCERNED that the presence on board ships of different and non-harmonized emergency plans may be counter-productive 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, where this has not yet been done, transposing the provisions regulating emergency plans into a coherent contingency regime,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee at its sixty-seventh session and by the Marine Environment Protection Committee at its thirty-ninth session,

1. ADOPTS the Guidelines for a Structure of an Integrated System of Contingency Planning for Shipboard Emergencies, 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 Guidelines when preparing appropriate national legislation;
4. REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Guidelines under review and amend them as necessary in the light of experience gained.

ANNEX

**GUIDELINES FOR A STRUCTURE OF AN INTEGRATED SYSTEM
OF CONTINGENCY PLANNING FOR SHIPBOARD EMERGENCIES**

Contents

Preface

- 1 General remarks
- 2 Integrated system of contingency planning for shipboard emergencies
 - 2.1 Scope
 - 2.2 Structure of the system
 - 2.3 Concept of the system
- 3 System modules
 - 3.1 General principles
 - 3.2 Details of the individual modules
 - 3.2.1 Module I : Introduction
 - 3.2.2 Module II : Provisions
 - 3.2.3 Module III : Planning, preparedness and training
 - 3.2.4 Module IV : Response actions
 - 3.2.5 Module V : Reporting procedures
 - 3.2.6 Module VI : Annex(es)
- 4 Example format for a procedure of a selected emergency situation

Appendices

- Appendix 1 Incorporation of an integrated system of shipboard emergency plans in the company's individual safety management system
- Appendix 2 The module structure of an integrated system for shipboard emergency plans
- Appendix 3 Module IV - Response actions (1)
- Appendix 4 Module IV - Response actions (2)

PREFACE

These Guidelines, prepared by the Maritime Safety Committee (MSC) of the International Maritime Organization (IMO), 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 chapter 8 of the ISM Code 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 November 1995, and under MARPOL 73/78, Annex I, regulation 26.

To implement the SOLAS and MARPOL regulations, there must be shipboard procedures and instructions. These 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 Guidelines are:

- * to assist companies in translating the requirements of the regulations into action by making use of the structure of the integrated system;
- * to integrate relevant shipboard emergency situations into such a system;
- * 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;
- * 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 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, procedures for describing and responding to potential shipboard emergency situations are required.

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 International Safety Management (ISM) Code, forming a fundamental part of the company's individual Safety Management System (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 plans 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 documents used on board by the master, officers and relevant crew members of the ship, and they must be available in the working language of the crew. Any change in these 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 chapter 8 of the International Safety Management (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 co-ordination of, and consistency in, safety procedures between the company and its ships. Therefore, the module should require that company shorebased 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

^{*}Reference is made to SOLAS 74, chapter III, regulation 24-4, and to MARPOL 73/78, Annex I, regulation 26.

in the module:

- * procedures to be followed when reporting an emergency;
- * procedures for identifying, describing and responding to potential emergency shipboard situations;
- * 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.

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 co-ordinating 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 and education 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 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:

- * familiarize shipboard personnel with the provisions of the system and plans;
- * train and educate shipboard personnel transferred to new assignments about the system and plans;

- * schedule regular drills and exercises to prepare shipboard personnel to deal with potential shipboard emergency situations;
- * co-ordinate the shipboard personnel and the company's actions effectively, and include and take note of the aid which could be provided by external emergency co-ordinating authorities;
- * 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**

*Reference is made to "Guidelines for the development of Shipboard Oil Pollution Emergency Plans" (see resolution MEPC.54(32)). Reference is also made to "Guidelines for the development of Shipboard Marine Pollution Emergency Plans" under consideration by the Organization (see BCH 24/WP.8);

- .4 **Unlawful acts threatening the safety of the ship and the security of its passengers and crew**
- .5 **Personnel accidents**
- .6 **Cargo related accidents**
- .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 majority of shipboard emergencies can be classified under the above-mentioned main groups.

For example, the main group "Damage to ship" can be subdivided to cover other shipboard emergencies, which may require very different responses, such as:

- * **collision**
- * **grounding/stranding**
- * **heavy weather damage**
- * **hull/structural failure, etc.**

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, collision or grounding.

3.2.4.8 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.

3.2.4.9 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:
 - * the number of persons aboard;
 - * the cargo carried (e.g. dangerous goods, etc.);
- .2 Steps to initiate external response:
 - * search and rescue co-ordination;

- * buoyancy, strength and stability calculations;
 - * engagement of salvors/rescue towage;
 - * lightering capacity;
 - * external clean-up resources;
- .3 Ship drift characteristics
- .4 General information:
- * co-operation with national and port authorities;
 - * public relations.

3.2.4.10 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**".

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

- co-ordination of response efforts;
- response procedures for the entire spectrum of possible accident scenarios, including methods that protect life, the marine environment and property;
- the person or persons identified by title or name as being in charge of all response activities;
- the communication lines used for ready contact with external response experts;
- information concerning the availability and location of response equipment;
- reporting and communication procedures on board ship.

A seven-step approach flow chart for emergency plan(s) implementation is presented on page 13.

3.2.5 Module V: Reporting procedures

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:

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

- ship interest contacts;
- coastal State contacts; and
- port contacts

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

3.2.5.2 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.

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

3.2.5.4 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.

3.2.5.5 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;
- .4 what to report.

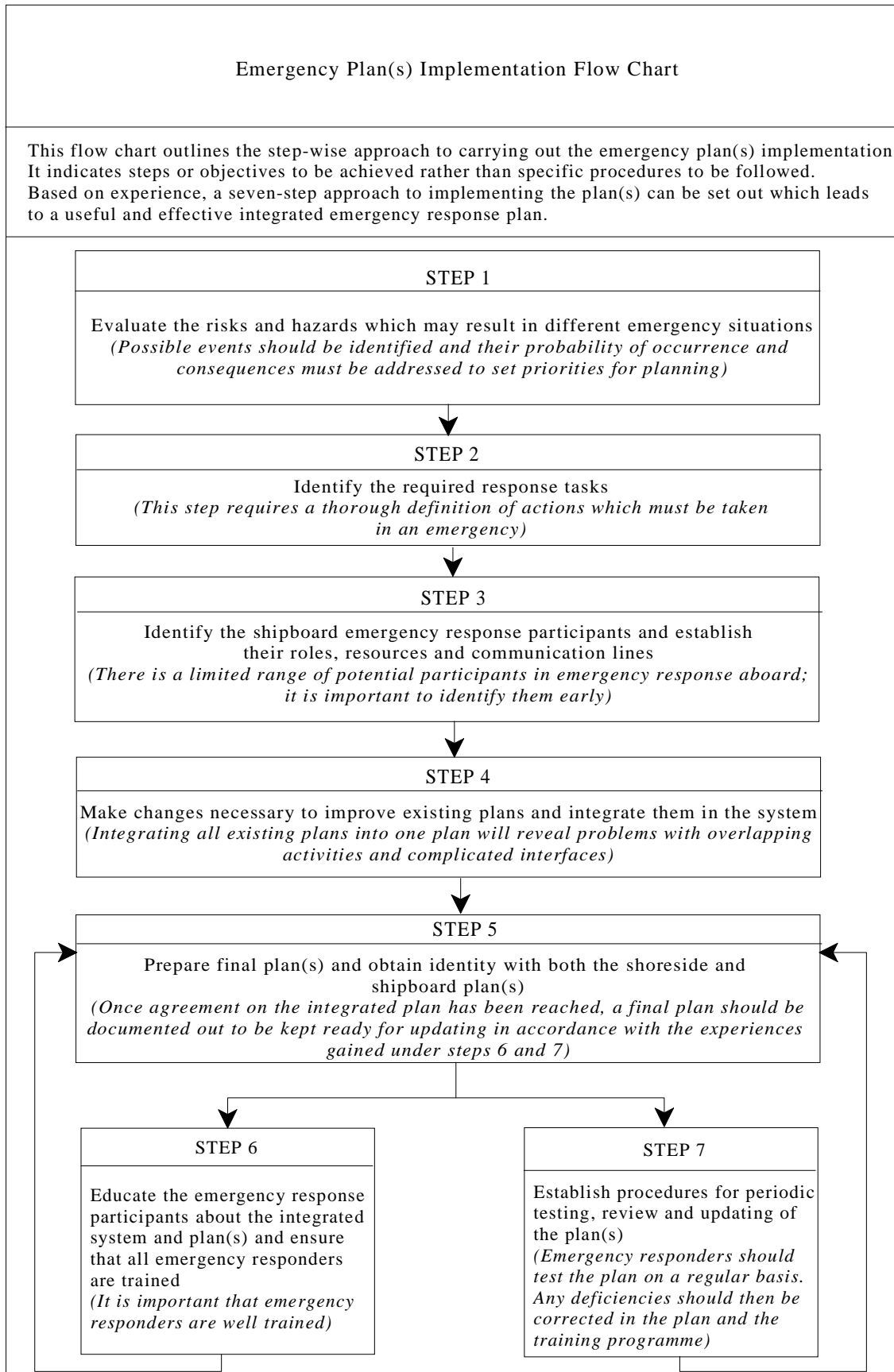
3.2.6 Module VI: Annex(es)

3.2.6.1 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 on pages 14 to 18.

*Reference is also made to "Guidelines for the development of Shipboard Oil Pollution Emergency Plans" (see resolution MEPC.54(32)), and to "General principles for ship reporting system and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants" (see resolution A.648(16)).



**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 define 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
- * }

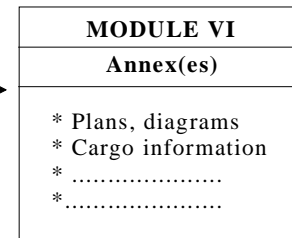
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MODULE IV: Response actions

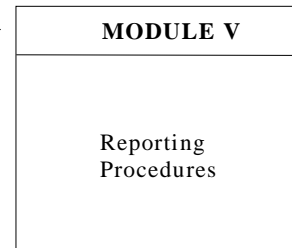
3.3 Measures by the master

- * 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



- * 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)

Emergency Group: **Fire**

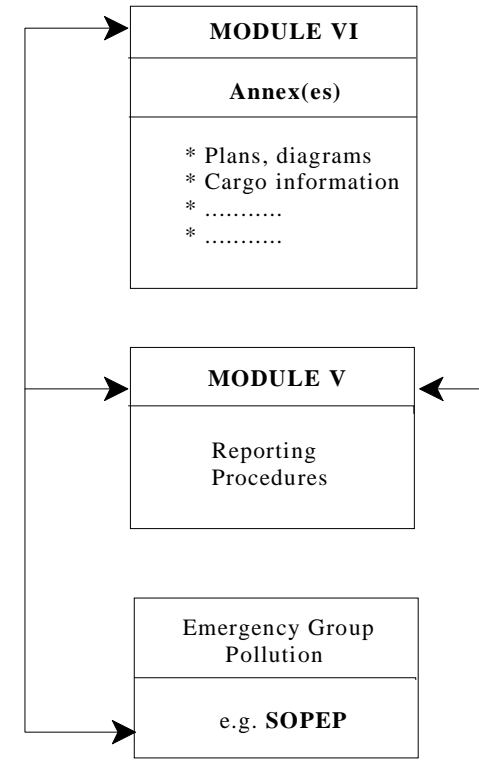
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Page 3 of 4
Revision date:

3.4 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.)

- * 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

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 becoming aware by the master, officers and responsible crew members 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 IN THE COMPANY'S INDIVIDUAL SAFETY MANAGEMENT SYSTEM (SMS) AS REQUIRED BY THE ISM CODE

ISM Code

Safety Management System (SMS)

Company Management Documentation (main company manual)

- *Safety and environmental protection policy
- *Description/scope of the SMS
- *Definition of levels of authorities
- *..... } further details
- *..... } see ISM Code

*Emergency Response

Company Management Documentation (shipboard manual)

- *Description of the SMS including directions for shipboard operations, maintenance, administration and audit requirements etc.
- *..... } further details
- *..... } see ISM Code

*Emergency Response

Emergency Response

Integrated System of Shipboard Emergency Plans

- *Introduction
- *Provisions
- *Planning, preparedness and training
- *Response actions
- *Reporting procedures
- *Annex(es)

- Deficiencies/Non-conformities (including reports)
- *Documentation
- *Evaluating/analysing of deficiency reports
- *Action to be taken by the designated person(s)/management
- *Corrective measures

APPENDIX 2

THE MODULE STRUCTURE OF AN INTEGRATED SYSTEM FOR SHIPBOARD EMERGENCY PLANS

Module I - Instruction

- * Introduction text

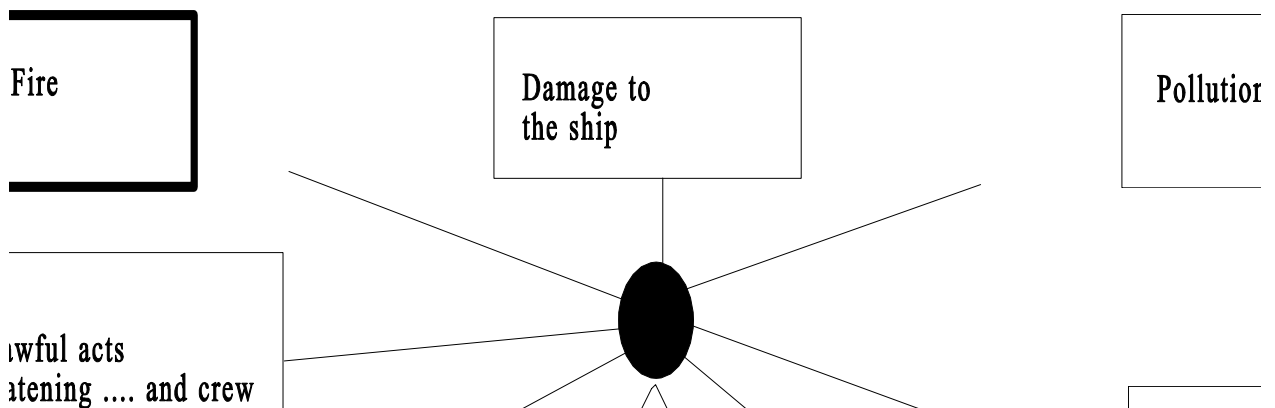
Module II - Provision

- * 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

Module IV - Response actions



* Information of external co-ordinating authorities/provision for regular drills

Module V - Reporting procedure

- * When to report
- * How to report

- * Whom to contact
- * What to report

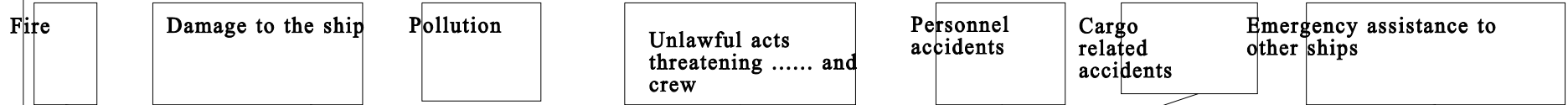
Module VI - Annex(es)

- * 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)**



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

