GUIDELINES FOR DEVELOPMENT OF SHIPBOARD MARINE POLLUTION EMERGENCY PLAN

2007

CONTENTS

CHAPTER 1 GENERAL PROVISIONS

1.1 Purposes

1.1.1 The Guidelines have been developed to assist with the development of shipboard oil pollution emergency plan, shipboard marine pollution emergency plan for noxious liquid substances or a shipboard marine pollution emergency plan① (hereafter referred to as the "Plan") that are required by regulation 37 of Annex I and regulation 17 of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) (hereafter referred to as "the Convention").

1.1.2 The Guidelines are mainly to provide general guidance and techniques to the ship owners, managers and operators for the development of the Plan.

1.1.3 The Guidelines are also to provide guidance for the surveyors to China Classification Society (hereafter referred to as the ISC) for the examination and approval of the Plan.

1.2 Application

1.2.1 The Guidelines apply to the development of the Plan listed in table 1.2.1.

Name of Plan	Applicable Ship
Shipboard oil pollution emergency plan	Every oil tanker of 150 gross tonnage and above and every ship other than an oil tanker of 400 gross tonnage and above
Shipboard marine pollution emergency plan for noxious liquid substances	Every ship of 150 gross tonnage and above certified to carry noxious liquid substances in bulk
Shipboard marine pollution emergency plan	For ships to which both the shipboard oil pollution emergency plan and shipboard marine pollution emergency plan for noxious liquid substances apply, such a plan may be used in lieu of the above two

1.3 General requirements for development of the Plan

1.3.1 The Plan is available to assist personnel in dealing with an unexpected discharge of oil or other noxious liquid substances. Its primary purpose is to set in motion the necessary actions to stop or minimize the discharge and to mitigate its effects. Effective planning ensures that the necessary actions are taken in a structured, logical, safe and timely manner.

1.3.2 In development of the Plan for a specific ship, the following various factors that apply to such a ship are to be considered, so as to ensure its compliance with the Convention:

(1) type and size of ship;
(2) cargo's physical properties (applicable only to ships certified to carry noxious liquid substances (NLSs));
(3) route;
(4) shore-based management structure;
(5) equipment and manning, etc.

1.3.3 The Plan is to go beyond providing for operational spills. It is to include guidance to assist the master in meeting the demands of a catastrophic discharge.

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① Shipboard marine pollution emergency plan referred to in the Guidelines is the plan combined with the shipboard oil pollution emergency plan and shipboard marine pollution emergency plan for noxious liquid substances.

1.3.4 For the plan to accomplish its purpose, it is to be:
(1) realistic, practical, and easy to use;
(2) understood by ship management personnel, both on board and ashore;
(3) evaluated, reviewed, and updated regularly.

1.3.5 Use of summarizing flowcharts 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.

1.3.6 Inclusion of extensive background information on the ship, cargo, etc. is to be avoided as this is generally available elsewhere. If such information is relevant, it is to be kept in annexes where it will not dilute the ability of ship's personnel to locate operative parts of the Plan.

1.3.7 The Plan is to be available in a working language or languages understood by the master and officers. A change in the master and officers which brings about an attendant change in their working language or languages understood would require the issuance of the Plan in the new language(s). Where the language used for the Plan is not English, a translation in English is to be provided.

1.3.8 The Plan is to clearly underline 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, i.e., lightening. 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 (1969 Intervention Convention) and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973 (1973 Intervention Protocol)."

1.4 Examination and approval of the Plan

1.4.1 When in approval of the Plan, compliance with the revised Annex I, Annex II of MARPOL and MEPC.85(44) as amended by MEPC.137(53) are to be examined. After approval, the Approval of shipboard marine pollution emergency plan is to be issued (see Annex 1 of the Guidelines).

1.4.2 When the Plan made under the Guidelines is approved, it can be used as the necessary information and basis for issuance of the International Oil Pollution Prevention Certificate and/or International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk.

1.4.3 For any fixed or floating drilling rig or other offshore installation when engaged in the exploration, exploitation or associated offshore processing of sea-bed mineral resources, the Plan is to be co-ordinated with procedures established by the coastal State.

1.4.4 For oil tankers of 5,000 tonnes deadweight and above , particular attention is, in approval of the Plan, to be paid that the contact information of service provider for "computerized, shore-based damage stability and residual structural strength calculation programs" is to be appended to the Plan. For the Plan which has been approved, no more approval needed when the contact information mentioned above is newly added.

1.4.5 Changes to non-mandatory provisions and the appendices will not be required to be approved again.

CHAPTER 2 DEVELOPMENT OF THE PLAN

2.1 Inclusion of the Plan

2.1.1 The Plan is to consist at least of the following mandatory provisions required by the Convention:

(1) the procedure to be followed by the master or other persons having charge of the ship to report an oil and/or noxious liquid substance pollution incident;

(2) the list of authorities or persons to be contacted in the event of an oil and/or noxious liquid substance pollution incident;

(3) a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of oil and/or noxious liquid substance following the incident;

(4) the procedures and point of contact on the ship for co-ordinating shipboard activities with national and local authorities in combating oil or noxious liquid substance pollution;

(5) all oil tankers of 5,000 tons deadweight and above are to have "prompt access to computerized, shore-based damage stability and residual structural strength calculation programs".

2.1.2 In addition to mandatory provisions, local requirements, insurance company, or owner/ operator policies, etc., may dictate that other guidance be provided in the Plan. These topics may include: provision of diagrams and drawings; ship-carried response equipment; public affairs; record-keeping; product specific response information (for ships certified to carry NLSs) and reference materials. See for details 2.8 of the Guidelines.

2.1.3 The Plan in general is to contain the following eight parts:

(1) introduction;
(2) contents;
(3) preamble;
(4) reporting requirements;
(5) steps to control discharge;
(6) national and local co-ordination;
(7) additional information (non-mandatory);
(8) appendices.

2.1.4 The sample of the Plan is given for reference in Annex 2 of the Guidelines. Each part involved is also given in 2.2 to 2.9 of the Guidelines.

2.2 Introduction

2.2.1 All shipboard marine pollution emergency plans (for oil and/or noxious liquid substances) are to contain the following introductory text:

(1) The Plan is written in accordance with the requirements of regulation 37 of Annex I and regulation 17 of Annex II of the International Convention for the Prevention of Pollution from ships, 1973, as modified by the Protocol of 1978 relating thereto.

(2) The purpose of the Plan is to provide guidance to the master and officers on board the ship with respect to the steps to be taken when an oil and/or noxious liquid substance pollution incident has occurred or is likely to occur.

(3) The Plan contains all information and operational instructions required by the Guidelines. The appendices contain names, telephone, telex numbers, etc., of all contacts referenced in the Plan, as well as other reference material.

(4) his Plan has been approved by the Administration and, except as provided in (5) below, no alteration or revision is to be made to any part of it without the prior approval of the Administration.
(5) Changes to additional information (non-mandatory) and the appendices will not be required to be approved by the Administration. The appendices are to be maintained up to date by the owners or managers and masters.

2.3 Preamble

2.3.1 This section is to contain an explanation of the purpose and use of the Plan and indicate how the shipboard Plan relates to other shore-based plans (refer Section1.3 of the Guidelines).

2.4 Reporting requirements

2.4.1 Article 8 and Protocol I of the Convention require that the nearest coastal State be notified of actual or probable discharges by the ship so that appropriate action may be taken by the coastal State.
(1) When required: The Plan is to provide clear, concise guidance to enable the master to determine when a report to the coastal State is required.

① Actual discharge: A report to the nearest coastal State is required whenever there is:
   (a) a discharge above the permitted level of oil or noxious liquid substance for whatever reason including those for the purpose of securing the safety of the ship or saving life at sea;
   (b) a discharge during the operation of the ship of oil or noxious liquid substance in excess of the quantity or instantaneous rate permitted under the present Convention.

② Probable discharge: The Plan is to give the master guidance to evaluate a situation which, though not involving an actual discharge, would qualify as a probable discharge and thus require a report. In judging whether there is such a probability and whether the report is to be made, the following factors, as a minimum, is to be taken into account:
   (a) the nature of the damage, failure or breakdown of the ship, machinery or equipment;
   (b) ship location and proximity to land or other navigational hazards;
   (c) weather, tide, current and sea state;
   (d) traffic density.

③ The master is to make a report in cases of:
   (a) damage, failure or breakdown which affects the safety of ships; examples of such situations are collision, grounding, fire, explosion, structural failure, flooding, cargo shifting;
   (b) failure or breakdown of machinery or equipment which results in impairment of the safety of navigation; examples of such incidents are failure or breakdown of steering gear, propulsion, electrical generating system, essential shipborne navigational aids.

(2) Information required: The Plan must specify, in appropriate detail, the procedure for making the initial report to the coastal State. IMO Guidelines in resolution A.851 (20) provide necessary detail for the Plan writer. The Plan is to include a prepared form of initial report, an example of which is included at Table 1 of Annex 2. Supplementary or follow-up reports are to as far as possible use the same format.
(3) List of persons to be contacted:

① The ship involved in an oil or noxious liquid substance pollution incident will have to communicate with both coastal State or port contacts and ship interest contacts.

② When compiling contact lists, due account must be taken of the need to provide 24-hour contact information and to provide alternates to the designated contact. These details must be routinely updated to take account of personnel changes and changes in telephone, telex, and telefax numbers. Clear guidance is also to be provided regarding the preferred means of communication (telex, telephone, telefax, etc.).

③ Coastal State contacts

(a) In order to expedite response and minimize damage from an oil or noxious liquid substance pollution incident, it is essential that appropriate coastal States are to be notified without delay. This process is begun with the initial report required by article 8 and Protocol I of the Convention. Guidelines for making this report are provided in section 2.4.

(b) The Plan include as an appendix the list of agencies or officials of administrations responsible for receiving and processing reports as developed and updated by IMO. 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 is to be advised to contact the nearest coastal radio station, designated ship movement reporting station or rescue co-ordination centre (RCC) by the quickest available means.

④ Port contacts

(a) For ships in port which are involved in oil or noxious liquid substance pollution incidents, notification of local agencies will speed response. Information on regularly visited ports is to be included as an appendix to the Plan such as agencies, etc.

(b) Where this is not feasible, the Plan is to require the master to obtain details concerning local reporting procedures upon arriving in port.

⑤ Ship interest contacts

(a) The Plan is to provide details of all parties with an interest in the ship to be advised in the event of an incident (such as cargo owners, insurers, the salvors and ship management personnel ashore). When compiling such lists, it is to be remembered that in the event of a serious incident, ship's personnel will be fully engaged in saving life and taking steps to control and minimize the effects of the casualty. They are therefore not to be hampered by having onerous communications requirements imposed on them.

(b) Procedures will vary between companies but it is important that the Plan clearly specifies who will be responsible for informing the various interested parties. It is also essential that both the ship's Plan and its company's shoreside Plan are co-ordinated to guarantee that all parties having an interest are advised and that duplication of reports is avoided.

(c) For oil tankers of 5,000 tonnes deadweight and above, the contact information of service provider for "computerized, shore-based damage stability and residual structural strength calculation programs" is also to be included in the appendix of the Plan, on and after 1 January 2007. Such information may also be included in the list of ship interest contacts where:

a) the ship makes direct contact tothe service agency of "computerized, shore-based damage stability and residual structural strength calculation programs", the service provider and his contact information are to be included; or

b) the ship gains access to "computerized, shore-based damage stability and residual structural strength calculation programs" through ship management company, the contact person of ship management company and his contact information are to be included.

2.5 Steps to control discharge

2.5.1 The Plan is to provide the master with clear guidance on how to accomplish the mitigation for a variety of situations. The Plan is not only to outline action to be taken, but it is also to identify who on board is responsible so that confusion during the emergency can be avoided.

2.5.2 This section of the Plan will vary widely from ship to ship. Differences in ship type, construction, cargo, equipment, manning, and even route may result in shifting emphasis being placed on various aspects of this section. As a minimum, the Plan is to provide the master with guidance to address the following:

(1) Operational spills: The Plan is to outline the procedures for safe removal of oil or noxious liquid substance spilled and contained on deck. This may be through the use of on-board resources or by hiring a clean-up company. In either case the Plan is to provide guidance to ensure proper disposal of removed oil, noxious liquid substances and clean-up materials.

① Pipe leakage: The Plan is to provide specific guidance for dealing with pipe leakage.

② Tank overflow: Procedures for dealing with tank overflows are to be included. Alternatives such as lowering cargo or bunkers back to empty or slack tanks or readying pumps to transfer the excess ashore are to be outlined.

③ Hull leakage: The Plan is to provide guidance for responding to spillage due to suspected hull leakage. This may involve guidance on measures to be taken to reduce the head of cargo in the tank involved either by internal transfer or discharge ashore. Procedures to handle situations where it is not possible to identify the specific tank from which leakage is occurring are also to be provided. Procedures for dealing with suspected hull fractures are to be included and they are to carry appropriate cautions regarding attention to the effect corrective actions may have on hull stress and stability.

(2) Spills resulting from casualties: The Plan is to include various checklists or other means which will ensure that the master considers all appropriate factors when addressing the specific casualty①. These checklists must be tailored to the specific ship and to the specific product or product types. Especially for the ships certified to carry NLSs, the checklists or other means e.g., “Characteristics of Liquid Chemicals Proposed for Marine Transport in Bulk” (Data Sheet), are to identify physical properties, special protective equipment or unusual response techniques. Reference may be made to Data Sheet or similar documents that identify characteristics of NLS. A copy of such document is to be kept with the plan, but need not be part of the approved plan. In addition to the checklists, specific personnel assignments for anticipated tasks must be identified. Reference to existing Emergency Muster Plan is sufficient to identify personnel responsibilities. The following are examples of casualties which are to be considered:

① grounding;
② fire/explosion;
③ collision (with fixed or moving object);
④ hull failure;
⑤ excessive list;
® containment system failure;
⑦ dangerous reactions of cargo (for ships certified to carry NLSs);
⑧ other dangerous cargo release (for ships certified to carry NLSs);
⑨ loss of tank environmental control (for ships certified to carry NLSs);
⑩ submerged/foundered;
⑪ wrecked/stranded;
⑫ cargo contamination yielding a hazardous condition (for ships certified to carry NLSs); and
⑬ hazardous vapour release.

2.5.3 In addition to the checklists and personnel duty assignments mentioned in paragraph 2.5.2, the Plan is to provide the master with guidance concerning priority actions, stability and stress considerations, lightening and mitigating activities.

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① Reference is made to the International Safety Management (ISM) Code, Section 8.

(1) Priority actions: This section provides some general considerations that apply to a wide range of casualties. The Plan is to provide ship-specific guidance to the master concerning these broad topics.

① In responding to a casualty, 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 spills, immediate consideration is to be given to measures aimed at preventing fire, personnel exposure to toxic vapours, and explosion, such as altering course so that the ship is upwind of the spilled cargo, shutting down non-essential air intakes, etc.; If the ship is aground, and cannot therefore manoeuvre, all possible sources of ignition are to be eliminated and action is to be taken to prevent toxic vapours or flammable vapours entering accommodation and engine-room spaces; When it is possible to manoeuvre, the master, in conjunction with the appropriate shore authorities, may consider moving his ship to a more suitable location in order, for example, to facilitate emergency repair work or lightening operations, or to reduce the threat posed to any particularly sensitive shoreline areas. Such manoeuvring may be subject to coastal State jurisdiction.

② Prior to considering remedial action, the master will need to obtain detailed information on the damage sustained by his ship. A visual inspection is to be carried out and all cargo tanks, bunker tanks, and other compartments are to be sounded. Due regard is to be paid to the indiscriminate opening of ullage plugs or sighting ports, especially when the ship is aground, as loss of buoyancy could result.

③ Having assessed the damage sustained by the ship, the master will be in a position to decide what action is to be taken to prevent or minimize further discharge. When bottom damage is sustained, hydrostatic balance will be achieved (depending on physical properties) fairly rapidly, especially if the damage is severe, in which case the time available for preventive action will often be limited. When significant side damage is sustained in the way of fuel/lubrication and /or cargo tanks, bunkers or cargo will be released fairly rapidly until hydrostatic balance is achieved. When the damage is fairly limited and restricted, for example, to one or two compartments, consideration may be given to transferring the substance involved internally from damaged to intact tanks. When considering the transfer of oil or noxious liquid substances from a damaged tank to an intact tank, the master is to consider:

(a) the extent of the damage;
(b) hydrostatic balance;
(c) the ship's ability to transfer cargo; and
(d) the physical properties of the substance(s) (for ships certified to carry NLSs) involved such as:
- solubility;
- density;
- water reactivity;
- solidification; and
- compatibility.

(2) Stability and strength considerations: Great care in casualty response must be taken to consider stability and strength when taking actions to mitigate the spillage of oil or noxious liquid substance or to free the ship if aground. The Plan is to provide the master with detailed guidance to ensure that these aspects are properly considered. Nothing in this section is to be construed as creating a requirement for damage stability plans or calculations beyond those required by relevant international conventions.

① Internal transfers are to be undertaken only with a full appreciation of the likely impact on the ship's overall longitudinal strength and stability. When the damage sustained is extensive, the impact of internal transfers on stress and stability may be impossible for the ship to assess. Contact may have to be made with the owner or operator or other entity in order that information can be provided so that damage stability and damage longitudinal strength assessments may be made. Oil tankers of 5,000 tonnes deadweight and above are to immediately make contact to "computerized, shore-based damage stability and residual structural strength calculation programs" service provider contact person for assistance. The Plan is to clearly indicate who the master is to contact in order to gain access to these facilities. Additionally, in the case of ships certified to carry NLSs, consideration as to the compatibility of all substances involved such as cargoes, bunkers, tanks, coatings, piping, etc., must also be considered before such an operation is undertaken.

② Where appropriate, the Plan is to provide a list of information required for making damage stability and damage longitudinal strength assessments.

(3) Lightening: Should the ship sustain extensive structural damage, it may be necessary to transfer all or part of the cargo to another ship. The Plan is to provide guidance on 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 is to be kept with the Plan. The Plan is to address the need for co-ordinating this activity with the coastal State, as such operation may be subject to its jurisdiction.

(4) Mitigating activities: 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 is to address such aspects as:

① assessment and monitoring requirements;

② personnel protection issues;
   (a) protective equipment;
   (b) threats to health and safety.

③ physical properties of the substance (for ships certified to carry NLSs) involved such as:
   (a) solubility;
   (b) density;
   (c) water reactivity;
   (d) solidification; and
   (e) compatibility.

④ containment and other response techniques (e.g. dispersing, absorbing, neutralization);

⑤ isolation procedures;

® decontamination of personnel;

⑦ disposal of removed oil, noxious liquid substances and clean-up materials.

2.5.4 In order to have the necessary information available to respond to the situations referred to in paragraph 2.5.2 of the Guidelines, certain plans, drawings, and ship-specific details such as, a layout of a general arrangement plan, a tank plan, etc., are to be appended. The Plan is to show where current cargo, bunker and ballast information, including quantities and specifications, are available.

2.6 National and local co-ordination

2.6.1 Quick, efficient co-ordination between the ship and coastal State or other involved parties becomes vital in mitigating the effects of an oil or noxious liquid substances pollution incident. The Plan is to address the need to contact the coastal State for authorization prior to undertaking mitigating actions.

2.6.2 The identities and roles of various national and local authorities involved vary widely from State to State and even from port to port. Approaches to responsibility for discharge 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. In the case of the latter the Plan will require greater detail and guidance to assist the master in organizing this response.

2.7 Additional information (non-mandatory)

2.7.1 General requirement

(1) This section is to contain additional information included in the Plan at the owners' discretion. This information, although not required by regulation 37 of Annex I and regulation 17 of Annex II of MARPOL 73/78, may be required by local authorities in ports visited by the vessel, or it may be included to provide additional assistance to the ship's master when responding to an emergency situation. This information may include but not be limited to the following:

① plan review procedures;
② training and drill procedures;
③ record-keeping procedures;
④ public affairs policy of the owners/operators;
⑤ ship's plans and information;
® ship-carried emergency response equipment;
⑦ cargo specific response information (for ships certified to carry NLSs);
⑧ reference materials.

2.7.2 Plans and diagrams

(1) In addition to the plans required by paragraph 2.5.4 above, other details concerning the ship's design and construction may be appended to the Plan or their location identified.

2.7.3 Response equipment

(1) Some ships may carry on board equipment to assist in pollution response. The Plan is to indicate an inventory of such equipment, if carried.

(2) It is also to provide directions for safe use and guidelines to assist the master in determining when such use is warranted.

(3) Care is to be exercised to ensure that the use of such equipment by the crew is practical and consistent with safety considerations.

(4) When such equipment is carried, the Plan is to establish personnel responsibilities for its deployment, oversight and maintenance.

(5) In order to ensure safe and effective use of such equipment, the Plan is also to provide for crew training in the use of it.

(6) The Plan is to include a provision that no chemical agent is to be used for response to pollution on the sea without authorization of the appropriate coastal State and that such authorization is also to be requested, when required, for use of containment or recovery equipment (see paragraph 1.3.8 of the Guidelines).

2.7.4 Shoreside Spill Response Co-ordinator or Qualified Individual

(1) Guidance for the master for requesting and co-ordinating initial response actions with the person responsible for mobilizing shoreside response personnel and equipment.

2.7.5 Potential Oil or Noxious Liquid Substance Spill Response Contractors

(1) Some coastal States require ships to have contracts with “response contractors” when ships enter into such States’ ports. When ships sail toward such States, it is recommended that response resources (personnel and equipment) and capabilities are identified in advance for each potential port State. In other States, in particular, those referred to in paragraph 1.3.8, such requirements do not exist in general.

2.7.6 Planning Standards

(1) To facilitate forethought about the amount of response resources which are to be requested, possible scenarios are to be analyzed and accordingly planned for (see paragraph 1.3.8 of the Guidelines).

2.7.7 Record-keeping

(1) As with any other incident that will eventually involve liability, compensation and reimbursement issues, the owner may want to include in his Plan guidance for the keeping of appropriate records of the oil or noxious liquid substances pollution incident.

(2) Apart from detailing all actions taken on board, records might include communications with outside authorities, owners, and other parties, as well as a brief summary of decisions and information passed and received.

(3) Guidance on collecting of samples of spilled oil or noxious liquid substance as well as that carried on board may also be provided.

2.7.8 Plan review

(1) Regular review of the Plan by the owner, operator or master is recommended to ensure that the specific information contained therein is current.

(2) A feedback system is to be employed which will allow quick capture of changing information and incorporation of it into the Plan. This feedback system is to incorporate the following two means:

① periodic review: the Plan is to 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;

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

2.7.9 Plan testing

(1) The Plan will be of little value if it is not made familiar to the personnel who will use it. Regular exercises will ensure that the Plan functions as expected and that the contacts and communications specified are accurate.

(2) Such exercises may be held in conjunction with other shipboard 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.

(3) Procedures for training and exercise may be defined.

2.7.10 Salvage

(1) The Plan is to contain information on what the crew’s responsibilities are in a casualty where a vessel is partially or fully disabled, and what constitutes dangerous conditions. A decision process is to be outlined in the plan that will aid the master in determining when salvage assistance is to be obtained. The decision process is to include, but not be limited to the following:

① nearest land or hazard to navigation;

② vessel’s set and drift;

③ location and time of impact with hazard based on vessel’s set and drift;

④ estimated time of casualty repair; and

⑤ determination of the nearest capable assistance and its response time (i.e. for tug assistance, the time it will take to get on scene and secure the tow). When a casualty occurs to a vessel underway that reduces its manoeuvrability, the master needs to determine his window of opportunity considering the response time of assistance, regardless of the 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.

2.8 Appendices

2.8.1 The following appendices are to be attached to the Plan, as a minimum:

(1) list of coastal State contacts (see appendix 1 in Annex 2 of the Guidelines);
(2) list of port contacts as appropriate (see appendix 2 in Annex 2 of the Guidelines);
(3) list of ship interest contacts (see appendix 3 in Annex 2 of the Guidelines);
(4) ship's plans and drawings (see appendix 8 in Annex 2 of the Guidelines).

2.8.2 Additionally the following information could be attached:

(1) summary flowchart (consideration is to be given to adapting the flowchart for bulkhead display on board) (see appendix 7 in Annex 2 of the Guidelines);
(2) information relevant to roles and responsibilities of national and local authorities;
(3) other reference material.

Annex 1

APPROVAL OF SHIPBOARD MARINE POLLUTION EMERGENCY PLAN①

经_____政府授权签发。
Issued under the Authority of the Government of _____ .

船名
Name of ship

船级登记号
Class No.

船旗国
Flag

船舶编号或呼号
Distinctive Numbers or Letters

国际海事组织编号
IMO No.

船舶所有人
Ship's Owner

本“船上海洋污染应急计划”系根据MARPOL 73/78附则I/37和/或附则II/17条的规定进行审批。
This SHIPBOARD MARINE POLLUTION EMERGENCY PLAN has been examined and approved under the Provision of Annex I and /or Annex II of the MARPOL 73/78 Convention.

批准
Approval

_____
验船师 (　　)
Surveyor

IS Class

地点
Place_____

日期：
Date_____

① 对于150总吨及以上经核准载运有毒液体物质的船舶，该批准书则命名为“船上有毒液体物质海洋污染应急计划批准书”；对于150总吨及以上的油船和400总吨及以上的非油船，该批准书则命名为“船上油污染应急计划批准书”；400总吨及以上的经核准载运有毒液体物质的船舶，该批准书可命名为“船上海洋污染应急计划批准书”。

① For ships of 150 gross tonnage and above which are certified to carry noxious liquid substances, the Approval is named “Approval of shipboard marine pollution emergency plan for noxious liquid substances”; for oil tankers of 150 gross tonnage and above and ship other than an oil tanker of 400 gross tonnage and above, the Approval is named “Approval of shipboard oil pollution emergency plan”; for ships of 400 gross tonnage and above which are certified to carry noxious liquid substances, the Approval can be named “Approval of shipboard marine pollution emergency plan”.

Annex 2 **Sample**

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN①

NAME OF SHIP:

Drawn _____

Date _____

① For ships of 150 gross tonnage and above which are certified to carry noxious liquid substances, the Plan is to be named as "shipboard marine pollution emergency plan for noxious liquid substances", which only include the part relating to noxious liquid substances in the sample; for oil tankers of 150 gross tonnage and above and ship other than an oil tanker of 400 gross tonnage and above, the Plan is to be named as "shipboard oil pollution emergency plan", which only include the part relating to oil substances; for ships of 400 gross tonnage and above which are certified to carry noxious liquid substances, the Plan can be named as "shipboard marine pollution emergency plan".

INTRODUCTION

1 This plan is written in accordance with the requirements of regulation 37 of Annex I and regulation 17 of Annex II of the International Convention for the Prevention of Pollution from ships, 1973, as modified by the Protocol of 1978 relating thereto.

2 The purpose of the plan is to provide guidance to the master and officers on board the ship with respect to the steps to be taken when an oil and/or noxious liquid substances pollution incident has occurred or is likely to occur.

3 The plan contains all information and operational instructions required by the Guidelines. The appendices contain names, telephone, telex numbers, etc., of all contacts referred in the Plan, as well as other reference material.

4 The plan has been approved by the Administration and, except as provided in (5) below, no alteration or revision is to be made to any part of it without the prior approval of the Administration.

5 Changes to non-mandatory provisions and the appendices will not be required to be approved by the Administration. The appendices are to be maintained up to date by the ship owners, operators and managers.

Record of Revision

Date of Revision	Revised Provisions	Classification Societies

SHIP'S PARTICULARS

Name of Ship

Flag

Port of Registry

Distinctive No. or Letters

IMO No.

Official Number/Class Number

Ship Type

Date of Delivery

Length Overall

Ship's Length

Breadth

Moulded depth

Summer Draught

Gross Tonnage

Net Tonnage

Deadweight

Builder

Yard No.

Owner/Operator and Address

Other Relevant information Specific to the Ship:_____.

CONTENTS

SECTION 1 PREAMBLE

1.1 The purpose of the plan is to provide guidance to the Master and Officers on board concerning necessary actions to stop or minimize the unexpected discharge of oil/noxious liquid substance (hereafter referred to as "NLS") and to mitigate its effects. The plan is applicable for the control of operational spill as well as the control of spill resulting from casualties.

1.2 The plan is to provide a summary flowchart in Appendix 7 for indicating procedures of emergency response to oil or noxious liquid substance pollution implemented by the crew members on board. The procedure, for the crew members to take actions to stop or minimize discharge of oil/ NLS and mitigate its effects, are to be divided into two parts- reporting & acting, for the purpose of guiding the Master to take necessary actions, increase response ability and minimize errors during casualties.

1.3 It is of great importance to the ship to set quick, effective coordination with the coastal states or other parties concerned for minimizing the effects of pollution incident. The shipboard marine pollution emergency plan is to comply with the shoreside marine pollution emergency plan.

1.4 For the plan to accomplish its purpose, it must be understood by ship management personnel, both on board and ashore.

1.5 The Plan is likely to be a document used on board by the Master and Officers of the ship. It must therefore be available in a working language or languages understood by Master and Officers. A change in the Master or Officers which brings about an attendant change in their working language or languages understood would require the issuance of the Plan in the new language(s). Where the language used for the Plan is not English, a translation in English is to be provided.

1.6 The plan is to be periodically assessed, reviewed and revised if necessary.

1.7 The related plans and drawings in the appendix 8 may be appended to the Plan or their location identified.

SECTION 2 REPORTING REQUIREMENTS

2.1 General Requirement

2.1.1 Article 8 and Protocol I of MARPOL 73/78 require that the nearest coastal state is to be notified of actual or probable discharges of oil/NLS to the sea. The intent of the requirement 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, as well as the need for salvage and coordination measures, so that appropriate action may be taken.

2.1.2 The reporting procedure to be followed by the Master or other persons in charge of the ship after a pollution incident is based on guidelines developed by the International Maritime Organizatio.①

2.1.3 If the ship is involved in a pollution incident, reports must be made to both coastal state and port contacts, as appropriate, and to contacts representing interest in the ship.

2.1.4 A flow chart indicating the reporting procedure to be followed in accordance with the plan requirements is given in Appendix 4.

2.2 WHEN TO REPORT

When the ship involves in an actual or probable marine pollution incident, the master or other persons in charge of the ship must report with table 1 without delay, the incident to the nearest coastal state, as required in Article 8 and protocol I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended (MARPOL 73/78) (hereinafter referred to as the "Convention").

2.2.1 Actual discharge

Make a report whenever there is:
(1) a discharge of oil/NLS resulting from damage to the ship or its equipment; -
(2) a discharge of oil/NLS for the purpose of securing the safety of the ship or saving life at sea; -
(3) a discharge of oil/NLS during the operation of the ship in excess of the quantity or instantaneous rate permitted under the present convention;
(4) a discharge of oil resulting from damage to screwshaft and tube shaft oil seal device.

2.2.2 Probable discharge

Make a report when it is judged that there is a probability of discharge of oil/NLS, taking into account:
(1) the nature of damage, failure or breakdown of the ship, machinery or equipment;
(2) ship's location and proximity to land or other navigational hazards;
(3) weather, tide, current and sea condition;
(4) traffic density.

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① Reference is made 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" adopted by the International Maritime Organization by resolution A.851(20). For ease of reference, see IMO publication "provisions concerning the Reporting of Incidents Involving Harmful Substances under MARPOL 73/78".

2.2.3 In principle, make a report in cases of:

(1) damage, failure or breakdown which affects the safety of the ship i.e. collision, grounding, fire, explosion, structural failure, flooding, cargo shifting; and

(2) failure or breakdown of machinery or equipment which results in impairment of the safety of navigation, i.e. failure or breakdown of steering gear, propulsion, electrical generating system, and essential shipborne navigational aids.

2.3 Information required

2.3.1 The report is to contain the following information and the language is to be in English:

(1) Name of ship, call sign and flag;

(2) Date and time (UTC) of incident: a 6-digit group giving day of month (first two digits), hours and minutes (last four digits);

(3) Ship's position, giving latitude: a 4-digit group in degrees and minutes suffixed with N (North) or S (South); and longitude: a 5-digit group in degrees and minutes suffixed with E (East) or W (West);

(4) Ship's position by true bearing (first 3 digits) and distance (stated) from a clearly identified landmark;

(5) True course (as a 3-digit group);

(6) Speed (in knots and tenths of a knot as a 3-digit group);

(7) Route information- details of intended track;

(8) Full details of radio stations and frequencies being guarded;

(9) Time or next report (a 6-digit group as in (2));

(10) Draught (in metre and hundredths of a metre);

(11) Type and Quantity of cargo/bunkers on board;

(12) Brief details of defects/deficiencies/damage;

(13) Brief details of pollution including estimate of quantity lost;

(14) Brief details of weather and sea condition;

(15) Contact details of ship's owners/operators/Agents (NAME, ADD, TEL, TLX AND FAX);

(16) Type and ship size (length, breadth, depth, gross tonnage and deadweight);

(17) Number of crew on board;

(18) Others

① Brief details of incident;

② Need for outside assistance;

③ Actions being taken;

④ Number of crew and details of any injuries;

⑤ Details of P & I Club and local correspondent.

2.3.2 The following additional information is to be sent to the owner or operator either at the same time as the initial report or as soon as possible thereafter.

(1) Further details of damage to ship and equipment.

(2) Whether damage is still being sustained.

(3) Assessment of fire risk and precautions taken.

(4) Disposition of cargo on board and quantities involved.
(5) Number of casualties.
(6) Damage to other ships or property.
(7) Time (UTC) assistance was requested and time (UTC) assistance expected to arrive at the scene.
(8) Name of salvor and type of salvage equipment.
(9) Whether further assistance is required.
(10) Priority requirements for spare parts and other materials.
(11) Details of outside parties advised or aware of the incident.
(12) Any other important information.
(13) A format of report is included in Table 1.

2.3.3 Make the report in accordance with the following procedures.
(1) Make the initial report as soon as possible, leaving unknown matters to supplementary reports.
(2) Supplement the initial report in same form as necessary, and provide information concerning further developments.
(3) Comply as fully as possible with requests from affected states for additional information.

2.4 WHO TO CONTACT

2.4.1 Coastal state: Refer to Appendix 1 “List of coastal State contacts”. 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 is to contact the nearest coastal radio station, designated ship movement reporting station or Rescue Co-ordination Centre (RCC) by the quickest available means.

2.4.2 Port state: Refer to Appendix 2 “List of port contacts” concerning information on regularly visited port. Where this is not feasible, the master is to obtain details concerning local reporting procedures upon arriving in port.

2.4.3 Ship interests: Refer to appendix 3 “list of ship interest contacts”. From 1 January 2007 onwards, regarding all oil tankers of 5000 tonnes deadweight or more, “list of ship interests contacts” is to include “computerized, shore-based damage stability and residual structural strength calculation programs” service provider / ship management company contacts.

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN INITIAL REPORT

Table 1

AA SHIP NAME, CALL SIGN, FLAG	
BB DATE AND TIME OF EVENT. UTC D D H H M M	— | — | — | — | — | — |
CC POSITION. LAT. LONG OR N S | — | — | — | — | — | — | d d m m E W | — | — | — | — | — | — | — | d d d m m	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 STATIONS (S) GUARDED	
NN DATE AND OF NEXT REPORT. UTC D D H H M M	| — | — | — | — | — | — |
PP TYPE AND QUANTITY OF CARGO/BUNKERS ON BOARD	
QQ BRIEF DETAILS OF DEFECTS/DEFICIENCIES/DAMAGE	
RR BRIEF DETAILS OF POLLUTION. INCLUDING ESTIMATE OF QUANTITY LOST	
SS BRIEF DETAILS OF WEATHER AND SEA CONDITIONS WIND DIRECTION | — | — | — | SPEED Beaufort SWEEL DIRECTION | — | — | — | HEIGHT m m	
TT CONTACT DETAILS OF SHIP'S OWNER/OPERATOR/AGENT	

UU SHIP SIZE AND TYPE TYPE; LENGTH; m BREADTH; m DRAUGHT; m DEADWEIGHT; t MT GROSS TONNAGE;
XX ADDITIONAL INFORMATION BRIEF DETAILS OF INCIDENT: NEED FOR OUTSIDE ASSISTANCE: ACTIONS BEING TAKEN: NUMBER OF CREW AND DETAILS OF ANY INJURIES: DETAILS OF P&I CLUB & LOCAL CORRESPONDENT: OTHERS:

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). 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.

SECTION 3 STEPS TO CONTROL DISCHARGE

3.1 General Requirement

3.1.1 The purpose of the plan is to provide guidance to the Master and Officers on board to take quick action to mitigate or control the discharge of oil / NLS from their ship. Whenever ship involves in an oil / NLS pollution incident, it is necessary to report to the Master and other persons in charge of the ship to effect oil / NLS spill alarm with dot, dash, dash, dot(·--·)and arrange all crew members for emergency response according to Table 2. (Table 2 for reference only, crew's responsibility, alarm signal and muster station to be decided accordingly.)

3.1.2 Whenever pumps or valves are operated to control the discharge of oil / NLS described in this section, ship's personnel are to make efforts to prevent mis-operation referring to the relevant drawings, e.g. pumping/piping plan, damage control plan and damage control manual, attached in Appendix 8.

OIL / NLS SPILL RESPONSE PLAN[①]

Oil / NLS spill alarm: ·---· **Muster station: Main deck**

Table 2

RATING	LOCATION	CONTENT OF DUTY
Master	Bridge/on site	Commander, Contact with outside
Chief Officer	Oil / NLS Spill site	Assist chief engineer to command on Oil / NLS spill site
2nd Officer	Bridge/on site	In bridge, Take emergency measurement, Make record on site
3rd Officer	Oil / NLS spill site	Provide spill response equipment. Skipper, Command descending boat, Collect Oil / NLS spill
Boatswain	Oil / NLS spill site	Provide spill response equipment. Assist to command lowering boat, Collect Oil / NLS spill
Carpenter	Oil / NLS spill site	Inspect deck scupper, shutdown relative way. Collect Oil / NLS spill
Able Seamen	Oil / NLS spill site	Assist to lower boat and collect Oil / NLS spill
Chief Engineer	Oil / NLS spill site	Commander on site, Organize crew to collect Oil / NLS spill
1st Engineer	Engine room/on site	Manage equipment in engine room and electric plant/ Collect Oil / NLS spill
2nd Engineer	Oil / NLS spill site	Control relative valves, Prevent Oil / NLS spill extension and record on site
3rd Engineer	Oil / NLS spill site	Assist to lower boat and follow the boat, Operating the motor, Collect Oil / NLS spill
Electrician officer	Engine room/on site	Manage electric plant
Chief motorman	Oil / NLS spill site	Provide emergency implements and Oil / NLS spill response equipment, collect Oil / NLS spill
Motormen	Oil / NLS spill site	Assist to lower boat, Collect Oil / NLS spill
Chief cook	Cookroom/on site	Inspect fire information in galley, Shutdown relative ways/ Collect Oil / NLS spill

① For reference only. Crew's responsibility, alarm signal and muster station to be decided accordingly.

3.2 Operational spills

3.2.1 Operational spill means discharge of oil / NLS due to piping leakage, tank overflow & hold break during normal loading & unloading and internally transferring bunkers / NLS.

3.2.2 Response to pipe leakage

(1) Initiate alarm and take action and required Agency notification.
(2) Stop transfer of bunker or NLS operation by quickest means possible.
(3) Relieve the pressure inside the pipeline where leakage has occurred, and transfer oil / NLS in the pipeline to a suitable tank by means of gravity, and secure relevant valves.
(4) Take proper measures to minimize volume of oil / NLS discharged outside the ship, clean up oil / NLS on deck by using oil absorbent mats sawdust and waste clothes.
(5) Identify source and cause of leakage. (Person In Charge: Chief officer and chief engineer).
(6) If incapable of disposal of casualties, to contact shoreside coordinating.
(7) Do not resume operation until cause of oil / NLS leakage has been revealed and excluded.
(8) Dispose removed oil and used clean-up materials properly by means of delivering them to the disposal company.
(9) Upon disposal of casualties, operation is to be resumed with port Authorities confirmation.
(10) The responsibilities for emergency response to pipe leakage of personnel concerned onboard are shown in Table 3.2.2.

TRANSFER SYSTEM DISCHARGE

Table 3.2.2

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Secure pumping/product flow		●	●		
Secure isolation valves			●		
Verify scuppers secured			●		
Notify transfer facility/vessel			●		
Report casualty			●	●	
Alert vessel's crew			●		
Implement emergency response plan procedures	●				
Initiate required agency and company notification	●				
Initiate oil / NLS spill removal and verify containment			●		
Survey extent of incident		●	●		
Coordinate shoreside clean-up support resources	●				●
Ascertain cause of casualty	●	●	●		
Determine corrective action	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.2.3 Response to tank overflow

(1) Initiate alarm and take action and required Agency notification.

(2) Stop operation or pump for transferring.

(3) Close related valves.

(4) Promptly shift oil / NLS in the overflowed tank to an available empty of slack tank to relieve pressure in the overflowed tank.

(5) Collect oil / NLS on deck into empty drums or using portable pumps to pump oil / NLS direct into tanks through air pipes, clean up oil / NLS on deck by using oil absorbent mats, sawdust and waste clothes.

(6) Dispose collected oil / NLS and used clean-up materials properly by means of delivering them to the disposal company.

(7) When oil / NLS discharge occurs, master is to immediately notify parities concerned according to the established procedures.

(8) When necessary, the master is to request shore assistance to enter into oil / NLS spill response.

(9) When oil discharge occurs, if possible, immediately have manoeuver boats ready and deploy oil boom to prevent dissipation of oil, and at the same time, recover as much oil as possible using oil absorbents.

(10) The Master is to call the Coastal State for allowance to use chemical agents for response to pollution on the sea. Without authorization of the Authorities of the appropriate Coastal State no chemical agents are to be used.

(11) Upon disposal of casualties, operation is to be resumed with port Authorities confirmation.

(12) The responsibilities for emergency response to tank overflow of personnel concerned onboard are shown in Table 3.2.3.

TANK OVERFLOW

Table 3.2.3

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Secure pumping/product flow		●	●		
Verify scuppers secured			●		
Notify transfer facility/vessel			●		
Report casualty		●	●	●	
Alert vessel's crew			●		
Implement emergency response plan procedures	●				
Initiate required agency and company notification	●				
Notify vessels in area	●				
Initiate oil / NLS spill removal and verify containment			●		
Survey extent of incident			●		
Conduct perimeter survey			●		
Coordinate shoreside clean-up support resources	●				
Ascertain cause of casualty		●	●		
Determine corrective action	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.2.4 Response to hull leakage

(1) When leakage has occured in way of oil / NLS tanks, promptly transfer oil / NLS tank in question to an available empty or slack tank.

(2) Should it be suspected that leakage has occurred below waterline in way of oil / NLS tanks immediately close all valves and all air pipes of damaged tank to create vacuum inside the tank.

(3) Should it be impossible to identify specific tank from which leakage has occurred, reduce levels of all tanks in the vicinity, and take account to stress and stability of the ship.

(4) When leakage still continues in spite of taking actions mentioned above, identify the cause of leakage by using diver.

(5) Should it be suspected that internal transfer of oil / NLS is difficult, take into account ship to ship transfer or transfer to tanks ashore.

(6) When oil / NLS discharge occurs, master is to immediately notify parties concerned according to the established procedures.

(7) When necessary, the master is to request shore assistance to enter into oil spill response.

(8) When oil discharge occurs, if possible, immediately have manoeuver boats ready and deploy oil boom to prevent dissipation of oil, and at the same time, recover as much oil as possible using oil absorbents.

(9) When chemical agents for response to pollution on the sea are used, due regard is to be paid to the circumstances / environment around. Moreover, such chemicals can only be used after obtain permission from the nearest coastal state.

(10) Upon disposal of casualties, operation is to be resumed with port Authorities confirmation.

(11) The responsibilities for emergency response to tank overflow of personnel concerned onboard are shown in Table 3.2.4.

HULL LEAKAGE

Table 3.2.4

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Secure isolation valves			●		
Secure pumping (if applicable)			●		
Notify transfer facility/vessel (if applicable)			●		
Report casualty			●	●	
Alert vessel's crew			●		
Implement emergency response plan procedures	●				
Initiate required agency and company notification	●				
Initiate oil / NLS spill removal and verify containment			●		
Determine locate and survey extent of incident		●	●		
Determine rate flow loss, structural stability, and stress and stability conditions		●	●		
Implement stability and salvage plans	●				
Coordinate shoreside clean-up support resources	●				●
Ascertain cause of casualty	●	●	●		
Determine corrective action	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.3 Spills resulting from casualties

3.3.1 Response to spill associated in casualties:

(1) When spill associated in casualties mentioned above (i.e. grounding, fire explosion, collision, hull damage and excessive list), the following actions are to be taken immediately.

(2) The Master is to muster all crew to take up their oil / NLS spill response stations (Refer to table 2).

(3) In the event of marine pollution incident, the Master must report to the nearest coastal state, port state and ship's interests.

(4) In order to prevent additional outflow of oil / NLS, take the following measures:

① Secure oil / NLS spill area.
② Reduce internal pressure in oil / NLS spill tank.
③ Close or cut off related piping leading to damage tank(s) to isolate the damaged tank(s).
④ Create optimum condition by adjusting ballast. In this case, take account of damage stability and hull stress.
⑤ Transfer oil / NLS internally from damaged tank(s) to intact tank. In this case, take account of damage stability and hull stress.

(5) When necessary, transfer oil in the damaged tank or part of bunkers onboard to another ship. In this event, the following matters are to be kept in mind:

① Consult with coastal state about ship-to-ship transfer operation beforehand.
② Consult with other ship, regarding safe procedures alongside and ship-to-ship positioning.
③ Communicate with other ship details of weather conditions, sea conditions, and conditions with regard to bringing ships alongside.
④ Confirm with other ship such details as type of shipboard oil / NLS, quantity, temperature, specific gravity and volume loaded in tanks.
⑤ Check length and diameter of hose and reducer to be used.
® In preparation of transferring, unify essential terms required, i.e. "stand by", "slow", "start" and "stop".
⑦ Regarding hose to be used, take care to avoid kinking or pulling, and use a hose of adequate length.

(6) Try to recover as much as oil / NLS as possible using absorbent material, take action as soon as possible to prevent dissipation of oil / NLS.

(7) If needs to contact coastal state for authorization prior to undertaking mitigating actions.

(8) When chemical agents for response to pollution on the sea are used, due regard is to be paid to the circumstances / environment around. Moreover, such chemicals can only be used after obtain permission from the nearest coastal state.

(9) When abandon the ship, close intake valves or cocks on fuel oil pipings and all openings of air pipes for all bunker / liquid cargo tanks.

(10) In case of the ship equipped with emergency towing lines, that are to be set on ship's fore and/ or after part and the end of the lines is to be lowered down near to the waterline before abandon ship.

3.3.2 Response to ship grounded / stranded

(1) Initiate alarm and take action and required Agency notification.

(2) If the vessel is aground and therefore cannot manoeuvre, all possible sources of ignition must be eliminated and action taken to prevent flammable vapors or noxious vapors from entering the engine room spaces or accommodation.

(3) The master is to ensure that he as soon as possible receives detailed information on the damage that the vessel has sustained, in order to find out what remedial action needs to be taken to ensure the safety of the vessel and crew.

① A visual inspection is to be carried out.
② All oil / NLS tanks to be sounded.

③ All other compartments which have contact with the sea are to be sounded to ensure that they are intact.
④ Sounding of tanks are to be compared with last soundings to check for possible leaks.
⑤ Any list is to be noted and included in the report for assistance.

(4) Also consider:
① Danger to the vessel's complement if the vessel is to slide off grounding/stranding site.
② Danger of vessel being broken down by heavy sea, or swells.
③ Health hazards to the vessel's crew and surrounding population due to release of hazardous substances in dangerous concentrations.
④ Those fires may start due to released flammable substances by uncontrolled ignition sources.

(5) Furthermore, the Master is to take into account the following considerations:
① Is the vessel constantly being struck in the seaway?
② Is the vessel exposed to torsion?
③ Sounding to be taken around the vessel to establish the vessel's position and nature of the bottom?
④ Is there a large difference in the tidal ranges at the grounding/stranding site? Are there strong tidal currents in the grounding/stranding area?
⑤ May the vessel drift further up on the shore, due to high tides, wind and waves?

(6) The Master is to assess the possibility of damage to the environment, and whatever action can be taken to reduce further damage from oil / NLS release, such as:
① Transfer of bunker internally.
② Isolate the concerned tanks hermetically to ensure that hydrostatic height in tanks are intact during tidal changes.
③ Evaluate the necessity of transferring oil / NLS to barges or vessel and request such assistance accordingly.
④ Evaluate the possibility of additional release.

(7) The Master must also evaluate the question of getting off from the grounding by own means. Before such an attempt is made, it must be determined.
① Whether the vessel is damaged in such a way that it may sink, break up or capsize after getting off. References are made to the Damage Stability Booklet, Damage Control Plan and Damage Control Manual.
② Whether the vessel after getting off may have manoeuvering problems by own means to get away from the dangerous area.
③ 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 in order to facilitate emergency repair work or lightening operations, or to reduce the threat posed to any particularly sensitive shoreline area. Such manoeuvring may be subject to coastal State jurisdiction.
④ When judge it's impossible to refloat without aid, promptly inform Owners to arrange salvage assistance to refloat the vessel.
⑤ Whether machinery, rudder or propeller are damaged due to grounding/stranding or may be damaged if trying to get off ground by own means.
® Whether the vessel may be trimmed or lightened sufficiently to avoid damages to additional tanks in order to reduce additional pollution from these tanks.

(8) If the risk of further damage (evaluated) to the vessel is greater in an attempt to refloat the vessel by own means, than by remaining aground until professional assistance has been obtained, the vessel's Master is to try to secure the vessels as much as possible by:
① Setting anchors.
② Taking in ballast in empty tanks if possible:
③ Reducing fire risk by removing all igniting sources.

④ Having assessed the damage that the vessel has sustained, the master is to be able to decide whether or not any action may be taken to avoid further spillage.

⑤ Should the damage which the vessel has sustained be of such an extent that the stability cannot be computed onboard, the Master is to inform the owner or "computerized, shore-based damage stability and residual structural strength calculation programs" service provider (if available) immediately and seek assistance from shore.

® Sounding in each liquid tank to be taken at regular intervals, and any change to be reported as needed.

⑦ In case of large difference in the tides, the vessel is to try to isolate the damaged tanks to reduce additional loss of bunkers.

⑧ When the ship tanking water due to grounding/stranding take preventive measures, i.e. close water-tight doors in order to minimize ingress of water.

(9) If oil / NLS leakage occurs, master is to refer to 3.3.1 "response to spill associated in casualties".

(10) The responsibilities for emergency response to grounding / stranding of personnel concerned onboard are shown in Table 3.3.2.

SHIP GROUNDED / STRANDED

Table 3.3.2

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Report casualty				●	
Alert vessel's crew				●	
Implement emergency response plan procedures	●				
Initiate oil spill removal and verify containment			●		
Ascertain vessel's position				●	
Initiate required agency and company notification	●				
Isolate pipeline valves			●		
Sound internal spaces and initiate structure damage survey		●	●		
Transfer cargo internally and/or consider lightering assistance	●		●		
Determine need for commercial salvage assistance	●	●	●		
Monitor weather, sea conditions, and tidal effects			●	●	
Ascertain cause of casualty	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.3.3 Response to touch bottom

(1) Should the vessel experience unusual shaking or vibrations of hull, unexplained movements or changes in engine revolutions, it may be suspected that the vessel has touched bottom. Procedures are to be initiated to ensure that vessel is intact and that there is no oil / NLS leakage from vessel's tanks.

(2) If pilot onboard, inform pilot and ask for possible explanation.

(3) Stop engine immediately, and observe any unexpected speed reduction.

(4) Observe accurate position, compare the available depth on the navigational chart with vessel's draft.

(5) Take soundings for all bunker tanks, liquid cargo tanks (if applicable), ballast tanks, cargo hold bilges, cofferdams, pipe tunnel and other compartments to determine whether vessel has sustained any damage.

(6) If the vessel is aground eventually after touched bottom, Master is to refer to 3.3.2 of this section.

(7) Check for leaking of oil / NLS. If leakage occurs, master is to refer to 3.3.1 "response to spill associated in casualties."

3.3.4 Response to fire and explosion

(1) Initiate alarm and take action and required Agency notification.

(2) In case of fire and explosion, the following priorities exist when the damage control measures are initiated;

① Locate immediately where the fire/explosion has taken place.
② Try to determine the extent of damage, and if anyone of the compliment is injured or dead.
③ Rescue lives.
④ Limiting the damage to vessel and cargo.
⑤ Preventing environment pollution.

(3) The Master is to order all crew to take up their fire-fighting stations.

(4) Conduct effective and appropriate fire-fighting operation, prepare lifeboats ready for abandon ship in case fire can not be under control and endanger safety of ship's personnel. Take care not to give the order to abandon ship either prematurely or too late.

(5) Promptly shift paint drums, oil waster, furnitures, ropes and other flammables and explosive materials in the vicinity of the fire.

(6) Close openings including doors, scuttles, skylights and ventilation ducts and stop all ventilation. Cool down bulkheads of adjacent compartments when necessary.

(7) Electric power supply leading to fire site is to be cut off.

(8) When the fire is becoming more intense due to the wind, anchor ship or manoeuvre ship to leeward.

(9) Make proper leeway so that the fire and smoke does not hamper fire-fighting activities.

(10) When fire-fighting activities of the ship are judged to be inadequate, request assistance from ships sailing in the vicinity before it is too late.

(11) If leakage occurs, master is to refer to 3.3.1 "response to oil spill associated in casualties".

(12) The responsibilities for emergency response to fire and explosion of personnel concerned onboard are shown in Table 3.3.4.

FIRE/EXPLOSION

Table 3.3.4

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Report casualty				●	
Alert vessel's crew			●	●	
Implement emergency response plan procedures	●				
Determine location and extent of casualty		●	●		
Initiate damage control measures and fire-fighting		●	●		
Isolate cargo and fuel pipelines		●	●		
Determine vessel's structural integrity (damage stability and hull stress)		●	●		
Transfer cargo internally and/or consider lightering assistance			●		
Initiate required agency and company notification	●				
Determine need for commercial salvage assistance	●				
Initiate spill removal and verify containment			●		
Coordinate shoreside clean-up support resources	●				●
Ascertain cause of casualty	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.3.5 Response to collision

(1) When a collision occurs, the master is to order all crew take up their oil / NLS spill response stations.

(2) Investigate the damaged area of the ship and rate of ingress of water, and take emergency measures to prevent the damage becoming worse.

(3) Sounding the tanks and cargo hold bilges adjacent to collision area.

(4) The following check list is to assist the Master in assessing the situation:

① Are any tanks penetrated above or below the waterline?

② If vessels are dead in the water and interlocked, what is the most prudent, to stay interlocked or separate?

③ Is there any spill at present-small or large? Will a separation of interlocked vessels create a larger spill than if the vessels stay interlocked?

④ If there is a spill, will the separation of the vessels cause spark that can ignite the oil / NLS or other flammable substances leaked out from vessels?

⑤ Are the vessels of a greater danger to other traffic in the area if they are interlocked than if separate?

⑥ What is the danger of either vessel sinking when separating, if vessels have sustained serious damage to tanks below the waterline due to reduced buoyancy?

⑦ If the vessels are separated, how is the manoeuverability of own vessel?

(5) When ingress of water is found as a result of damage investigation, take necessary measures to prevent water ingress or pump out the water already taken, according to the position and amount of water taken in. Such measures include the closing of water-tight doors, inserting wooden plug, the use of collision mats, cement box, strengthening or bulkhead and use of pumps to discharge water.

(6) When there is risk of sinking due water penetration is severe even after countermeasures are taken, consider beaching the ship at an appropriate position.

(7) If oil leakage occurs, master is to refer to 3.3.1 “Response to oil spill associated in casualties”.

(8) The responsibilities for emergency response to collision of personnel concerned on board are shown in Table 3.3.5.

COLLISION

Table 3.3.5

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Report casualty				●	
Alert vessel's crew				●	
Implement emergency response plan procedures	●				
Establish communications with involved vessel				●	
Initiate damage control measures		●	●		
Isolate cargo and fuel pipelines sources to affected areas of vessel		●	●		
Determine vessel's structural integrity (damage stability and hull stress)		●	●		
Initiate required agency and company notification	●				
Determine need for commercial salvage assistance	●				
Initiate spill removal and verify containment			●		
Coordinate shoreside clean-up support resources	●				●
Ascertain cause of casualty	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.3.6 Response to hull damage / containment system failure.

(1) Should the vessel loose one or more shell plating, develop major cracks, or suffer severe damage to hull / containment system, the Master must immediately sound the General Alarm to call the complement of their Mustering Station, and inform them of the situation, and prepare lifeboats for launching.

(2) The following questions are to be considered:

① Is the vessel in any immediate danger of sinking or capsizing?
If yes:
(a) Send distress message,
(b) Notify owner.
(c) Immediately evacuate the vessel.

② If there is, or likely to be an oil / NLS spill in connection with the incident, notify as 3.3.1.

③ If no, the master is to initiate damage control measures as found necessary.

④ When ingress of water is found, take necessary measures to prevent water ingress or pump out the water already taken, according to the position and amount of water taken in. Such measures include the closing of watertight doors, inserting wooden plugs, the use of pumps to discharge water.

⑤ If vessel has a list due to loss of ballast or buoyancy, it is necessary and possible to rearrange the ballast or bunkers by internal transfer operation in order to get the vessel level.

® Is there any abnormal change in the vessel's stability and stress situation? Can such change be calculated on board? If not, the master is to immediately inform the owner or "computerized, shore-based damage stability and residual structural strength calculation programs" service provider (if available) and seek assistance from shore.

⑦ Dose vessel need salvage or escort to the nearest port of refuge or repair port? If so, the Master is to immediately inform Owner to arrange.

⑧ Obtain latest weather forecast, and access its impact on the present situation.

(3) If oil / NLS leakage occurs, the master is to refer to 3.3.1 "Response to spill associated in casualties".

(4) The responsibilities for emergency response to hull or containment system damage of personnel concerned onboard are shown in Table 3.3.6.

HULL DAMAGE / CONTAINMENT SYSTEM FAILURE

Table 3.3.6

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Report casualty				●	
Alert vessel's crew			●	●	
Implement emergency response plan procedures	●				
Initiate damage control measures		●	●		
Isolate cargo and fuel pipelines sources to affected tanks		●	●		
Determine vessel's structural integrity (damage stability and hull stress)		●	●		
Conduct tank/void gauging			●		
Initiate required agency and company notification	●				
Determine need for commercial salvage assistance	●	●	●		
Initiate spill removal and verify containment			●		
Coordinate shoreside clean-up support resources	●				●
Ascertain cause of casualty	●	●	●		
Determine corrective action	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.3.7 Response to excessive list

(1) Sound alarm.

(2) Should the vessel for some reason suddenly start to list excessively, the master is to take the following actions:

① Adjust course and speed of the ship.
② Immediately stop all bunker / cargo transferring operation or ballast operation, of any.
③ Closing and blanking the related piping.
④ Closing the position of leakage.
⑤ Soundings to be taken in all tanks/cargo holds to determine the cause of excessive list.

(3) In case of mis-operation of ballast/deballast, change to corrective tanks and take proper counter measures to rectify the situation.

(4) In case the cause of excessive list is determined due to negative G.M., do not put ballast into tanks on high side for the purpose to correct the excessive list. The correct way is to fill the double bottom ballast tanks on low side until negative stability being recovered.

(5) If the cause of excessive list is due to hull damage refer to 3.3.6.

(6) If the vessel's complement is in jeopardy, prepare lifeboats for launching.

(7) When if situation is brought under control, inform as necessary.

(8) If oil / NLS leakage occurs, master is to refer to 3.3.1 "Response to Spill Associated in Casualties".

(9) The responsibilities for emergency response to excessive lost of personnel concerned onboard are shown in Table 3.3.7.

EXCESSIVE LIST

Table 3.3.7

Action to be taken	M.	C. E.	C. O.	W. O.	A.
Report casualty				●	
Alert vessel’s crew			●		
Implement emergency response plan procedures	●				
Secure pumping/product flow		●	●		
Secure isolation valves			●		
Conduct perimeter survey			●		
Notify transfer facility/vessel			●		
Initiate required agency and company notification	●				
Initiate spill removal and verify containment			●		
Coordinate shoreside clean-up support resources	●				●
Ascertain cause of casualty	●	●	●		
Determine corrective action	●	●	●		

Notes: M. (Master) C.E. (Chief Engineer)
C.O. (Chief Officer) W.O. (Watch Officer)
A. (Agent)

3.3.8 Ship submerged/foundered

(1) Sound alarm.
(2) After briefing from watch officer, master is to send distress message.
(3) Ensure crew mustered.
(4) Ensure watertight door closed where appropriate.
(5) Assess extent of damage. If hull damaged, refer to "3.3.10 Response to hull damage"
(6) Steps being taken to minimise ingress of water.
(7) If pollution confirmed, master is to inform office and costal state.
(8) Consider isolation of damaged area; Consider transfer of bunker / ballast / FW if necessary; Consider transfer of cargo if possible.
(9) Keep lifeboats ready for embarkation.
(10) If the ship is wrecked to the extent that it or parts of it are submerged, take all measures to evacuate all persons on board. Avoid contact with any spilled cargo or oil. Alert other ships and/or the nearest coastal state for assistance in rescuing lives.

3.3.9 Other hazardous cargo and/or vapour release

(1) In case release of hazardous liquid noxious substances, takes necessary actions for the protection of the crew against health hazards, especially by contamination with materials or its toxic vapours. Avoid material or vapours spreading over the ship. If any dangerous material or vapour is released from any part of the containment system, take arrangements to free the deck area as far as possible by turning the ship to have the accommodation upwind of the point of release.
(2) Evacuate crew members from the endangered area. If persons have to carry out any unavoidable duties within the endangered area, care for personal protection for those persons to avoid direct contact.
(3) All possible sources of ignition are to be eliminated and non-essential air intakes shut down to prevent intake of vapour into accommodation and engine spaces.
(4) Take measures to reduce tank level or pressure to stop any emittance of material or vapour.

3.3.10 Loss of tank environmental control （for ships certified to carry NLSs）

(1) Consider any explosion dangers arising out of loss of tank environmental control.
(2) Promptly consult the Data Sheet available for the cargo shipped onboard about possible hazards and necessary precautions / actions to be taken according to the information provided.

(3) Avoid any intake of air into the uncontrolled spaces to avoid a dangerous mixture to be built up within the respective space.

3.3.11 Dangerous reaction of cargo/contamination yielding a hazardous condition （for ships certified to carry NLSs）

(1) In case of spillage of NLS cargo on deck, in the water or incidental mixture with other cargo through internal tank leakage consider dangerous reactions of such mixture.
(2) When the above incidents happened, stop all operations immediately, shut all valves.
(3) Close all accommodation doors and shut ventilation.
(4) Ban all smoking onboard vessel, keep fire pump ready.
(5) Promptly consult the Data Sheet available for the cargo shipped onboard about possible hazards and necessary precautions / actions to be taken according to the information provided.
(6) Take necessary actions for the safety of the crew for the case of (possible) contamination with the spilled material or its vapours.

3.4 Other measures

3.4.1 The Captain's priority actions

(1) Give top priority to ensure safety of personnel, and at the same time take actions to prevent extension of incident.

① Check if there are injured personnel.

② Check the cargo, ballast, bunker and water information on board from Chief Officer and Chief Engineer.

③ Make a judgment on whether a request for rescue is to be requested.

④ Decide whether abandon ship is necessary.

(2) Obtain detailed information of the damage, by visual inspection and sounding tanks and other compartments.

(3) Should it be suspected that staying the ship there brings the situation worse, take account of shifting the ship to a more suitable location.

(4) When necessary, consider transferring oil/cargo internally for safety of the ship taking into account the effect on damage stability and hull stress.

(5) In oil / NLS discharge incident, take the following measures in order to prevent the occurrence of fire and explosion:

① If any dangerous material or vapour is released，have the accommodation upwind of the point of release by turning the ship.

② Shut down non-essential air intakes.

③ Prevent flammable vapors or noxious vapors entering accommodation and engine room space.

④ Eliminate all possible sources of ignition.

⑤ Prepare fire fighting equipment and fire extinguishers.

® Regularly test for flammable gas in accommodation and engine room space.

⑦ Smoking and other naked flame sources are strictly prohibited.

(6) When taking measures in places where gas can stagnate, pay full attention to the effect of toxic gases on the human body.

3.4.2 Mitigating Activities

(1) When the safety of the vessel and the personnel onboard has been successfully addressed, the following aspects are to be further considered:

① Assessment of the situation and monitoring all activities.

② Personnel protection issues, such as the use of protective clothing, decontamination of personnel expose to hazardous material, other threats to health and safety.

(2) When a spill takes place on deck, it is to be isolated in such way to prevent pollution (i.e. deck scuppers are to be plugged.). Then the spillage is to be removed by using dedicated materials(i.e. absorbent material).

(3) Materials used for isolation, removal or clean up operation of the spill are to be collected and isolated in a way that prevents further endangers such as fire, explosion and release of toxic or flammable vapours. Such materials are to be stored in a safe condition until disposal to shore facilities.

(4) Decontamination of personnel after finishing the cleanup process

(5) When performing decontamination of personnel, certain procedures depending on the type of contamination as well as the extent of contamination are to be followed.

3.4.3 Stability and strength considerations

(1) Take account of ship's overall distress and stability at all time are within safe limit.

(2) The stresses may change once a ship is aground and internal transfer of cargo or loss of cargo may also increase the stresses.
(3) A damaged ship is to send the following information to the owner or operator as soon as it is available.

① Loading Condition
  (a) Cargo/ballast – amount and disposition
  (b) Cargo oil or fuel oil – amount and disposition
  (c) Draught – when free floating
② Location and extent of damage
③ Condition of ship
  (a) Extent of grounding (sounding around the vessel)
  (b) Draught – forward, amidship, aft
  (c) Cargo and fuel – loss or change in amount or disposition
  (d) Action already taken
④ Local Conditions
  (a) Tide – range and when rising or falling
  (b) Wind – force and direction
  (c) Current and swell height
  (d) Weather forecast
  (e) Nature of bottom
  (f) Other locally significant features

(4) Oil tankers of 5000 tonnes deadweight and above, the master is to contact "computerized, shore-based damage stability and residual structural strength calculation programs" service provider for technical assistance.

3.4.4 Lightening

(1) If the ship has sustained extensive structural damage, it may be necessary to transfer all or part of the cargo/ bunker to another ship.
(2) In Ship-to-Ship-transfer operations involving a specialized service ship, the Master of that ship will normally be in overall charge.
(3) In the case of non-specialized ships the Master or other person in overall charge of the operation is to be mutually agreed and clearly established by the Masters concerned prior to the start of operations.
(4) The actual bunker/cargo transfer is to be carried out in accordance with the requirements of the receiving ship.
(5) In all cases each Master remains responsible for the safety of his own ship, its crew, cargo/ bunker and equipment and is not to permit their safety to be jeopardized by the action of the other Master, his owner, regulatory officials or others.
(6) The Ship-to-Ship-transfer operations are to be coordinated with the appropriate responsible local Authority.
(7) When selecting the area of operation the Master(s) is to consider the following points:

① The need to notify and obtain the agreement of any responsible authority.
② The destinations of the ships concerned.
③ The shelter provided, particularly from sea and swell.

④ The sea area and depth of water, which are to be sufficient for manoeuvring during mooring, unmooring and transfer operations and allow a safe anchorage if operations have to be undertaken at anchor.

⑤ The traffic density.

® The weather conditions and the weather forecasts.

(8) To avoid any misunderstanding, a common language to be used in communication is to be agreed before the operation commence.

(9) In additions to the general principles of Ship-to-Ship operations as aforementioned the Master is to take note of supplemented instructions issued by the company.

SECTION 4 NATIONAL AND LOCAL CO-ORDINATION

4.1 Quick, efficient co-ordination between the ship and coastal states or port authorities involved becomes vital in mitigating the effects of pollution incident.

4.2 When marine pollution incident occurs, prior to take emergency response for implementation the plan, the Master is to contact with the Coastal States and port Authorities and submit the documents in Appendix to this plan for approval.

4.3 While emergency response taken according to the guidance in the plan, the Master is to report the responsible persons and regarding recovering procedures to the Coastal States and /or port authorities, so as to keep close contact between the ship and Coastal States and/or port authorities etc.

4.4 Oil / NLS spill response system of Coastal State and/or port authorities Co-ordination.

4.4.1 The identities and roles of various Coastal State and/or port Authorities involved vary widely from state to state and/or even from port to port. And the Master is to clarify roles and responsibilities of the ship and Coastal State and port Authorities. And concerning arrangement Coastal State and/or port Authorities refer to Appendix 1 and Appendix 2.

SECTION 5 ADDITIONAL INFORMATION (NON-MANDATORY)

5.1 Plan review procedures

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

(1) Periodic review: The plan is to 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.

(2) Event review: After any use of the plan in response to an incident, its effectiveness is to be evaluated by the owner, or operator and modifications made accordingly.

5.2 Training and drill procedures

5.2.1 Procedures for training and drill may be defined regularly. Such training and drill may be held in conjunction with other shipboard exercises and appropriately logged in Appendix 6 of the plan. When oil response equipment is used, hands on experience with it by crew members will greatly enhance safety and effectiveness in an emergency situation.

5.3 Response equipment

5.3.1 Refer to Appendix 5 “List of oil / NLS spill response equipment and material on board”.

5.3.2 Remarks

(1) Specialist responsibilities for pollution response equipment maintenance onboard are to be appointed.

(2) The Master is to call the Coastal State for allowance to use chemical agents for response to pollution on the sea. Without authorization of the Authorities of the appropriate Coastal State no chemical agents are to be used.

5.4 Record keeping procedures

5.4.1 It is essential to keep and maintain a comprehensive and detailed record of the oil / NLS spill incident. Consequently, the log book is to be fully utilized to record:

(1) Communications with external authorities, the office and other related parties.

(2) Summary of information passed and received together with decision made.

(3) The movement of oil / NLS spill being observed plus details of prevailing wind, current and sea conditions.

(4) Brief description of areas contaminated by the oil / NLS and information on other craft facilities likely to be affected when the oil / NLS spill occurs in port.

① Written data is to be supported by photographs whenever possible although care must be taken to ensure that the use of camera does not contravene local regulations.

② If the ship is not responsible for a particular spill, photographs of the hull and deck may help to verify the situation. Similarly, if another ship is found spilling oil, this ship is to be photographed, if possible, and be reported on sight.

(5) Photographs of the sea surface close to the ship may help to ascertain the spill situation.

(6) Brief details of any response from the port authorities and information, when available, on number of personnel engaged in the cleanup activities, type and quantity of clean-up equipment and material used.

5.5 OTHERS

APPENDIX 1 LIST OF COASTAL STATES CONTACTS①

Nation/contact point	Address	Method of contact

① Coastal states contacts: Log on IMO website: http://www.imo.org/home.html >>> National Contacts for download. "List of coastal states contacts" is issued on 31st December yearly by IMO, and updated yearly on 31st March, 30th June, and 30th September, which will be issued on IMO website. The owner, operator and manager of the ship are to ensure to update the List of coastal states contacts timely.

APPENDIX 2 LIST OF PORT CONTACTS①

NAME	ADDRESS	MEANS OF CONTACT

① The information is to be provided by owners/managers/charterers before arrival port and filled in properly by master.

APPENDIX 3 LIST OF SHIP INTEREST CONTACTS

A. “COMPUTERIZED SHORE-BASED DAMAGE STABILITY AND RESIDUAL STRUCTURAL STRENGTH CALCULATION PROGRAMS” SERVICE PROVIDER / SHIP MANAGEMENT COMPANY CONTACTS

NAME	ADDRESS	MEANS OF CONTACT

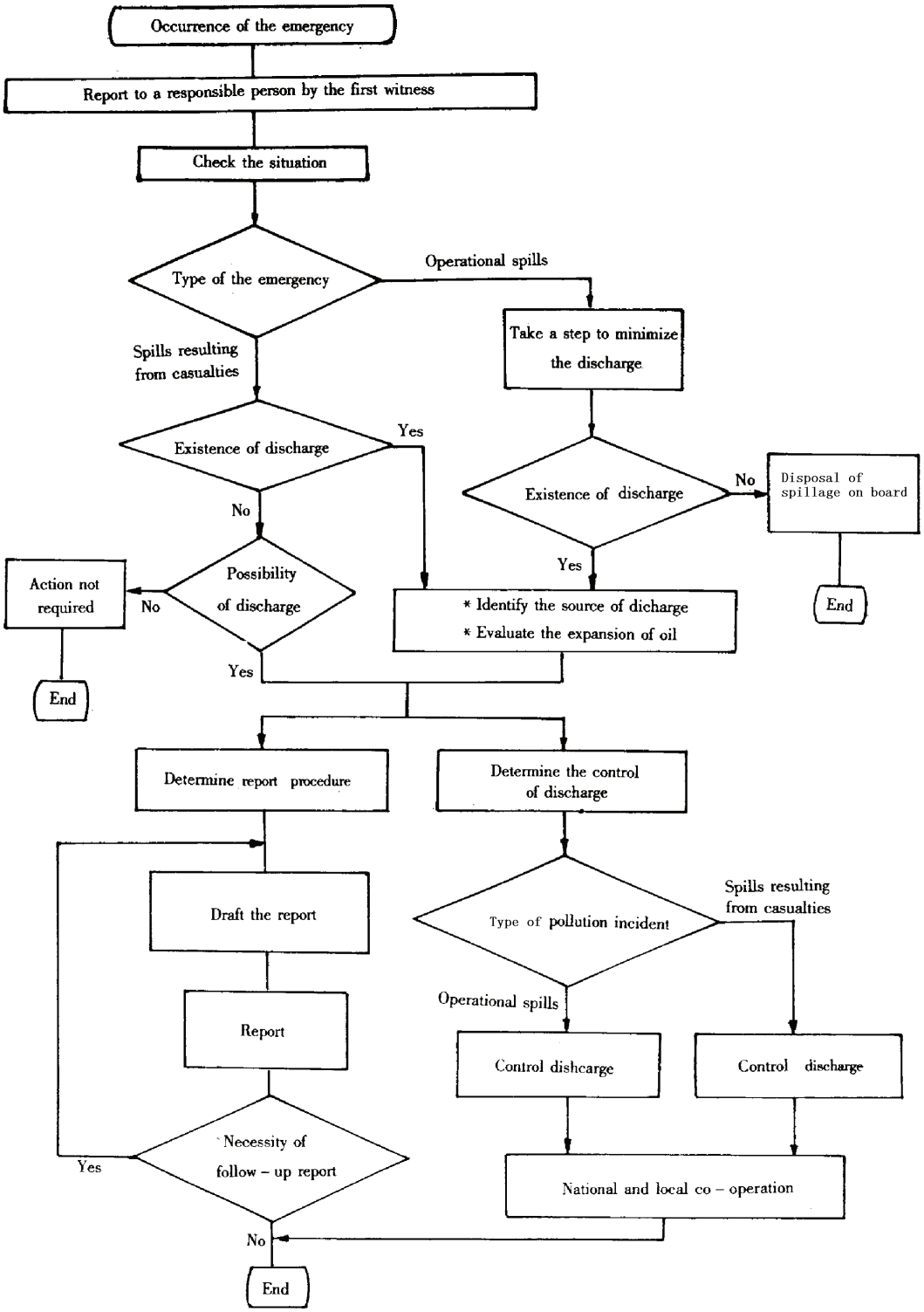
B. OWNER/OPERATOR CONTACTS

NAME	ADDRESS	MEANS OF CONTACT

C. OTHER SHIP INTEREST CONTACTS

NAME	ADDRESS	MEANS OF CONTACT

APPENDIX 4 REPORTING PROCEDURE



APPENDIX 5 LIST OF OIL / NLS SPILL

RESPONSE EQUIPMENT AND MATERIALS ON BOARD①

EQUIPMENT AND MATERIALS	TYPE	QUANTITY	REMARK
Oil fence			
Oil slick disposal or oil absorbent			
Portable pump（with bucket, dish and air hoses）			
Oil spill response chemicals or oil gel chemicals			
Empty drums for holding recovered waste			
Non-sparking shovels and buckets （if necessary）			
Rags			
Sawdust			
Deck scupper plug devices			
Protective clothing and breathing apparatus			

Above equipment and materials located in_____.

① The owner or manager of the ship can identify equipment and material needed and their reasonable quantity accordingly.

APPENDIX 6 RECORD OF MARINE POLLUTION PREVENTION DRILLS

DATE	TYPE OF SPILL CONTINGENCY	LOCATION OF SHIP	PARTICIPANTS

APPENDIX 7 SUMMARY FLOWCHART

The flowchart is a summary on the activity procedures for the response to the emergency situation of oil or noxious liquid substances pollution, which is complied with by the crew members on board according to the Guidelines published by IMO. The chart is not complete, and it is not to be deemed as the only reference of emergency response activities. When response actions are taken, specific reference materials of the Plan are also to be considered. The procedures, designed and arranged for the crew members to take actions to stop or minimize discharge of oil / NLS and mitigate its effects, are to be divided into two parts- reporting & acting.

DISCHARGE OF OIL/NLS（Probable or actual）

ASSESSMENT OF THE NATURE OF INCIDENT

ACTIONS REQUESTED

. Alert crew members
. Identify and monitor spill source
. Personnel protection
. Spill assessment
. Vapour monitoring
. Evacuation

REPORTING

By master or designated crew member

When to report

. All probable and actual spills

How to report

. By quickest means to coastal radio station
. Designated ship movement reporting station or
. Rescue co-ordination centre (at sea)
. By quickest available means to local authorities

Whom to report

. Nearest coastal state
. Harbour and terminal operations (in port)
. Shipowner's manager; P&I insurer
. Head charter; cargo owner
. Refer to contact lists

What to report

. Inintial report
. Follow-up report
. Characteristics of oil or NLS spilled
. Cargo/ballast/bunker dispositions
. Weather and sea conditions
. Slick movement
. Assistance required
-Salvage
-Lightening capacity
-Mechanical equipment
-External response team
-Chemical dispersant/degreasant

ACTION TO CONTROL DISCHARGE

Measures to minimize the escape of oil or noxious liquids substance and threat to the marine evironment

Navigational measures	Seamanship measures
. Alter course/position and/or speed	. safety assessment and precaution
. Change of list and/or trim	. Advice on priority measures
. Anchoring	. Stability and stess consideration
. Setting aground	. Ballasting/deballasting
. Initiate towage	.Internal cargo transfer operations
. Assess safe haven requirements	. Ship to ship transfer of cargo and/or bunker
. Weather/tide/swell Forecasting	. Set up ship response for: -Leak sealing
. Slick monitoring	-Fire fighting
. Record of events and communications taken	-Handling of shipboard response equipment (if available) -etc.

STEPS TO INITIATE EXTERNAL RESPONSE

. Refer to coastal port state listings for local assistance
. Refer to ship interest contact list
. External clean-up responses required
. Continued monitoring of activities

APPENDIX 8 RELATED PLANS AND DIAGRAMS

No.	Name of Plans and Diagrams	YES/NO
1	General arrangement	☐
2	Midship section	☐
3	Construction profile, incl. long. section, decks and inner bottom	☐
4	Shell expansion	☐
5	Tank capacity plan	☐
6	Bilge piping and ballast piping	☐
7	Fuel oil transfer system	☐
8	Loading manual and stability information	☐
9	Damage stability information	☐

Note: If YES, fill the blank like this: ☒； If NO, fill the blank like this: ⊟.

The following information can be obtained from relevant people in charge:

No.	Other Information	People In Charge
1	Current Bunker Information (including quantities and specifications)	Chief Engineer
2	Current Cargo Information (including quantities and specifications)	Chief Officer
3	Current Cargo Information (including quantities and specifications)	Chief Officer