SOPEP	Shipboard Oil Pollution Emergency Plan
SOLAS Protocol 1978	Protocol of 1978 relating to SOLAS 1974
SOLAS	International Convention for the Safety of Life at Sea. Consolidated version
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978
Supplementary Fund Protocol	Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992
Supplementary Fund	International Oil Pollution Compensation Supplementary Fund, i.e. the organization set up under the Supplementary Fund Protocol
UNCLOS	United Nations Convention on the Law of the Sea, 1982

Chapter I

Introduction

1.1 This section of the Manual on Chemical Pollution is intended to provide the reader, in particular on-scene commanders, response personnel, government entities and others involved in the management of and/or response to pollution incidents involving hazardous and noxious substance (HNS) with an appreciation of the various interests involved in an HNS incident and its aftermath. This will include a general review of the international legal regimes governing the various aspects of HNS, ranging from prevention, preparedness and response through to liability and compensation. This section is not intended to provide an authorized or definitive commentary on the legal relationships between the various entities involved in an HNS pollution emergency or an interpretation of relevant international conventions, but rather to provide a guide to the various elements and instruments to be considered when establishing a comprehensive regime for addressing HNS.

1.2 There are three main IMO instruments governing the prevention, preparedness and response and liability and compensation for HNS pollution incidents, as follows:

.1 *International Convention for the Prevention of Pollution from Ships, 1973* as modified by the Protocol of 1978 (MARPOL) and its related codes, which together provide the framework for the prevention of chemical pollution from ships in bulk or packaged form, which also incorporate aspects of preparedness and response;

.2 *Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000* (OPRC-HNS Protocol), which provides the framework for the development of national and regional systems of response and a platform for mutual aid and multilateral co-operation; and

.3 the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996* (HNS Convention) and

its Protocol, addressing liability and compensation for HNS pollution incidents.

1.3 Other legal regimes such as bilateral or regional agreements and, to the extent consistent with international law, domestic legal regimes may also govern these topics. Depending on the legal instrument referred to chemical substances may be identified in various ways, such as "hazardous and noxious substances", "noxious liquid substances in bulk", "and harmful materials and substances carried in packaged form", "dangerous goods" or more colloquially as "hazardous materials" or "hazmat". They all nevertheless address some form of pollution incident, which may involve a chemical or a combination of chemical substances.

1.4 This document focuses primarily on Hazardous and Noxious Substances (HNS) as defined by the OPRC-HNS Protocol 2000, which defines HNS as follows:

> "*Hazardous and noxious substance* means, any substance other than oil which, if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."

1.5 Like the OPRC Convention 1990, the OPRC-HNS Protocol 2000 aims to provide a framework for the development of national and regional capacity to prepare for and respond to HNS pollution incidents, and a platform to facilitate international co-operation and mutual assistance in combating major incidents or threats of marine pollution from hazardous and noxious substances. Parties to the Protocol are required to establish appropriate measures for responding to pollution incidents, either nationally or in co-operation with other countries. Ships are required to carry a shipboard pollution emergency plan (SMPEP) on board to specifically address incidents involving HNS.

1.6 The Protocol also requires each Party to maintain a HNS pollution contingency plan and, within its capabilities, a minimum level of pre-positioned equipment for responding to pollution incidents. Each Party is also obligated to require its ships, and as appropriate its sea ports and HNS handling facilities, to have pollution incident emergency plans or similar arrangements.

1.7 Following the adoption of the OPRC-HNS Protocol and recognizing the benefit of liability and compensation regimes for HNS pollution incidents, the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances* (HNS) *by Sea, 1966* was adopted in May 1996, regarding compensation to

victims of maritime incidents involving HNS. The HNS Convention aims to ensure adequate, prompt and effective compensation for damage to persons and property, costs of clean-up and reinstatement measures and certain economic losses caused by the maritime transport of hazardous and noxious substances (HNS).

1.8 It should be noted that the risk and resulting response to incidents involving HNS can vary significantly to the response to marine oil spills. A single HNS can have a number of chemical names associated with it, or may be identified by a variety of trade names, which in some cases may take time to identify the component chemical substance. A single vessel may transport a combination of product types which, if involved in a maritime incident, may potentially mix, causing a dangerous reaction or the creation of more hazardous by-products. A fire or explosion on board vessels transporting HNS as bulk cargo, in ISO tank containers or as packaged cargo in containers may result in the generation of toxic fumes.

1.9 As a result, the safety of personnel and the public is of paramount importance for HNS incidents, given the potential significant and immediate threat to human health in comparison to an oil spill, depending on the nature of the substance or substances involved and the type of incident encountered (spill, fire, leak).

Chapter II

Roles and functions of entities which could be involved in an HNS pollution emergency and its aftermath

There are many different entities involved in the transportation of HNS by sea. When a pollution incident involving HNS occurs, there are even more entities that will have a role and/or responsibilities and obligations, in order to protect life and to prevent or minimize damage to the marine environment. Chapter II attempts to identify the various players, define their respective roles, responsibilities and obligations, and the nature of the relationship between them, both for regular operations and during a marine pollution incident, in many pollution incident scenarios. In any given actual spill scenario, facts, entities, roles, relationships and functions may vary.

2.1 Shipowner

General rights and obligations

2.1.1 The ownership structures of ships are varied. The main parties that a coastal State is likely to encounter in a marine pollution emergency are:

.1 the shipowner;

.2 bareboat charterer;

.3 time charterer;

.4 technical manager; and

.5 commercial operator.

2.1.2 The phrase "shipowner" is used throughout the Manual. However, in some cases a ship may be owned by more than one entity on a share basis, with the traditional denomination of 64ths being the common standard. In such cases, there is usually an agreement between the owners that one will take operational decisions on behalf of all, and joint ownership only becomes of particular interest when recovery of damages is sought.

2.1.3 The technical manager of the vessel is responsible for the technical operation of the ship. Commercial management may be established in any number of ways. However, the master will act as the agent of the ship and cargo owner.

2.1.4 The interests of the ship are, to a certain extent, protected under international law. For example, not only is there freedom of navigation on the high seas, but ships are generally also entitled to the right of innocent passage through territorial sea. In some cases where a marine pollution emergency occurs that threatens to or causes damage to the coastline of a State or its related interests, however, the coastal State may, in accordance with international law and its own domestic law, take measures to protect its interests.

2.1.5 The primary concern of the shipowner in a marine pollution emergency will be the preservation of life, followed by the preservation of property (ship and cargo) and the protection of the environment, especially if there is a significant release of HNS or oil. He will therefore be concerned about the protection of his proprietary interest in the ship, the contractual obligations concerning the cargo and the potential environmental consequences, given the shipowner's strict liability under many regimes in the event of a pollution incident. The shipowner should liaise with all parties directly concerned with the position of the ship in the emergency, either directly through the master or his nominated agent.

2.1.6 In addition to the general rights and obligations concerning the operation of the ship, the shipowner, or his nominated agent, typically has certain specific obligations concerning:

.1 documentation that is required and carried on board for HNS pollution preparedness and response;

.2 notification of the marine pollution emergency to the nearest coastal State;

.3 pollution response and clean-up; and

.4 compensation.

Shipboard marine pollution emergency plan (SMPEP)

2.1.7 In 1999, amendments to MARPOL Annex II were adopted that added a new regulation 17 which requires ships of 150 gross tonnage and above certified for the carriage of noxious liquid substances (NLS) in bulk to carry a contingency plan on board identifying the procedures to be followed in the event of a spill or a probable spill of NLS. This requirement also includes procedures for notifying the relevant authorities. The plan is called a shipboard marine pollution emergency plan for noxious liquid substances (SMPEP/NLS). This new Annex II requirement is a similar requirement to regulation 37 of MARPOL Annex I, which requires ships carrying oil in bulk, either as cargo or bunkers, to have a contingency plan on board, referred to as a Shipboard Oil Pollution Emergency Plan (SOPEP).

2.1.8 The two planning requirements under MARPOL for oil and HNS are quite similar. Taking this into account and recognizing that ships certified for the carriage of noxious liquid substances that are carrying oil either as cargo or bunkers would require both plans on board, regulation 17 of Annex II and regulation 37 of Annex I allow for the two to be combined into a single plan called a shipboard marine pollution emergency plan (SMPEP).

2.1.9 In addition, ships flying the flag of a Party to the OPRC-HNS Protocol must carry on board a pollution emergency plan for incidents involving hazardous and noxious substances for any HNS carried on board. The SMPEP, as required under MARPOL for NLS, would also satisfy the requirement for a "Pollution Incident Emergency Plan" under the OPRC-HNS Protocol.

2.1.10 The Guidelines for the Development of Shipboard Marine Pollution Emergency Plans have been developed by IMO to help Administrations and shipowners meet this planning requirement. The Guidelines provide instructions and guidance on the development of SOPEPs and SMPEPs, with sample formats included.

The ISM Code

2.1.11 The *International Management Code for the Safe Operation of Ships and for Pollution Prevention* (ISM Code), which became mandatory in July 1998 by amendments to the *International Convention for the Safety of Life at Sea, 1974* (SOLAS), may also assist. The purpose of this Code is to provide an international standard for the safe management and operation of ships and for pollution prevention. The objectives of the Code are to ensure safety at sea, prevention of human injury or loss of life, and avoidance of damage to the environment, in particular, to the marine environment, and to property. Under the Code every Company should develop, implement and maintain a Safety Management System (SMS) which includes the following functional requirements:

.1 a safety and environmental protection policy;

.2 instructions and procedures to ensure safe operation of ships and protection of the environment in compliance with relevant international and flag State legislation;

.3 defined levels of authority and lines of communication between, and amongst, shore and shipboard personnel;

.4 procedures for reporting accidents and non-conformities with the provisions of this Code;

.5 procedures to prepare for and respond to emergency situations; and

.6 procedures for internal audits and management reviews.

2.1.12 The Code addresses the need for a link between the company and those on board by providing that every company, as appropriate, should designate a person or persons ashore that have direct access to the highest level of company management. The responsibility and authority of the designated person ashore (DPA) should include monitoring the safety and pollution prevention aspects of the operation of each ship and ensure that adequate resources and shore-based support are available, as required.

2.1.13 The Code provides for the establishment of procedures for the preparation of plans and instructions for key shipboard operations concerning the safety of the ship and the prevention of pollution (section 7). The various tasks are to be defined and assigned to qualified personnel.

2.1.14 The Code also provides for the establishment of procedures to identify and respond to potential emergency shipboard situations, including a programme for drills and exercises to prepare for emergency actions and measures ensuring that the company's organization can respond at any time to hazards, accidents and to that ship (section 8). In the ISM Code, the company means "the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the shipowner and who, on assuming such responsibility, has agreed to take over all duties and responsibility imposed by the Code".

Notification and reporting

2.1.15 Reporting is obliged under both MARPOL (Article 8 and Protocol I) and the OPRC-HNS Protocol (Article 3), and may also be obliged by other international (e.g. bilateral or regional) agreements and applicable national law, to ensure relevant authorities are aware of any HNS marine pollution emergency which has arisen. The master of the ship is expected to make such reports. However, if the ship has been abandoned, or if the master's report is incomplete, then the need to report falls on the owner, charterer, manager or operator.

Pollution response and clean-up

2.1.16 The obligation of a shipowner to undertake HNS pollution response and clean-up measures depends upon applicable domestic law, for example of the State where the pollution occurs. Execution of pollution response

operations should be managed in conjunction with the competent national authority of the affected coastal state with jurisdiction but liability generally remains with the shipper under State regimes that apply the "polluter pays" principle.

2.1.17 Most insurance contracts, and under the general principles of many systems of insurance law, the shipowner should act as a prudent person without insurance. Therefore, the shipowner should act within their capabilities to minimize potential risks. A shipowner should not act in a manner that increases the risks which the insurer has underwritten. Therefore, coastal States should find the shipowner co-operative in agreeing to any *reasonable* measures the coastal State wishes to put in place which would have the effect of reducing risks or impacts.

2.1.18 Notwithstanding the response and clean-up assistance the shipowner is able to provide, these efforts would normally be supported by specific technical advice and the services of the insurer (usually a P&I Club). In practice, the insurer will be very closely involved in any significant pollution incident, given the liability issues that are likely to arise.

2.1.19 The *International Convention on Salvage, 1989* (SALVAGE 1989), may also apply if a salvage contract is entered into. According to the provisions of the Convention, the owner is under a duty to the salvor to co-operate fully with him during the course of the salvage operations and to exercise due care to prevent or minimize damage to the environment.

2.1.20 These obligations, if they apply, are owed to different people – the first, to the insurer, and the second, to the salvor. There are not necessarily contractual obligations to the coastal State in this regard. The coastal State may, nevertheless, become involved in the owner's implementation of them, given the legal obligations to the coastal State whose waters are being polluted, which can conflict with the shipowner's contractual obligations. In such cases, it is very important to clarify who will pay the costs involved for any response action required by the coastal States.

2.1.21 The *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969* (International Convention 1969) affirms the right of a coastal State to take measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat of oil, following a maritime casualty in certain circumstances. This means that in some cases the State may intervene against the wishes of the owner of the ship and the cargo to prevent, mitigate or eliminate a grave and imminent threat, which may reasonably be expected to result in major harmful consequences. However, this should apply only in extreme cases. The Convention provides that the

coastal State is generally empowered to take only such action as is necessary, and after due consultations with appropriate interests including, in particular, the flag State or States of the ship or ships involved, the owners of the ships or cargoes in question and, where circumstances permit, independent experts appointed for this purpose. A coastal State which takes measures beyond those considered reasonably necessary and proportionate to the actual or potential threat is liable to pay compensation for any damage caused by such measures.

2.1.22 The *1969 Intervention Convention* concerns measures on the high seas in response to a threat of pollution, as well as in the exclusive economic zone (EEZ) (which formed part of the "high seas" at the time the Convention was adopted). It does not address incidents and measures that may occur within a coastal State's territorial sea. Incidents occurring within a State's territorial sea are generally covered by the domestic law of the coastal State, to the extent consistent with international law. It is common that the provisions for intervention adopted under the applicable domestic law for a State's territorial sea are similar to the provisions set out in the Convention for intervention on the high seas.

2.2 Ship technical manager

2.2.1 There are many ways in which a vessel may be financed, managed and operated. The master, in any circumstance, will be the agent representing the interests of the shipowner. The notable exception to this is with regard to the liability of the shipowner under the 1992 Compensation Conventions (CLC 92, Funds 92 and 2003, HNS Convention) whereby the liability cannot be directly assumed by any other person. The bareboat charterer may seek any right of limitation of liability which he may have under the relevant law, such as the *Convention on Limitation of Liability for Maritime Claims, 1976* (LLMC 1976).

2.2.2 It should be noted that the *International Convention on Salvage, 1989* (SALVAGE 1989) places an obligation on the owner to co-operate with a salvor and to exercise due care in preventing or minimizing damage to the environment. The Convention does not provide a definition for the shipowner, it is therefore left to each State Party to define it in its own laws. Such laws may or may not recognize bareboat charterer as being equivalent to a shipowner in this respect.

2.2.3 Technical managers are usually appointed to run the day-to-day non-commercial aspects of the ship's operation. The technical managers would normally be responsible for providing the ship with officers and crew, either directly or through a contracted managing agent, and for ensuring that the ship is maintained and insured. Operators, by contrast, oversee the

commercial aspects of the ship's operations. In each case, the shipowner (or bareboat charterer) retains commercial control of the ship and takes the commercial risks and benefits of its operation, deciding whether to trade the ship directly for his own benefit or to charter the ship out. Where there is a technical manager who employs the master, the master will still be the agent of the shipowner (or bareboat charterer) for purposes of dealing with the operation of the ship and for salvage. However, the master will additionally represent his employer, and any acts or neglect may make his employer liable for compensation. Technical managers and operators usually enjoy the same rights to limit their liability as shipowners and bareboat charterers.

2.3 Master

2.3.1 The master is the officer aboard ship entrusted with the execution of all maritime operations on board. In addition to his other defined duties and responsibilities the master is responsible for the safety of the ship, the cargo and personnel aboard, and will undertake the necessary measures to protect all three when an incident occurs, with priority given to saving lives. His responsibilities and authorities are further described in section 5 of the ISM Code.

2.3.2 If the ship is in distress, the master will be responsible for ensuring that a distress signal is sent and has the right to call upon any ship with which he is in contact and which he considers best able to render assistance. The master of the ship requested to render assistance must proceed with all speed to the assistance of the distressed ship. In addition, under article 10 of the *International Convention on Salvage, 1989* (SALVAGE 1989), every master is bound to render assistance to any person in danger of being lost at sea, as long as it does not incur serious danger to his ship and those on board.

2.3.3 The master is also usually the person responsible for notifying the relevant authorities of a marine pollution incident.

2.3.4 The master is in most, if not all systems of law, the agent of the shipowner in the navigation and shipboard management of the ship. Where the cargo is in danger, he is usually also the contractual agent of the cargo owner with regard to any action taken to save the cargo. Coastal States may therefore deal with the master, with the confidence that his word should bind the shipowner and cargo owner, insofar as the security of ship and cargo are concerned, when their owners are themselves not in contact with the coastal State.

2.3.5 The agency of the master is the legal basis for the law of salvage. Therefore, the master himself is able to enter into an agreement directly with a salvor. The master will send out distress calls as appropriate after

the incident occurs, and he may call specifically for tugs if needed. Even if there is no specific callout, any salvage tug in the vicinity hearing a distress message is likely to try to contact the ship and may proceed in its direction "on speculation". The salvage tug will then attempt to secure an agreement for its services with the master. This would usually be on the basis of one of the accepted standard salvage agreements. One of the common agreements used is Lloyds Open Form, formally Lloyd's Standard Form of Salvage Agreement, but more commonly referred to as LOF, but there are others that may be used in different areas of the world. Alternatively, negotiations of this kind may take place between the shipowner, insurer and salvor, in order to reach an appropriate agreement.

2.3.6 In the event of an HNS marine pollution incident, a master will often establish direct contact with his shipowner, in order to consult with the shore side management. Whether such communications take place or not, the master's decisions with regard to the protection of the marine environment should not be unduly influenced by economic and other pressures that may be exerted by his shore side office, given that the protection of the marine environment should be of prime concern, following the protection of human life.

2.3.7 It should also be noted that when a marine pollution emergency has arisen, there will be considerable pressure on the master. They may feel personally responsible for what has happened. In most cases, an inquiry will follow which may have consequences for the master. In an HNS incident there may be considerable danger in staying aboard ship, with the safety of the crew under threat. There is also the threat of criminal liability in the event of a major pollution incident. It is therefore important that anyone dealing with the master during or in the immediate aftermath of the marine pollution emergency is aware of these possibilities and acts accordingly.

2.3.8 Several resolutions have been introduced that provide additional guidance to assist governments and the master in various issues that may arise during a major incident. Notable pieces of guidance include Assembly resolution A.949(23), which provides guidelines on places of refuge for ships in need of assistance and Assembly resolution A.987(24), providing guidance on the fair treatment of seafarers in the event of a maritime incident.

2.4 Cargo owner

2.4.1 The owner of the cargo at the time of the HNS marine pollution incident may not necessarily be either the shipper or the consignee, as the ownership of the cargo may have changed hands many times since the ship sailed. As a result, establishing who owns the cargo may not initially be a straightforward exercise. The initial chain of enquiry will start with the

shipper named in the bill of lading, a copy of which is held on board by the master. Bulk HNS cargoes tend to be owned by a single entity, or perhaps by a few different entities. Packaged HNS cargoes, on the other hand, are more likely to be owned by a wide variety of entities.

2.4.2 The individual cargo owner would not normally be liable for providing compensation arising from pollution-related damage. Under relevant international agreements, it is usually the shipowner that is liable, and, under the bill of lading or other contract governing the carriage of the cargo by sea (such as a charter-party), this responsibility will remain with the shipowner throughout the marine pollution incident, unless the shipowner abandons the voyage. As a result, the cargo owner does not normally feature prominently in the management of or response to a marine pollution incident, but may be called up to provide technical information and guidance on the nature and behaviour of product(s) involved, if appropriate.

2.4.3 The cargo owner's knowledge of the nature of the cargo will vary enormously depending on the type of entity concerned. If the cargo owner is an end-user of the cargo, he may have technical staff that are familiar with the specific or general behaviour characteristics of the cargo. Therefore, the cargo owner may be someone to whom the coastal State or even the shipowner may turn to for advice about the cargo and how it should be handled in the case of a pollution incident. If the cargo owner is a trading company which does not use the cargo, such technical expertise is less likely to be available and may have to be sought from the cargo manufacturer or from a specialist or industry body.

2.5 Flag State

2.5.1 The flag State is responsible for enacting and enforcing all design and equipment standards, safety standards, and crew certification and training. This includes the issuance of certificates required under the international conventions for setting minimum manning levels and standards relating to the prevention of collisions and the prevention of pollution; and exercising jurisdiction and control over the ship, including while it is on the high seas. The flag State also has a number of obligations once a marine casualty has occurred.

2.5.2 Under the provisions of various international instruments (MARPOL, SOLAS, UNCLOS, LL and STCW), there are various requirements for flag States to respond and cooperate in the event of any violations identified by a coastal State, and to investigate and conduct inquiries into a marine casualties involving ships flying their flag, in particular if these have resulted in a significant impact to the marine environment. The flag State must also

co-operate in any enquiries undertaken by an affected coastal State. Some of these requirements are set out in the following paragraphs.

2.5.3 Under article 12 of MARPOL, the flag State is obliged to investigate a casualty in which one of its ships has been involved if the casualty has produced a major deleterious effect upon the marine environment. Most States with sizeable fleets have made provisions for conducting an investigation when there is loss of life, and, under regulation 1/21 of SOLAS 1974 and article 23 of LL 1966, a flag State must undertake to conduct an investigation of any casualty when it judges that such an investigation may assist in determining what changes in SOLAS 1974 and LL 1966, might be desirable.

2.5.4 Under article 94(7) of the United Nations *Convention on the Law of the Sea, 1982* (UNCLOS), the flag State is under a duty to hold an inquiry into every marine casualty or incident of navigation on the high seas where there has been loss of life or serious injury to nationals of another State or serious damage to ships or installations of another State or to the marine environment. The flag State is also required to cooperate in any inquiry held by that other state into any such marine casualty or incident of navigation.

2.5.5 Under article 6 of MARPOL, Parties must cooperate in the detection of violations and the enforcement of the provisions of the Convention. If presented with evidence that a ship has discharged harmful substances or effluents containing such substances in violation of the provisions of MARPOL regulations, the flag State must investigate the matter and, if it is satisfied that there is sufficient available evidence, it must initiate proceedings for addressing the violation in accordance with its law. Where another State presents a flag State with evidence of a violation, it may contact the flag State with regard to its investigation, and offer assistance with oral or written evidence at any flag State legal proceedings.

2.6 Coastal State

2.6.1 Parties to the OPRC-HNS Protocol are required to establish national systems of preparedness for and response to pollution incidents involving HNS. In general, the different roles and responsibilities of the coastal State's competent authorities will be set out in its national marine pollution contingency plan. These plans vary from State to State, and the considerations which should be taken into account in preparing them should include those contained in this publication. In this Manual, the roles and functions of the coastal State authorities will be discussed as one national authority to deal with the marine pollution emergency, and referred to as the "coastal State".

2.6.2 Under many international agreements, States have a general duty to notify other States of a marine pollution threat of which it becomes aware and which is likely to affect them. This is enshrined in a number of international instruments including MARPOL, OPRC, OPRC-HNS Protocol, and UNCLOS. Therefore, once a marine pollution emergency has occurred within the jurisdiction and control of a coastal State, the coastal State may be required to consider the likely effect on other States and take the appropriate action, which, as a minimum, would be to notify those likely to be affected.

2.6.3 These notification and reporting obligations are also likely to be included in any regional agreement or arrangement to which a State has signed on to. Regional arrangements – whether they are established as a formal legal agreement or as a working arrangement between countries – may also set out the parameters for co-operation in responding to major marine pollution incidents which are likely to affect more than one State. Under such an agreement, Parties are typically under a duty to report marine pollution incidents to any other State which may be affected, to take the necessary response actions, and to continuously monitor the situation until it is resolved. Parties to the agreement are usually expected to make best efforts, subject to their capabilities and the availability of resources, to respond positively to requests for assistance from an affected coastal State and to cooperate with the affected State in conducting the response. Many regional agreements have established regional centres, which will assist State Parties in implementing the agreement and, when an incident occurs, to provide technical advice and guidance, coordinate assistance and facilitate communication between the Parties to the agreement. The centre may effectively serve to backstop the efforts of the affected coastal State, as required, given that their resources may be stretched to the limit during a major response. The coastal State may also have the possibility of accessing equipment stockpiles, established either by industry or by groups of countries, during a major incident.

2.6.4 In accordance with the provisions established in its national pollution contingency plan, the coastal State may elect to undertake its own response to the marine pollution emergency. This raises the question to what extent the coastal State may take action against the wishes of the master or other parties who have interests in the ship or cargo.

2.6.5 Another area where a coastal State may wish to take action is with regard to salvage. In this regard, the coastal State may wish to provide these services directly or have a salvor selected from a pre-approved list of providers. There are certain practical problems in implementing such an imposed requirement, where the responsible parties are unwilling to take action. However, article 5 of the *International Convention on Salvage, 1989*

(SALVAGE 1989) recognizes that States may wish to control or provide such services themselves, and salvors carrying out such services under the control of a public authority are still entitled to avail themselves of the Convention's rights and remedies. Article 9 provides that "Nothing in this Convention shall affect the right of the coastal State concerned to take measures in accordance with generally recognized principles of international law to protect its coastline or related interests from pollution or the threat of pollution following upon a maritime casualty or acts relating to such a casualty which may reasonably be expected to result in major harmful consequences, including the right of a coastal State to give directions in relation to salvage operations."

2.6.6 The coastal State may take the necessary steps in its territorial sea to prevent passage which is not innocent. In most cases, there should be co-operation and co-ordination between the master and the coastal State to manage the response and clean up actions and mitigate pollution.

2.7 Salvors

2.7.1 When a salvage company is engaged to assist a marine casualty, specialized expertise, which is unique to the maritime industry is brought in to undertake the task. Their business is not without risks, and frequently the skills and efforts of salvage officers have saved ships and their cargoes from extreme situations. Some salvage companies are able to mobilize equipment, either from their own resources or from elsewhere, together with expert personnel at very short notice.

2.7.2 The majority of professional salvors are members of the International Salvage Union (ISU). This organization represents some 57 salvage companies, based in 30 different countries around the world. Some of these companies have tugs and other salvage equipment at a number of different ports and areas throughout the world and a few of the companies have salvage tugs stationed at various strategic locations. There are also a number of salvage tugs maintained at salvage stations in certain coastal States, as a result of long term contracts entered into between their owners and the maritime authorities in those States.

2.7.3 Salvage services may be rendered under a number of different types of commercial contract, i.e. "Daily Rate" or "Lump Sum", "Towage Contract". However, professional salvors tend to prefer other types of contractual arrangements for normal salvage services. If a non-salvage commercial contract is utilized, there will have been negotiation between the parties, who may include the coastal State. No special limiting considerations are therefore relevant to marine pollution emergencies in such a case. Salvors may be entitled to special compensation, as an exception to

a "no cure – no pay" rule or contract, when it can be shown that the salvor prevented or minimized damage to the environment.

2.7.4 The contract that salvors normally offer to the master and/or owners of a ship involved in a marine casualty is Lloyd's Standard Form of Salvage Agreement or 'Lloyd's Open Form (LOF)', a contract subject to English law. Other agreements also exist, which may be utilized in other areas of the world, but the Lloyd's Form is the most commonly used. The services to be provided to the casualty are set out in Clause A of LOF 2011. The contractors' basic obligation is to use their best endeavours to salve the property (ship, cargo, bunkers and freight), and take the property to a designated location, or in the absence of an agreement, to a place of safety.

2.7.5 It was the 1980 edition of Lloyd's Form, which first introduced an obligation on the salvor to prevent the escape of oil whilst performing the salvage services. Subsequently the *International Convention on Salvage, 1989* (SALVAGE 1989) introduced a definition of "damage to the environment" as "substantial physical damage to human health or to marine life or resources in coastal or inland waters or areas adjacent thereto, caused by pollution, contamination, fire, explosion or similar major incidents" (see article 1(d) of the Convention). In reality, salvors have always made considerable efforts to avoid or minimize pollution damage and to co-operate with national and/or local authorities during any salvage operation.

2.7.6 LOF 90, LOF 95 and the latest edition, LOF 2011, all incorporate the obligation imposed on the salvor under the Convention that "whilst performing the salvage services, the Contractors shall also use their best endeavours to prevent or minimize damage to the environment".

2.8 Liability insurer

2.8.1 The third-party liabilities of the shipowner, and often of charterers, will generally be covered by mutual insurance associations called Protection and Indemnity Associations, also known as P & I Clubs, with the word Club being used to denote their nature as mutual associations of shipowners.

2.8.2 Approximately 90% of the world's ocean-going tonnage is entered in one of the thirteen P&I Clubs that comprise the International Group (IG) of P&I Clubs. Vessels not insured by one of the International Group Clubs will normally be entered with a non-International Group P&I insurer, which are, by and large, fixed premium providers on a non-mutual basis, i.e. no pooling of risk with other insurers.

2.8.3 Some discussion of the structure of the P&I Clubs that are members of the International Group is relevant here, as this helps to understand the

particular character of these organizations, which affects the way they are able to interact with coastal States in a marine pollution emergency.

2.8.4 A P&I Club is an association of shipowner members and charterer members. The general policy decisions of the Clubs are normally taken by a Board or Committee of Directors, who are appointed from among the membership of the Club. The day-to-day management of the Clubs are, in many cases, delegated to a separate management company, which may be either a limited company or a partnership that, in some cases, may be as old as the Clubs that they manage.

2.8.5 Although Clubs within the International Group compete with each other, they will come together to pool their larger risks. Pooling is regulated by the Group Pooling Agreement, which defines the risks that can be pooled and how losses are to be shared between the participating Clubs. This provides a mechanism for sharing all claims in excess of individual club retentions (currently in excess of US$8 million) and the purchase of collective reinsurance for the Group Clubs that allows the Clubs to provide an overall limit on cover of approximately US$7 billion. This pooling arrangement is underpinned by a reinsurance programme, which is the largest marine insurance placement in the world. The structure of the pooling reinsurance programme can be accessed via the International Group's website at http://www.igpandi.org.

2.8.6 Clubs cover a wide range of liabilities including but not limited to:

.1 personal injury to or illness or loss of life of crew members and passengers and others on board, and loss of their effects;

.2 pollution liabilities (including oil pollution);

.3 stowaways;

.4 damage to fixed and floating objects, including docks, wharves, jetties, terminals and other facilities ;

.5 towage contract liabilities;

.6 removal of the wreck of an entered ship; and

.7 liabilities for loss or damage to cargo and other property on board.

2.8.7 P&I Clubs cover the shipowner's legal liabilities with regard to damage or compensation which the owner is legally obliged to pay to third parties, together with certain other losses, costs and expenses specified in the terms of the insurance provided. The association insures its members against third-party liabilities relating to the use and operations of ships, as specified in the P&I Clubs' rules.

2.8.8 Because the insurance offered relates to a shipowner's liabilities, P&I Clubs employ both legal experts and technical experts. In the event of a marine pollution incident, the P&I Club involved will generally have experience in handling of pollution claims in many parts of the world and can therefore support and facilitate the claims handling process in the affected coastal State, which may have no prior experience with the claims process.

2.8.9 The main responsibility of the claims handler assigned by a P&I Club during a marine pollution incident is to handle and assess claims made against the assured members and to authorise payment of eligible and admissible claims. In a marine pollution emergency, public and private bodies may find themselves dealing directly with the P&I insurer.

2.8.10 Some classes of ships, such as oil tankers, are required by CLC 92 to maintain insurance or other financial security. Evidence of insurance must be in the form of a certificate issued by the ship's flag State, providing it is a State Party to that Convention. Other international conventions contain similar provisions in respect of liability for spills of ships' bunker oils, wrecks and hazardous and noxious substances. In all cases the presence of a mandatory requirement to maintain insurance should negate the need for the affected State to seize the ship as an asset.

2.8.11 The P&I Club may also be involved in any question of liability arising from a decision to transfer cargo or bunker fuel from the casualty to another ship, i.e. lightering. The law in this area is complex so, for the purposes of this guide, it is sufficient to note that such transfer operations will be subject to contractual agreements between a number of parties, e.g. salvors, responders, the shipowner and the affected coastal State.

2.9 HNS responder

2.9.1 For the response to incidents involving hazardous and noxious substances, the safety of personnel should be of the highest priority since certain hazardous and noxious substances may have serious health impacts and, in certain cases, cause fatalities and/or long term health effects to responders, which is not the case with oil.

2.9.2 Responding to an HNS incident requires different equipment and response strategies than those employed for oil. This means that all personnel responding to such an incident should have the necessary level of training, capability and skills for dealing with the incident safely.

2.9.3 Where possible, responders should have received and successfully completed recognized training in responding to HNS incidents. The IMO introductory courses for preparedness and response to HNS provide a useful

introduction and overview of the response to incidents involving HNS, but these courses are provided solely to provide an introduction and raise awareness of the unique response issues associated with HNS and do not bestow upon the individual the necessary level of competence to respond to an HNS incident.

2.9.4 It is therefore essential to ensure that the responders, supervisors and/or managers involved in dealing with an HNS incident have the appropriate training, personal protection, response equipment and materials fit for the purpose. It is also essential that these are appropriate for the specific type or types of HNS products being addressed.

2.9.5 A safety risk assessment of the HNS incident is an essential first step. The response strategy should subsequently be developed and agreed by the on scene coordinator/commander (OSC) and the response team, and a safety briefing in line with the risk assessment findings is given to, and understood by, the responders before any operations commence.

2.9.6 Full documentation and records of the response operations, ideally including photographs, should be retained, as these will be a useful reference in the claims process after the incident is over. Claims may be compiled and submitted a considerable time after the event and crucial details may be difficult to recall after the incident is over.

2.10 Port authority

2.10.1 Port authorities have general duties and powers, which vary among States. As long as the harbour is open to general users, they may have a duty to take reasonable care to ensure that all who navigate it can do so without danger to life or property.

2.10.2 Port authorities may have a duty of care to conserve and promote the safe use of the harbour and an obligation to ensure the efficiency, economy and safety of their operations for all the services and facilities provided.

2.10.3 Port authorities should act in ways which promote the maintenance, operations and improvement of the port area and need to provide users with adequate information about port conditions.

2.10.4 In addition to their general duties and powers, port authorities can have specific powers, such as the power to direct vessels, to provide pilotage, to provide aids to navigation and maintain them, to prevent dangers from wrecks and obstructions and to safely manage dangerous vessels, hazardous substances and any port pollution.

2.10.5 Port authorities should ensure they have an effective Safety Management System (SMS) in place, which identifies all those powers, policies and procedures for safety during normal operations and especially in times of an emergency. The SMS should be based on a formal assessment of hazards and risk. The port's SMS should be monitored, exercised and reviewed on a regular basis, and regular external audits carried out.

2.10.6 Port authorities should ensure they have an effective Counter Pollution Response Plan (CPRP) in place, which identifies all those powers, policies and procedures which reduce the risk of pollution within the Port and especially in times of a potential and/or actual pollution incident. The CPRP should be based on a formal assessment of hazards and risk. For all ports that handle HNS, it is essential that there is a section dealing with the risks and handling of an HNS incident. The port's CPRP should be monitored, exercised and reviewed on a regular basis, and ideally an independent external audit carried out also on a regular basis.

2.10.7 Ports operating within special protection areas such as designated particularly sensitive sea areas (PSSAs) or that have environmentally sensitive sites in close proximity should take account of the requirements of the management plan of the designated area; this may mean extra precautionary measures to prevent pollution and accidents involving HNS.

2.10.8 A port has the power to appoint a harbour master who is accountable for the safety of operations within the harbour. The State or the port may have specific rules or regulations through which the harbour master's powers are exercised.

2.11 Ships agents/customs

2.11.1 Goods entering or leaving a port are subject to a customs declaration. The customs authorities will have access to the ships' bill of lading or manifest. If a ship carrying HNS is a pollution threat to a coastal State where it is transiting its territorial waters, the vessel, port of departure or port of destination may have the information on HNS cargo on board. The network established by the World Customs Organization may also be able to provide access to information on the ship's cargo.

Chapter III

Proposed information to be developed by States considering becoming party to the Protocol

3.1 Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000 (OPRC-HNS Protocol)

3.1.1 The OPRC-HNS Protocol is based on the International *Convention on Oil Pollution Preparedness, Response and Co-operation, 1990* (OPRC 1990). The OPRC Convention and the OPRC-HNS Protocol (the Protocol) are designed to facilitate international co-operation and mutual assistance in preparing for and responding to major marine pollution incidents and encourage contracting States to develop and maintain an adequate capability to deal with pollution emergencies.

3.1.2 The Protocol deals specifically with preparedness and response to marine pollution incidents involving hazardous and noxious substances and aims to provide a global framework for international co-operation in responding to these incidents.

3.1.3 For the purposes of the Protocol, a hazardous and noxious substance is defined as any substance other than oil which, if introduced into the marine environment, is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea. It should be noted that this is a different definition to the one used in the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1966* (the HNS Convention).

3.1.4 The Protocol contains a number of obligations that Parties must fulfil, including flag State responsibilities, national systems for preparedness and response, international co-operation and financial systems. This chapter details these obligations and outlines the systems and processes that States should establish to fulfil these obligations. Additionally, the document describes some options for putting these systems and processes into place.

3.2 Obligations

3.2.1 This section details the obligation that the Protocol imposes on Parties, including a brief description of the major provisions of the articles of the Protocol. Section 3 of this chapter describes the measures that States can take in order to fulfil these obligations.

Application

3.2.2 In accordance with Article 1, Parties to the OPRC-HNS Protocol must take measures to prepare for an HNS pollution incident. The Annex – *Reimbursement of costs of assistance*, constitutes part of the Protocol and should be taken into account by States in establishing bilateral or multilateral agreements regarding incident response.

3.2.3 Article 1 also details those vessels to which the Protocol does not apply, including warships, naval auxiliaries and State-owned or State-operated vessels on Government non-commercial service. However, Parties should take measures to ensure that these vessels comply with the Protocol as far as reasonable and practical.

Emergency plans and reporting

3.2.4 In accordance with Article 3 of the Protocol, all ships flagged to Parties to the Protocol and port facilities under the jurisdiction of the State that handle HNS must have emergency response plans that include HNS incidents. For the purposes of the Protocol, FPSOs or FSUs are not classified as ships.

3.2.5 The State has a responsibility to ensure that reporting procedures for incidents on vessels are followed, including notification by the authorities to other States that may be affected by the incident.

National systems for preparedness and response

3.2.6 Article 4 of the Protocol requires that Parties have in place a national system for preparedness and response to HNS pollution incidents from vessels. These will include having response plans, pre-positioned response equipment and exercise and training programmes. In addition, there should be communications capabilities and processes for response co-ordination and co-operation with other organizations and parties involved in the incident, such as shipping and other industries and port authorities.

3.2.7 Parties to the Protocol must also ensure that current information on their response capabilities and responsibilities is provided to the IMO, either directly or through the relevant regional organization or arrangements.

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International cooperation

3.2.8 Where the incident is of a scale, nature or severity that assistance is required by the State in which the incident occurred, Parties to the Protocol undertake to co-operate and provide assistance to other Parties upon request. Parties also undertake to implement financial and administrative measures to allow and expedite the arrival, use and departure of equipment, cargo and personnel entering the State for use in the response. Additionally, Parties should endeavour to set up documented agreements for preparedness and response with other Parties and make these available to IMO (Articles 5 and 8).

3.2.9 Article 6 of the Protocol provides that Parties to the Protocol are required to co-operate and share information with other States on research and development that they conduct into HNS spill response, and establish any necessary links between their research institutions. Parties also should co-operate in supporting proposals for international symposia on HNS response developments as well as supporting and encouraging appropriate proposals to develop international standards.

3.2.10 Article 7 provides that Parties undertake directly, or through IMO, to assist Parties who request assistance for response preparedness and during incidents and in initiating joint R&D programmes. This may include assistance with regards to training, ensuring availability of technology, equipment and facilities, and planning and response measures and arrangements.

3.2.11 In accordance with Article 11, Parties should also work within IMO to evaluate the effectiveness of the Protocol.

Becoming Party to the Protocol and subsequent amendments

3.2.12 To become Party, States must deposit an instrument of ratification, acceptance, approval or accession with the Secretary-General of IMO. Where more than one system of law exists within a State, it may also need to define to which of its territories the Protocol shall apply. Following ratification, acceptance, approval or accession, the Protocol will become effective three months after the date of deposit of the instrument.

3.2.13 Because amendments to the Protocol may be adopted by the Marine Environment Protection Committee, providing a two-thirds majority of the Parties to the Protocol present at the meeting where the amendments are discussed, it is important that Parties are aware of proposals for amendments and, where they consider it necessary, are present at meetings where amendments are discussed. Once the amendment has been adopted, Parties should notify the Secretary-General of their acceptance of the change unless they are not supportive of the amendment, as the final date of acceptance

will not occur until six months after a two-thirds majority of the Parties have notified their acceptance.

3.2.14 If the amendment is to an Appendix of the Protocol, only the amendment will be deemed to be accepted at the end of a period determined by the Marine Environment Protection Committee (at least 10 months after adoption) unless there are objections communicated to the Secretary-General by not less than one third of the Parties. Therefore, if a Party disagrees with the adopted amendment, it is important that they notify its objection as this may influence whether or not the amendment is accepted.

3.2.15 Parties may denounce the Protocol at any time after five years from when the Protocol entered into force for that Party. The process for denunciation is the deposit of an instrument to that effect with the Secretary-General of IMO, and the denunciation will take effect a minimum of 12 months after the deposit of that instrument.

Reimbursement of costs of assistance

3.2.16 In cases where a Party requests assistance of another Party to respond to an incident, the requesting Party may need to reimburse the fair and reasonable costs incurred by the assisting Party, unless there has been a prior agreement that reimbursement will not be required. However, where there is no current agreement regarding financial arrangements between the Parties, or where a Party takes action on its own initiative without being requested to assist, then there is no established requirement for reimbursement of the costs incurred by the assisting Party.

3.2.17 Parties should ensure that there is clarity regarding funding issues in bilateral and multilateral agreements for co-operation on HNS response. Parties will also need to consider cost requirements of establishing and maintaining a response system and fulfilling their other obligations under the Protocol and determining how these will be funded, such as through national levy systems or other means. In some cases, States may also be Party to international liability instruments, such as the HNS Convention, that give access to an international compensation fund for costs and damages incurred during an HNS incident.

3.2.18 Parties should also ensure that they have clarified the reimbursement process for assisting another Party with a response to an HNS incident. Parties should also be aware that if they intervene without a specific request or agreement they may be unable to claim reimbursement of costs incurred, although reimbursement may later be negotiated. In order to calculate costs of assistance, Parties will need to have systems and standards in place such as a schedule for use of equipment and appropriate financial accounting systems to record costs.

3.3 Means of meeting obligations under the Protocol

3.3.1 This section describes the actions that Parties should take in the implementation of the Protocol as described in chapter II above.

Application

3.3.2 Parties should establish a 24-hour response capability including personnel, information, equipment and procedures to conduct a response to a marine HNS incident. This may be done through developing internal systems or may be achieved through arrangements with other Parties or external organizations. More details on the components of a national system for HNS incident preparedness are included in section 3.2.

3.3.3 Parties should also establish a mechanism, such as a regulation, that will ensure State-flagged naval and government vessels that carry HNS have shipboard plans that are, as far as reasonable and practicable, consistent with those plans that are required by non-government vessels to have in place. Some means of determining compliance with the requirement, such as inspection or audit, should also be established.

National systems for preparedness and response

3.3.4 A national system for preparedness and response to an HNS incident will have a number of elements and the application of the system will vary between States. It is therefore not intended that this manual provide a detailed description of how a national system should be structured but instead to provide some general guidelines of those elements that should be considered for inclusion.

3.3.5 Response to an HNS incident will include immediate actions to minimize the impact of the spill at the time of the incident and also may require long-term clean-up of affected sites. The different time frames and requirements for personnel and equipment for both the initial and on-going response should therefore be taken into consideration in developing a national system.

3.3.6 It is essential that those national agencies that should be involved in a response are identified, including the roles and responsibilities of those agencies during the response. Additionally, the process by which those agencies will interact and communicate during an incident should be clearly described, and would usefully be supplemented by an outline of the incident command structure that will be used.

3.3.7 A national response or contingency plan should be developed to describe the above information, along with the resources including

personnel and equipment available for a response and procedures to be followed during an incident.

3.3.8 Options for establishing international agreements for assistance during an incident should be identified, and these may also be documented in the national plan.

3.3.9 During an incident it is important to be able to account for costs incurred, and the national response or contingency plan should include the establishment of the necessary financial framework to achieve this; additionally, it is important to have in place the means to cover the costs of the response and, where appropriate, a mechanism for claiming costs from another agency or individual.

3.3.10 The national system should include information regarding how those personnel involved in an HNS response will be trained to undertake their given roles in the system, and the process for conducting exercises.

3.3.11 Finally, it is important to establish a process for auditing or testing of the response system, as well as for updating the national plan as required, to ensure its effectiveness.

Emergency plans and reporting

3.3.12 Parties will need regulations in place to require ships flagged to that Party have in place an onboard pollution incident emergency plan that covers HNS. To ensure compliance with this requirement Parties should establish an effective auditing regime with applicable procedures.

3.3.13 Shipboard incident emergency plans should include a description of the procedures for reporting an HNS incident, as well as the immediate actions that will be taken by the crew in the event of an incident. Vessels may carry a wide variety of different HNS, often with multiple substances on board during a single voyage. It is not expected that the crew would generally have the expertise, experience or equipment to allow them to mount a full-scale response to an HNS incident. Crew actions should therefore be focused on the protection and the safety of those on board and, where the situation allows without putting the crew or vessel at risk, any mitigating actions that may be taken to minimize the extent of a spill or the environmental impact of the incident. States may also decide to require FPSOs and FSUs to develop incident emergency plans, although this is not required under the Protocol.

3.3.14 Parties will need regulations in place to require ports and HNS handling facilities to have site emergency response plans that include HNS incidents, as well as systems to ensure compliance with the regulation. As

for shipboard plans, these should include details of reporting arrangements and actions that will be taken to protect the safety of those people who are at the site and, where possible, any mitigating actions to minimize the extent of any spill or environmental harm.

3.3.15 Neighbouring coastal States may be at risk from pollution impacts to their waters or coastlines. Therefore, procedures will need to be established and documented to ensure that the relevant Party authorities notify other States which may be affected where an HNS incident may have impacts beyond territorial boundaries. The flag State of any vessels involved in the incident should also be notified.

International co-operation

3.3.16 Parties should have systems in place whereby they are represented at IMO and be willing to work with the Organization to facilitate training and access to appropriate resources by those States that seek technical assistance. Additionally, Parties should seek ways to participate in international co-operative efforts to share information about research and development, and facilitate transfer of technologies.

3.3.17 Where possible, Parties should seek to establish bilateral or multilateral agreements with other Parties to facilitate international co-operation and support during incidents. For many Parties this is likely to take the form of an extension of existing international agreements on oil spill response.

3.4 Complying with the Protocol in practical terms

3.4.1 The aforementioned information is given as a guidance to those States considering becoming party to the OPRC-HNS Protocol, and, whilst there are significant systems, legislation, procedures and auditing functions that need to be put in place to comply with the Protocol, the benefit to the safety of life and wellbeing of the environment are not to be underestimated; and in the long run will prove most beneficial, as shown by the success of the OPRC Convention since its ratification and implementation.

Chapter IV

Liability and Compensation Regarding Marine Pollution Incidents Involving HNS

4.1 Introduction

4.1.1 In 1984, IMO convened a conference to consider a new instrument to address compensation for marine accidents involving hazardous and noxious substances (HNS). As a result of the complexity of the issues around HNS, preparatory work continued in IMO until 1996, when the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996* (HNS Convention 1996) was adopted.

4.1.2 The Convention aims to ensure adequate, prompt and effective compensation for damage to persons and property, costs of clean-up and reinstatement measures and economic losses caused by the maritime transport of hazardous and noxious substances (HNS). The Convention makes available compensation up to a maximum of 250 million SDR* per incident to victims.

4.1.3 In addition the Convention intends to provide uniform international rules and procedures under which shipping would operate, as well as outline questions of liability, mechanisms for distribution of compensation and ensuring equal treatment of those affected.

4.1.4 The Convention builds on the successful model of the Civil Liability and Fund Conventions, which cover pollution damage caused by spills of persistent oil from tankers. Similar to the oil pollution compensation regime, the HNS Convention is based on a two-tier system of compensation to be paid in the event of accidents at sea, involving hazardous and noxious substances.

* Special Drawing Rights: the SDR is an international reserve asset, created by the IMF in 1969 to supplement its member countries' official reserves. Its value is based on a basket of four key international currencies, and SDRs can be exchanged for freely usable currencies.

4.1.5 Despite the adoption and ratification by a number of countries, by the late 2000s the HNS Convention had still not received the sufficient number of ratifications to trigger its entry into force. In order to address the practical problems preventing States from ratifying the Convention, in 2010 a Protocol to the 1996 HNS Convention was adopted, which sought to address the three principal issues seen as the main barriers to ratification:

.1 *Obligation to submit reports on contributing cargo.* When a State ratifies or accedes to the Convention it must provide a report to the IMO with details of the total quantity of contributing cargo received in that State. Prior to 2010, non-reporting had been on ongoing challenge. This was addressed by the Protocol which clarifies that, in the case a State should fail to submit reports annually, after depositing its instrument of ratification, once the Protocol has entered into force, compensation will be withheld, temporarily or permanently, if it is in arrears with reports, except in the case of claims for personal injury and death;

.2 *Difficulties in setting up a reporting system for packaged goods.* In the Protocol, packaged goods have now been excluded from the definition of contributing cargo and, accordingly, receivers of these goods will not be liable for contributions to the HNS Fund. However, since incidents involving packaged goods will remain eligible for compensation, the shipowners' limits of liability for incidents involving packaged HNS have been increased; and

.3 *Titleholder versus receiver as it pertains to LNG Contributions.* Under the 1996 HNS Convention, the person liable for LNG contributions is the person who held title to an LNG cargo immediately prior to its discharge. In the case of other accounts, the person liable is the receiver. While the receiver must be subject to the jurisdiction of a State Party, the titleholder need not be. It would, therefore, have been impossible to enforce payment of contributions to the LNG account by titleholders in non-State Parties. As a result of the 2010 Protocol, contributions to the LNG account henceforth will be made by the receiver of the cargo, except where an arrangement by the titleholder of the cargo has been established and the State Party is advised of that arrangement. In such case, the title holder becomes responsible for contributions associated with the cargo.

4.1.6 The HNS Convention as amended by the 2010 Protocol, will enter into force 18 months after ratification by at least 12 States, subject

to the following conditions: in the previous calendar year a total of at least 40 million tonnes of contributing cargo to the general account were received in States which had ratified the Convention; and four of the States each have ships with a total tonnage of at least 2 million GT.

4.1.7 Despite a number of countries signing the HNS Protocol of 2010 the HNS Convention has yet to enter into force*.

4.2 Scope of the HNS Convention

4.2.1 The HNS Convention covers damage in the territory or territorial sea of a State Party to the Convention. It also covers pollution damage in the exclusive economic zone (EEZ), or equivalent area, of a State Party, as well as damage (other than pollution damage) caused by HNS carried on board ships registered in the flag of a State Party outside the territorial sea of any State.

4.2.2 The Convention imposes strict but limited liability for compensation. That means that the shipowner will be liable, even if there is no fault on the part of the ship or its crew. This makes it easier and faster for victims to receive compensation from an easily identifiable and suitably insured source.

4.2.3 The shipowner is allowed to limit his liability to a sum fixed by the conventions and dependant on the size of the vessel.

4.2.4 The types of damage that will be covered by the Convention include the following:

.1 loss of life or personal injury on board or outside the ship carrying the hazardous and noxious substances;

.2 loss of or damage to property outside the ship carrying the hazardous and noxious substances;

.3 economic losses resulting from contamination of the environment, e.g. in the fishing, mariculture and tourism sectors;

.4 costs of reasonable measures of reinstatement of the environment; and

.5 costs of preventive measures, e.g. clean-up operations at sea and onshore, and further loss or damage caused by preventive measures.

* As of April 2014.

4.2.5 The HNS Convention does not apply to oil pollution damage from tankers, as defined in the civil liability Convention, nor for loss or damage, as covered by the bunkers Convention.

4.3 Two-tier structure of the HNS Convention

4.3.1 The HNS Convention is a "two-tier" compensation regime. Tier one will be covered by compulsory insurance taken out by shipowners. In cases where the insurance does not cover an incident, or is insufficient to satisfy the claim, a second tier of compensation will be paid from a fund that will be made up of contributions from the receivers of HNS, as set out in the Convention.

Tier 1 - Liability of shipowner

4.3.2 Under the HNS Convention, the shipowner will have strict liability for damage caused by the HNS. The shipowner is exempt from liability only in circumstances that trigger the defences available under the Convention.

4.3.3 The Convention also requires the shipowner to maintain insurance to cover his liabilities under the Convention. Most shipowners will normally be covered by protection and indemnity (P&I) insurers. The shipowner is entitled to limit his liability under the Convention to an amount calculated based on the gross tonnage of the ship.

Tier 2 - HNS Fund

4.3.4 The International Hazardous and Noxious Substances Fund (HNS Fund) will be established once the HNS Convention enters into force. States which ratify the 2010 Protocol will become Members of the HNS Fund. The HNS Fund will provide the second tier of compensation. The States have still to determine the exact composition and nature of the Governing bodies of the HNS Fund, but it is envisaged that the HNS Fund will be modelled on the administration, practice and management structure of the existing International Oil Pollution Compensation Funds (IOPC Funds). Payments from the HNS Fund will be made only when the HNS Fund is established and when the limit of the shipowner's liability, i.e. tier 1, is exceeded or, in very rare cases, where it cannot or does not cover the incident. In all cases a financial limit of available compensation will be capped at 250 million SDR, and this will include the amount actually paid by the shipowner or his insurer at tier 1.

4.3.5 Financial contributions to the HNS Fund will be administered by the HNS Fund Secretariat. Contributions will be met by levies on receivers of defined HNS in Parties to the Convention. Levies will be made in respect of the HNS Fund running costs and in respect of a levy following a major claim

resulting from an incident. Receivers will pay an amount in proportion to the quantities of hazardous and noxious substances they receive each year.

4.3.6 Receivers of all substances that fall within the definition of HNS are liable to pay contributions, if the quantities they receive are above certain thresholds. However, some substances or groups of substances have been selected for special treatment so that the hazards they represent can be reflected in the contributions levied. Oils, LNG and LPG will each have either their own separate account or their own sector within the general account. Bulk solids will also have a separate sector within the general account.

4.3.7 There are four accounts for contributing cargo:

Account	Annual threshold (tones)
Oil account*	150,000 persistent oils 20,000 non-persistent oils
Liquefied petroleum gas	20,000
Liquefied natural gas	all
General account	20,000

Substances covered by the HNS Convention

4.3.8 Different from the OPRC-HNS Protocol, the HNS Convention as amended by the 2010 Protocol defines "Hazardous and Noxious Substances (HNS)" as:

.1 any substances, materials and articles carried on board a ship as cargo, referred to:

.1 oils, carried in bulk, as defined in regulation 1 of Annex I of MARPOL;

.2 noxious liquid substances, carried in bulk, as defined in regulation 1.10 of Annex II of MARPOL and those substances and mixtures provisionally categorized as falling in pollution category X, Y or Z in accordance with regulation 6.3 of Annex II;

.3 dangerous liquid substances carried in bulk listed in chapter 17 of the IBC Code, and the dangerous products for which the preliminary suitable conditions for the

* Oil account covers damage excluded under CLC/IOPC Fund 1992 (e.g. fire, explosion).

carriage have been prescribed by the Administration and port administrations involved in accordance with paragraph 1.1.6 of the Code;

.4 dangerous, hazardous and harmful substances, materials and articles in packaged form covered by the IMDG Code;

.5 liquefied gases as listed in chapter 19 of the IBC Code, and the products for which preliminary suitable conditions for the carriage have been prescribed by the Administration and port administrations involved in accordance with paragraph 1.1.6 of the Code;

.6 liquid substances carried in bulk with flashpoint not exceeding 60°C (measured by closed-cup test);

.7 solid bulk material possessing chemical hazards covered by IMSBC Code, to the extent that these substances are also subject to the provisions of the IMDG Code in effect in 1996, when carried in packaged form; and

.2 residues from the previous carriage in bulk of substances referred in above listing, except for substances in packaged form covered by the IMDG Code.

4.4 Convention on Limitation of Liability for Maritime Claims, 1976

4.4.1 The *Convention on Limitation of Liability for Maritime Claims, 1976* establishes certain uniform rules relating to the limitation of liability for maritime claims, as well as limits the liability of a shipowner, including liability in an action brought against the vessel itself. An insurer of liability for claims subject to limitation in accordance with the rules of this Convention is also covered.

4.4.2 The Convention provides for a virtually unbreakable system of limiting liability. Shipowners and salvors may limit their liability in accordance with the provisions of the Convention, except if "it is proven that the loss resulted from his personal act or omission, committed with the intent to cause such a loss, or recklessly and with knowledge that such loss would probably result".

4.4.3 Two Protocols (1996 and 2012) have successively increased the amount of compensation payable in the event of an incident. A "tacit acceptance" procedure for updating these amounts was introduced in 1996 to facilitate the updating process.

Chapter V

International Conventions, Codes and Guidelines Involving HNS

The international framework regulating the transport of HNS at sea is derived from a variety of legal instruments, underpinned by a series of mandatory and voluntary codes and guidelines, a great number of which have developed within the framework of IMO.

5.1 International Convention for the Safety of Life at Sea (SOLAS)

5.1.1 The SOLAS Convention is arguably the most important of all international treaties addressing the safety of merchant ships. The main objective of SOLAS is to specify minimum standards for the construction, equipment and operation of ships, to ensure their safety. Flag States are responsible for ensuring that ships under their flag comply with its requirements, and a number of certificates are prescribed in the Convention as proof that this has been done.

5.1.2 The current SOLAS Convention includes articles setting out general obligations, amendment procedure and so on, followed by an Annex divided into 12 chapters. For purposes of HNS interest the most significant chapters are the following:

.1 *Chapter II-2: Fire protection, fire detection and fire extinction.* The chapter includes detailed fire safety provisions for all ships and specific measures for passenger ships, cargo ships and tankers;

.2 *Chapter VI: Carriage of cargoes and oil fuels.* The chapter covers all types of cargo (except gases in bulk) "which, owing to their particular hazards to ships or persons on board, may require special precautions". The regulations include requirements for stowage and securing of cargo or cargo units (such as containers);

.3 *Chapter VII: Carriage of dangerous goods.* The regulations are contained in subordinate parts:

.1 Part A – Carriage of dangerous goods in packaged form. This part includes provisions for the classification, packing,

marking, labelling and placarding, documentation and stowage of dangerous goods. Contracting Governments are required to issue instructions at the national level and the chapter makes mandatory the *International Maritime Dangerous Goods* (IMDG) Code, developed by IMO;

.2 Part A-1 – Carriage of dangerous goods in solid form in bulk. This part covers the documentation, stowage and segregation requirements for these goods and requires reporting of incidents involving such goods;

.3 Part B covers Construction and equipment of ships carrying dangerous liquid chemicals in bulk and requires chemical tankers built after 1 July 1986 to comply with the *International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk* (IBC Code);

.4 Part C covers Construction and equipment of ships carrying liquefied gases in bulk and gas carriers constructed after 1 July 1986; and

.5 Part D includes special requirements for the carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes on board ships and requires ships carrying such products to comply with the International *Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships* (INF Code);

.4 *Chapter XII: Additional safety measures for bulk carriers.* The chapter includes structural requirements for bulk carriers over 150 m in length.

5.1.3 A number of amendments have been made to SOLAS affecting HNS transportation. Examples of these are summarized below.

.1 Amendments to chapter II-2 concerning fire safety requirements for cargo ships, which included 23 regulations based on the principles of: separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries; protection of means of escape; early detection, containment and extinction of any fire; and restricted use of combustible materials. Other amendments related to provisions for halogenated hydrocarbon extinguishing systems, special requirements for ships carrying dangerous goods, and regulation 4.5.5 on inert gas systems;

.2 Amendments to chapter VII extended its application to chemical tankers and liquefied gas carriers by making reference to two new Codes, the *International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk* (IBC Code) and the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code). Both apply to ships built on or after 1 July 1986;

.3 Amendments to the *International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk* (IBC Code) and the *International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk* (IGC Code) entered into force on 1 July 1994 and affect ships built after that date. Amendments to the *Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk* (BCH Code) became effective on 1 July 1994. The BCH Code is voluntary and applies to existing ships;

.4 Amendments by Conference established chapter IX: Management for the Safe Operation of Ships, to make mandatory the *International Safety Management* (ISM) Code. The chapter applies to passenger ships, tankers and cargo ships of 500 gross tonnage and above. The Code establishes safety management objectives including continuous improvement of safety management skills of personnel, including preparing for emergencies;

.5 In addition a new chapter XI-1: Special measures to enhance maritime safety, provides for enhanced surveys applicable to bulk carriers. The related guidelines on enhanced surveys pay special attention to corrosion. Coatings and tank corrosion prevention systems should be thoroughly checked and measurements should also be carried out to check the thickness of plates;

.6 Amendments were made to chapter VII to make the *International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships* (INF Code) mandatory. The INF Code sets out how the material covered by the Code should be carried, including specifications for ships;

.7 Amendments to chapter SOLAS VII (Carriage of Dangerous Goods) made the *International Maritime Dangerous Goods Code* (IMDG Code) mandatory and separated requirements

for packaged goods and goods in solid form in bulk into two Parts A and A-1;

.8 In January 2005, certain amendments to the IMDG Code update several sections of the Code relating to the carriage of dangerous goods and also include a new chapter 1.4 on Security provisions intended to address the security of dangerous goods being transported by sea; and

.9 Amendments to chapter XII (Additional safety measures for bulk carriers) incorporated revisions to some regulations and new requirements relating to double-side skin bulk carriers. The amendments include the addition of a new regulation 14 on restrictions from sailing with any hold empty and requirements for double-side skin construction as an optional alternative to single-side skin construction. The option of double-side skin construction will apply to new bulk carriers of 150 m in length and over, carrying solid bulk cargoes having a density of 1,000 kg/m^3 and above.

5.2 International Convention for the Prevention of Marine Pollution from Ships (MARPOL)

5.2.1 The *International Convention for the Prevention of Pollution from Ships* (MARPOL) is the main international convention addressing the prevention of pollution of the marine environment by ships from operational or accidental causes.

5.2.2 The Convention includes regulations aimed at preventing and minimizing pollution from ships – both accidental pollution and pollution from routine operations. It includes six technical annexes, covering oil, noxious liquid substances in bulk, dangerous goods in packaged form, garbage, sewage and air pollution. Special Areas with strict controls on operational discharges are included in most annexes.

5.2.3 Regulations in SOLAS chapter VII and MARPOL Annex II cover carriage of chemicals in bulk. Both Conventions require chemical tankers built after 1 July 1986 to comply with the *International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk* (IBC Code), which sets out international standards for the safe transport by sea in bulk of liquid dangerous chemicals. The standards include requirements for the design and construction of ships involved in such transport and the equipment they should carry so as to minimize the risks, having regard to the nature of the products carried. Each of the products may have one or more hazardous properties, which include flammability, toxicity, corrosivity and reactivity.

5.2.4 MARPOL Annex II sets out regulations for the control of pollution by noxious liquid substances in bulk, which are essentially HNS. This technical annex details the discharge criteria in addition to measures for the control of pollution by noxious liquid substances carried in bulk and grades them into categories according to the hazard they present to marine resources, human health or amenities.

5.2.5 According to MARPOL Annex II, the new four-category categorization system for noxious and liquid substances carried in bulk is as follows:

Category	Description
Category X	Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of discharge into the marine environment.
Category Y	Noxious liquid substances which, if discharged in the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment.
Category Z	Noxious liquid substances which, if discharged into the sea form tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and, therefore, justify less stringent restrictions on the quality and quantity of the discharge into the marine environment.
Other Substances	Substances which have been evaluated and found to fall outside Category X, Y or Z because they are considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations. The discharges of bilge or ballast water or other residues or mixtures containing these substances are not subject to any requirements of MARPOL Annex II.

5.2.6 Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form are contained in Annex III of MARPOL. The Annex has been revised to harmonize the regulations with the criteria for defining marine pollutants which have been adopted by the UN Transport

of Dangerous Goods (TDG) Sub-Committee, based on the United Nations *Globally Harmonized System of Classification and Labelling of Chemicals* (GHS).

5.2.7 The regulations were developed in order to identify marine pollutants, so that they could be packed and stowed on board ship in such a way as to minimize accidental pollution. The regulations require the issuing of detailed standards on packaging, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications.

5.2.8 The Annex applies to all ships carrying harmful substances in packaged form, or in freight containers, portable tanks or road and rail tank wagons.

5.3 Related codes and categorization systems for the implementation of SOLAS and MARPOL

International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)

5.3.1 The IBC Code sets out the international standards for the safe transport by sea in bulk of liquid dangerous chemicals, by prescribing the design and construction standards of ships involved in such transport and the equipment they should carry in order to minimize the risks to the ship, its crew and to the environment, with regard to the nature of the products carried.

5.3.2 The IBC Code lists chemicals and their hazards and gives both the ship type required to carry that product, as well as the environmental hazard rating. Each of the products may have one or more hazard properties such as flammability, toxicity, corrosivity and reactivity. Chemical tankers built after 1 July 1986 are required to comply with the IBC Code. Chemical tankers constructed before 1 July 1986 should comply with the requirements of the *Code for the Construction and Equipment on Ships Carrying Dangerous Chemicals in Bulk* (BCH Code) – the predecessor of the IBC Code.

International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)

5.3.3 The IGC Code applies to gas carriers constructed on or after 1 July 1986. Gas carriers constructed before 1 July 1986 have to comply with the requirements of the *Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk* (GC Code) or the *Code for Existing Ships Carrying Liquefied Gases in Bulk* (EGC Code). The IGC Code is kept under review, taking into account experience and technological development.

International Maritime Dangerous Goods Code (IMDG Code)

5.3.4 The IMDG Code was developed as a uniform international code for the transport of dangerous packaged goods by sea covering such matters as packing, container traffic and stowage, with particular reference to the segregation of incompatible substances. The IMDG Code contains regulations for dangerous goods and marine pollutants.

5.3.5 Chemicals which are carried in packaged form or in solid form or in bulk are regulated by Part A of SOLAS chapter VII – Carriage of dangerous goods – which includes provisions for the classification, packing, marking, labelling and placarding, documentation and stowage of dangerous goods.

5.3.6 For the purposes of this Code, dangerous goods are classified in different classes, to subdivide a number of these classes and to define and describe characteristics and properties of the substances, material and articles which would fall within each class or division. General provisions for each class or division are given. Individual dangerous goods are listed in the Dangerous Goods List, with the class and any specific requirements.

5.3.7 In accordance with the criteria for the selection of marine pollutants for the purposes of Annex III of MARPOL, a number of dangerous substances in the various classes have also been identified as substances harmful to the marine environment (MARINE POLLUTANTS).

GESAMP Evaluation of Hazardous Substances Working Group and Hazard Profiles List

5.3.8 The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) is an advisory body, established in 1969, that advises the United Nations (UN) system on the scientific aspects of marine environmental protection. GESAMP is jointly sponsored by nine UN organizations with responsibilities relating to the marine environment, and they utilize GESAMP as a mechanism for coordination and collaboration among them.

5.3.9 GESAMP's ESPH working group is composed of scientists from a wide number of countries that evaluate the hazards of harmful substances carried by ships, as covered by MARPOL Annexes II and III. The Group has, since first established by IMO in 1974, evaluated the hazards of thousands of chemical substances transported worldwide by shipping. Hazard ratings for chemicals, which collectively make up what is known as the GESAMP Hazard Profile, are based on the following criteria:

.1 bioaccumulation in marine organisms and biodegradation;

.2 acute and chronic toxicity to marine life;

.3 acute toxicity to humans (ingestion, skin absorption, inhalation);

.4 human health effects (corrosivity/irritation to humans – skin and eye and long-term health effects); and

.5 interference with other uses of the sea (tainting, effects on marine wildlife and on benthic habitats and interference with coastal amenities).

5.3.10 The ratings are used to assign marine pollution categories under MARPOL, ensuring that shipping of chemicals in bulk or as packaged goods is conducted with due consideration for ship type, guidelines for discharges from tank cleaning and deballasting operations, packaging and labeling and the response following an accident or pollution incident.

5.3.11 Since 1995, the working group has reviewed and revised its hazard criteria, and largely harmonized them with the Organisation for Economic Co-operation and Development (OECD). This will ensure the compatibility of criteria and approaches across transport sectors. The criteria now include two measures of bioaccumulation, biodegradation, chronic toxicity to aquatic organisms, additional human health endpoints, and effects on marine wildlife and benthic habitats. The working group maintains a composite list of evaluations of hazards of harmful substances at IMO.

The Globally Harmonized System for Classification and Labelling of Chemicals (GHS) of the United Nations

5.3.12 The *Globally Harmonized System for Classification and Labelling of Chemicals* (GHS) is a system that defines and classifies the hazards of chemical products, and communicates health and safety information on labels and safety data sheets (called Safety Data Sheets, or SDSs, in GHS). The goal is that the same set of rules for classifying hazards, and the same format and content for labels and safety data sheets (SDS) will be adopted and used around the world. An international team of hazard communication experts developed the GHS, which is administered by the United Nations. MARPOL Annex II requirements are in harmony with the GHS.

The International Safety Management (ISM) Code

5.3.13 Compliance with the *International Safety Management* (ISM) Code became mandatory with the adoption of SOLAS, Chapter IX, "Management for the Safe Operation of Ships" (IMO Assembly resolution A.741(18)). The purpose of the Code is to provide an international standard for the safe management and operation of ships and for pollution prevention, to ensure safety at sea, prevention of human injury or loss of life, and avoidance of damage to property and the environment, in particular the

marine environment. The safety management objectives of shipowners/operators should provide for safe practices in ship operation and a safe working environment; establish safeguards against all identified risks; and continuously improve safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection. In addition companies must develop, implement and maintain a Safety Management System (SMS) which includes functional requirements as listed in section 1.4 of the ISM Code.

5.4 Other relevant international instruments

Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal (Basel Protocol)

5.4.1 The Basel Protocol on Liability and Compensation was adopted on 10 December 1999, as a protocol to the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* (the "Basel Convention"). The Basel Convention provides that "the Parties shall co-operate with a view to adopting, as soon as practicable, a protocol setting out appropriate rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes".

5.4.2 The Basel Protocol has not entered into force. The objective of the Protocol is to provide for a comprehensive regime for liability and for adequate and prompt compensation for damage resulting from the transboundary movement of hazardous wastes and other wastes and their disposal including illegal traffic in those wastes.

The International Convention on Salvage, 1989 (SALVAGE 1989)

5.4.3 The Convention concerns salvage of vessels and applies to any salvage operation, except where a contract provides otherwise. The Convention specifies the main obligations of a salvor to the owners of the ship and property in danger, requiring the salvor to not only carry out the salvage operations with due care, but in doing this, he must "exercise due care to prevent or minimize damage to the environment". Article 9, however, recognises the right of a coastal State to take measures in accordance with international law to protect its coastline from pollution or threat of pollution from a casualty or acts related thereto that may reasonably be expected to lead to major harmful consequences.

5.4.4 The main purpose of the SALVAGE 1989 was to review the international rules contained in the Convention for the Unification of Certain

Rules of Law relating to Assistance and Salvage at Sea, 1910. It applies to all types of salvage operations. It applies to any ship or craft or any structure capable of navigation and any property not permanently and intentionally attached to the shoreline. Because of the wide definition of damage to the environment, its environmental protection provisions apply not just to damage to marine flora and fauna, but also to human health, and the cause may be pollution, contamination, fire, explosion or any similar major incidents.

Annex I
Lloyd's Standard Form of Salvage Agreement (Lloyd's Open Form) 2011

LLOYD'S STANDARD FORM OF SALVAGE AGREEMENT

(Approved and Published by the Council of Lloyd's)

NO CURE - NO PAY

1. Name of the salvage Contractors: (referred to in this agreement as "the Contractors")	2. Property to be salved: The vessel: her cargo freight bunkers stores and any other property thereon but excluding the personal effects or baggage of passengers master or crew (referred to in this agreement as "the property")
3. Agreed place of safety:	4. Agreed currency of any arbitral award and security (if other than United States dollars)
5. Date of this agreement	6. Place of agreement
7. Is the Scopic Clause incorporated into this agreement? State alternative : Yes/No	
8. Person signing for and on behalf of the Contractors Signature:	9. Captain or other person signing for and on behalf of the property Signature:

A Contractors' basic obligation: The Contractors identified in Box 1 hereby agree to use their best endeavours to salve the property specified in Box 2 and to take the property to the place stated in Box 3 or to such other place as may hereafter be agreed. If no place is inserted in Box 3 and in the absence of any subsequent agreement as to the place where the property is to be taken the Contractors shall take the property to a place of safety.

B Environmental protection: While performing the salvage services the Contractors shall also use their best endeavours to prevent or minimise damage to the environment.

C Scopic Clause: Unless the word "No" in Box 7 has been deleted this agreement shall be deemed to have been made on the basis that the Scopic Clause is not incorporated and forms no part of this agreement. If the word "No" is deleted in Box 7 this shall not of itself be construed as a notice invoking the Scopic Clause within the meaning of sub-clause 2 thereof.

D Effect of other remedies: Subject to the provisions of the International Convention on Salvage 1989 as incorporated into English law ("the Convention") relating to special compensation and to the Scopic Clause if incorporated the Contractors services shall be rendered and accepted as salvage services upon the principle of "no cure - no pay" and any salvage remuneration to which the Contractors become entitled shall not be diminished by reason of the exception to the principle of "no cure - no pay" in the form of special compensation or remuneration payable to the Contractors under a Scopic Clause.

E Prior services: Any salvage services rendered by the Contractors to the property before and up to the date of this agreement shall be deemed to be covered by this agreement.

F Duties of property owners: Each of the owners of the property shall cooperate fully with the Contractors. In particular:

(i) the Contractors may make reasonable use of the vessel's machinery gear and equipment free of expense provided that the Contractors shall not unnecessarily damage abandon or sacrifice any property on board;

(ii) the Contractors shall be entitled to all such information as they may reasonably require relating to the vessel or the remainder of the property provided such information is relevant to the performance of the services and is capable of being provided without undue difficulty or delay;

(iii) the owners of the property shall co-operate fully with the Contractors in obtaining entry to the place of safety stated in Box 3 or agreed or determined in accordance with Clause A.

G Rights of termination: When there is no longer any reasonable prospect of a useful result leading to a salvage reward in accordance with Convention Articles 12 and/or 13 either the owners of the vessel or the Contractors shall be entitled to terminate the services hereunder by giving reasonable prior written notice to the other.

H Deemed performance: The Contractors' services shall be deemed to have been performed when the property is in a safe condition in the place of safety stated in Box 3 or agreed or determined in accordance with clause A. For the purpose of this provision the property shall be regarded as being in safe condition notwithstanding that the property (or part thereof) is damaged or in need of maintenance if (i) the Contractors are not obliged to remain in attendance to satisfy the requirements of any port or habour authority, governmental agency or similar authority and (ii) the continuation of skilled salvage services from the Contractors or other salvors is no longer necessary to avoid the property becoming lost or significantly further damaged or delayed.

I Arbitration and the LSSA Clauses: The Contractors' remuneration and/or special compensation shall be determined by arbitration in London in the manner prescribed by Lloyd's Standard Salvage and Arbitration Clauses ("the LSSA Clauses") and Lloyd's Procedural Rules in force at the date of this agreement. The provisions of the said LSSA Clauses and Lloyd's Procedural Rules are deemed to be incorporated in this agreement and form an integral part hereof. Any other difference arising out of this agreement or the operations hereunder shall be referred to arbitration in the same way.

J Governing law: This agreement and any arbitration hereunder shall be governed by English law.

K Scope of authority: The Master or other person signing this agreement on behalf of the property identified in Box 2 enters into this agreement as agent for the respective owners thereof and binds each (but not the one for the other or himself personally) to the due performance thereof.

L Inducements prohibited: No person signing this agreement or any party on whose behalf it is signed shall at any time or in any manner whatsoever offer provide make give or promise to provide or demand or take any form of inducement for entering into this agreement.

IMPORTANT NOTICES

1 **Salvage security.** As soon as possible the owners of the vessel should notify the owners of other property on board that this agreement has been made. If the Contractors are successful the owners of such property should note that it will become necessary to provide the Contractors with salvage security promptly in accordance with Clause 4 of the LSSA Clauses referred to in Clause I. The provision of General Average security does not relieve the salved interests of their separate obligation to provide salvage security to the Contractors.

2 **Incorporated provisions.** Copies of the applicable Scopic Clause, the LSSA Clauses and Lloyd's Procedural Rules in force at the date of this agreement may be obtained from (i) the Contractors or (ii) the Salvage Arbitration Branch at Lloyd's, One Lime Street, London EC3M 7HA.

3 **Awards.** The Council of Lloyd's is entitled to make available the Award, Appeal Award and Reasons on www.lloydsagency.com (the website) subject to the conditions set out in Clause 12 of the LSSA Clauses.

4 **Notification to Lloyd's.** The Contractors shall within 14 days of their engagement to render services under this agreement notify the Council of Lloyd's of their engagement and forward the signed agreement or a true copy thereof to the Council as soon as possible. The Council will not charge for such notification.

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23.2.72 21.5.80 5.9.95 1.1.95 1.9.2000 5.5.2011

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CINEC MARITIME CAMPUS
Not To Be Taken Away Without Proper Authorization
LIBRARY

Annex II
Reference documents

IMO: International Maritime Organization
http://www.imo.org

ICS: International Chamber of Shipping
http://www.ics-shipping.org/publications/

NCEC: National Chemical Emergency Centre
http://the-ncec.com/

CEFIC: European Chemical Industry Council
http://www.cefic.be/

CANUTEC: Canadian Transport Emergency Centre
http://www.tc.gc.ca/eng/canutec/menu.htm

REMPEC: Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
http://www.rempec.org/

GESAMP: Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
http://www.gesamp.org/

United Nations Environment Programme
http://www.unep.org/

CEPPOL: Centre d'expertises pratiques de lutte antipollution (Centre of Practical Expertise in Pollution Response)
http://www.ceppol.fr/

US Department of Transportation, US Environmental Protection Agency, Federal Emergency Management Agency
http://www.epa.gov/emergencies/content/learning/substances.htm

EMSA: European Maritime Safety Agency
http://www.emsa.europa.eu/

ECHA: European Chemicals Agency
http://echa.europa.eu/home_en.asp

Collection of guides on chemical products

Mini guides d'intervention (Mini response guides) (in French only) (Cedre)
http://www.cedre.fr

Chemical response guides (Cedre)
http://www.cedre.fr/en/publication/chemical-guide.php

IPCS: International Programme on Chemical Safety Guides (WHO)
http://www.who.int/ipcs/en/

ECETOC Guides (European centre for ecotoxicology and toxicology of chemicals)
http://www.ecetoc.org/

NIOSH Pocket Guide to Chemical Hazards
http://www.cdc.gov/niosh/npg/