

ANNEX VII

THE INTERNATIONAL MARITIME ORGANIZATION AND THE DRAFT CONVENTION ON SHIP RECYCLING

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Annex VII

The International Maritime Organization (IMO) and the draft Convention on ship dismantling

I. General

Maritime transport is an international activity; it would therefore be more effective if measures reinforcing the safety of maritime operations are implemented on a world scale rather than by each State separately and unilaterally. In 1948 a Conference called by the United Nations Organization adopted the Convention establishing the International Maritime Organization (IMO): the very first international body in charge of drawing up provisions related to safety at sea (it came into force in 1958). The IMO is the only specialized agency of the United Nations based in the United Kingdom. There are currently 166 Member States and two Associate Members. It is guided by an Assembly which meets once every two years. Between the sessions of the Assembly, the Council which has 40 Government Members elected by the Assembly, acts as guiding body.

IMO is a technical organization and most of its work is conducted by a certain number of Committees and Sub-Committees, of which the first was the Maritime Safety Committee (MSC). The Marine Environment Protection Committee (MEPC) which is in charge of coordinating the Organization's activities in the area of the prevention and control of pollution was set up by the Assembly in November 1973.

The members of the specialized Committees and Sub-Committees of the IMO are representatives of the Member States. For the time being the European community is not party to the IMO but is solely associated with its work, and the IMO has entered into formal cooperation agreements with over thirty intergovernmental organisations; it has also granted advisor status to nearly fifty international non-governmental organizations which are therefore entitled to participate in the work of various bodies in the capacity of observers. Although these organisations, which represent a broad range of maritime, legal and environmental interests, contribute towards the work of the IMO by submitting documents and providing information as well as expert advice, none of them have voting rights.

IMO confirmed the need to provide compulsory requirements for the recycling of ships by adopting Resolution A.981 (24) (on December 1st 2005) requesting the MEPC Committee to draw up a legally binding instrument (which could be ratified on and after end 2008).

II. The draft Convention on the dismantling of time-expired ships

The preamble to the draft Convention sets forth the foundations on which the work in progress is based:

The Parties to this Convention:

- Recognizing that recycling of ships contributes to sustainable development and, as such, is the best option for ships that have reached the end of their operating life,
- Mindful also of the need to promote the substitution of harmful materials in the construction and maintenance of ships by less harmful or preferably harmless materials, without compromising the ships' safety and operational efficiency,
- Resolved to effectively address in a legally-binding instrument the environmental, occupational health and safety risks related to ship recycling, taking into account the

particular characteristics of world maritime transport and the need to secure the smooth withdrawal of ships that have reached the end of their operating lives,

- Considering that these objectives may best be achieved by the conclusion of an international convention for the safe and environmentally sound recycling of ships...

Clearly the IMO is the direction to be given priority, and once a quality convention has come into existence the OECD's current limited positions under the Basel Convention and European regulations could then evolve to come into line with a truly binding IMO Convention.

The draft Convention comprises approximately twenty Articles and carries an annex that is legally binding and in which the rules for the safe, environmentally sound recycling of ships are set forth.

At the present time the draft Convention does not concern naval vessels, but some countries have pointed out that a decommissioned warship is no longer a warship from a legal point of view. For France, as its legislation currently stands, a warship still remains war equipment and its export is therefore prohibited unless dispensation is given by the CIEEMG committee (inter-ministerial committee examining exports of war equipment). As for the specificity of naval vessels, the most pragmatic solution would be not to challenge the current exclusion made by the draft Convention and when the IMO Convention comes into force to adopt a voluntary practice conforming as much as possible to the provisions of the Convention (as was the case with the other IMO Conventions [e.g. MARPOL]).

The inclusion or non-inclusion of government-owned ships within the scope of the future Convention was not brought up during the debates at the 55th MEPC session (October 06). On the other hand, the American delegation requested a new exclusion to be entered into the Convention regarding ships on purely national voyages destined to be recycled in their own country.

The structure of the annex to the Convention is as follows:

Chapter 1: General provisions

At the present time this section contains definitions of the terms used: "existing ship", "ship owner" However, some of the essential definitions have not yet been approved, in particular the definition of "Recycling Activity" which would help towards detailing the perimeter of the Convention.

Chapter 2: Requirements for Ships

The IMO instrument is intended to facilitate the dismantling and recycling operations of any ship that has reached the end of its operating life, by adopting good practices throughout the ship's life cycle, and in particular at its design stage. This requires the identification and locating, via an inventory that is as exhaustive as possible, of any substances which cause concern in order to assess the potential associated risks (flammability, explosion, corrosion, toxicity, environmental toxicity, CMR ...).

The "Green Passport" certificate formalises this data (details not yet finalized, still under discussion at the IMO). It must be kept up to date by ship operators by recording all maintenance and modernisation operations which the ship has undergone (certificates drawn up on the basis of work sheets) and the final owner must deliver this passport with the ship to the relevant facility (pollutant removal, recycling, ...).

Part A: Design, construction, operation and maintenance of ships

Its object is:

- to compel States to adopt rules prohibiting or restricting the use of hazardous materials onboard ships. The inventory of materials under consideration will be given in an appendix. A draft determination is currently being drawn up by Japan and Germany;
- to make obligatory for new ships (and in the near future for existing ships) and **Inventory of Hazardous Materials**. This inventory is intended to facilitate the dismantling and recycling operations of all ships which have reached the end of their useful lives, the objective being a gradual reduction in the use of all hazardous materials during a ship's operating life (see the "Green Passport" annex);

Part B: Preparation of ships for dismantling

Its object is:

- to prohibit ship recycling in places other than recycling installations authorised in accordance with the Convention;
- to require the preparation of a ship for recycling by reducing the quantity of waste remaining on board and residues (cargos, bunker residues) before it enters the recycling facility;
- to require the preparation of a Recycling Plan for each ship treated by the recycling facility;

Part C: Surveys and certification.

Its object is:

- to submit ships to regular surveys for verification that the inventory of hazardous materials and records kept of repairs comply with the Convention;
- to define certificates to certify conformity with the requirements of the Convention

The final survey prior to recycling is intended to verify that compliance of the Inventory of Hazardous Materials and of the Recycling Plan. If this survey is successfully passed, an **International Certificate** will be issued certifying that the ship is fit for recycling.

The current draft provides that "prior removal of hazardous materials as identified in the Inventory shall not be required if the recycling facility chosen is fully authorized to manage the type or amount of the material".

The whole issue of this section is therefore based on the definition of the authority in charge of issuing the different certificates, and *in fine* concerns the problem of identifying recycling facilities in relation their capacity to treat hazardous materials.

Chapter 3: Requirements for ship recycling facilities:

These requirements are the following:

- The Party States must establish legislation, regulations and standards that are necessary to ensure that ship recycling facilities are designed, constructed and operated in a safe and environmentally sound manner in accordance with the regulations of the Convention;

- The States must subject the operating of recycling facilities to authorisation and monitoring mechanisms to verify that their operation meets the requirements of the Convention;
- Recycling facilities may only accept ships delivered with a certificate stating that the ship is fit for recycling;
- They must prepare a Recycling Facility Management Plan;
- They must adopt procedures to prevent occupational injuries in particular by ensuring gas-free conditions for hot work and to prevent pollution through spills.

Chapter 3 also contains requirements for the removal of certain categories of hazardous materials by recycling facilities (liquids, paints, asbestos, PCBs, heavy metals...). The principle is to remove as many of these substances as possible before the dismantling of the ship and to identify disposal sites for the hazardous materials.

This chapter was at the core of the work conducted by the Correspondence Working Group, prior to the MEPC55 meeting. Since ship demolition work, as in all recycling industries, presents a health and safety risk for workers, it is essential to promote an improvement in working conditions within the framework of the future IMO Convention (see annex on ILO).

For this purpose, with a view to MEPC 55, France submitted a proposal to IMO (Summer 2006), suggesting the establishment by the ILO/IMO/BC tripartite group, of a code for the safe and environmentally sound management of ship dismantling facilities. This proposal was not taken up at the 55th session of the MEPC Committee. IMO expressed its clear concern of losing control over the writing of the Convention, which is to be entirely drafted within the MEPC Committee. The French proposal came up against a twofold opposition: the opposition of those countries which considered that the ILO guidelines on ship demolition were still too binding, even if expressed in the form of recommendations, and the opposition of those countries which on the contrary considered that they were not binding enough and hoped to make rules binding at IMO level which were not binding at ILO level.

Chapter 4: Reporting requirements:

- a shipowner intending to recycle a ship must notify the competent authority in due time to enable this authority to prepare the survey and issue the **International Ready for Recycling Certificate**;
- a recycling facility preparing to receive a ship for recycling must notify its competent authority;
- this section could contain a clause allowing the competent authority of the recycling facility to prohibit this recycling;
- the recycling facility must report the completion of recycling to its competent authority and, if accepted by the States participating in the Working Group, to the administration which issued the International Ready for Recycling Certificate for the ship concerned.

This part has not yet been approved and encounters the difficulty of setting up a reporting system giving consideration to the principle of prior informed consent.

If it is sought to set up a Convention in the quickest time possible, this may lead to a document that is too general deferring solutions for sensitive issues to a later date, and/or to limited ratification by few countries so that it would only be applicable by ratifying countries and would create an unbalance and even distorted competition between countries and fleet flags.

An IMO Convention that is not ratified by the chief countries concerned by ship dismantling (India, Bangladesh...) would only have limited scope. Nonetheless, the requirements applicable to ships are a big step forward for sustainable development and, if adopted, could initiate a “virtuous cycle” in the area of dismantling.

Incentive measures will no doubt have to be introduced to support the Convention should it prove to be ineffective.

At the MEPC55 session, India, Pakistan and Bangladesh did not take an active part in the discussion of the Working Group. At the plenary session India nevertheless pointed out that the document it had submitted to the MEPC had not been analysed. In particular, its request for a standard sale and purchase contract for ships destined for recycling would avoid embarrassing situations for all the parties if a ship has to be turned back.

Turkey informed the Group of its intention to conduct pilot testing on 2 ships that could be provided for recycling, to assess the applicability and any shortcomings of the draft Convention.

III. Relations with the European Union

The Community is not a member of the IMO even though some issues which are treated lie within the competence of the Community.

Community policy on maritime safety is effectively a recent policy. The foundation document is the communication made by the Commission on 24 February 1993 having the title “A Common Policy on Safe Seas” whose objective is to improve maritime safety and to prevent the pollution of European seas:

- by promoting consultation between Member States so that they are able to carry out positive common action within the IMO for convergent implementation of its rules;
- by reinforcing the fight against sub-standard ships of third countries which do not properly apply the IMO rules, in the spirit of the “Paris Memorandum of Understanding”;
- by defining common standards for areas not covered by IMO decisions.

At the present time the European Commission, as intergovernmental body, only has observer status which nevertheless enabled it to sign specific cooperation agreements with IMO.

In relation to the extent of incorporation by the Community of issues treated by IMO, Community coordination work is organized that is intended to prepare either the “Community positions” for areas within its exclusive competence, or “common positions” for areas for which it has joint competence, or “coordinated positions” for areas normally lying within the exclusive competence of Member States.

In order to clarify the field of application and procedure for preparing these coordinated positions, the Council proposed a draft procedural framework in 2005 which has not been formally adopted. In the introduction to this draft, while it is specified “notwithstanding the debate on the Commission’s recommendation of European Community membership of the International Maritime Organization” it is recalled that the Member States and the Commission are bound by the obligation of loyal cooperation provided by Article 10 of the Treaty.

With respect to the draft Convention on ship dismantling (Correspondence Working Group), the request by the representative of the Directorate General for Environment to include the clause relating to Regional Economic Integration Organizations (REIOs) points to the Commission’s desire to be a full party to the negotiations and to application of the IMO Convention.

The current situation, in which Community competencies co-exist with the Community’s non-membership of the IMO, does not prevent the adopting of rules of or by the EU.

The usefulness of ensuring timely adequate, constructive coordination and consultation between all the Member States and the Commission (and with Norway and Iceland) has been established. For the draft Convention on ship dismantling however, the time needed to prepare a common position does not seem compatible with the reactivity that is required to keep up with progress in negotiations.

Regarding the dismantling of ships, it is to be noted that France is one of the few Member States who have different representatives in relation to whether the subject-matter is treated under the Basel Convention or within the IMO. This organisation does not facilitate the negotiations with other participants.

It is important to recall that at the present time the only Community document which regulates movements of obsolete ships for dismantling is a regulation forming the legal basis for “environment” procedure (Article 175 of the Treaty). Any change in current Community law would therefore require a new legislative proposal by the Commission (exclusive right of initiative) which would be submitted for adoption by co-decision (Council/European parliament) with a Council qualified majority vote.

With a view to a coordinated European position, it is to be borne in mind that the Presidency of the European Union falls to France for the second half of 2008.

ANNEX VIII

THE GREEN PASSPORT

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Annex VIII

The Green Passport

I. Origin.

The "*Green Passport*" at the present time is a notion of a non-compulsory nature which was introduced by the Assembly of the International Maritime Organization (IMO) in its resolution A.962(23) of 5 December 2003 (Annex 1), amended by resolutions A.980(24) and A.981(24) and supplemented by circulars MEPC 419, MEPC 466 and MEPC 467.

This resolution is based on international documents in force such as the Basel Convention (BC) on transboundary movements of wastes and the conventions and directives of the International Labour Organization (ILO). Resolution A.981(24) led to the request made by the IMO Assembly to the MEPC Committee to draw up a legally binding, self-sustaining instrument covering all the areas of ship recycling.

II. Development

Today the "*Green Passport*" forms an integral part of the new IMO draft Convention on ship recycling. The new Convention draws on the above-cited resolutions and circulars. In this respect, the approach using an inventory of hazardous substances will become fully compulsory for all ships carrying the flag of States who ratify this Convention.

III. Objectives

The Green passport is intended to reduce the impact of substances in a ship's constituent materials which could affect the protection of persons and the environment during a ship's operating life, and to facilitate the dismantling and recycling operations of the said ship when it becomes obsolete by adopting good practices throughout its life cycle.

In particular the long-term objective is a gradual reduction in the use of any hazardous materials both during the design and construction stage of a ship and during its active service.

This document aims at achieving environmentally sound management of potentially hazardous materials which may be found on a board a ship for various reasons (structure and equipment, operation, stores).

IV. Content.

The Green Passport can be considered as an inventory of the various hazardous or harmful substances contained in a ship, divided into three lists depending on the origin of their generation:

- The design, construction or maintenance of the ship (substances related to the ship's structure and equipment);
- ship operations (operational wastes);
- stores needed for the ship and crew (stores and provisions).

According to IMO logic, this document must be prepared at the request and at the expense of the shipowner at the design stage of the ship. It then follows all the life phases of the ship up until it is removed from service and dismantled, by being continually kept up to date.

In the spirit of OMI recommendations this updated document must be permanently held by the shipowner and ship operator so that it can be produced during any inspections by port States or flag States. It is therefore mandatory for this document to be transmitted together with the ship whenever it changes ownership. Finally it must be given to the dismantling site before any dismantling work begins and before the preparation of the Recycling Plan (see below).

Limits and constraints.

- The preparation of a Green Passport for **time-expired** ships requires the identification, location, and quantification of materials of concern, that is as exhaustive as possible (e.g. by documentary analysis of technical specifications and the ship's support logistics) to assess all potential associated risks (flammability, risks of explosion, corrosion, toxicity, environmental toxicity, CMR ...). The validity of this expertise is firstly based on the validity and accuracy of the records made during the ship's construction and lifetime, and secondly on the analyses and samples which can be conducted *in situ* without entering into the ship's dismantling phase. This operation may prove to be time-consuming and costly and even almost unfeasible if records have been ill kept or if some components are inaccessible without starting to dismantle the ship.
- The preparation of a Green Passport for ships **in service** is based firstly on the use of records made during the construction and past lifetime of the ship. The principle of gradual cleaning of the ship to remove initial harmful or hazardous substances over the successive maintenance periods of this ship must also be accompanied by technical and regulatory monitoring to integrate any new regulations applying to substances on board the ship. The practical limits of such management will easily be understood, which assumes a detailed knowledge of all the ship components in order to locate substances brought on board and not categorized as hazardous at the time of construction or during the ship's past operating life.
- On first analysis the preparation of a Green Passport for ships **under construction** would appear to be distinctly easier than in the preceding cases since the validity of the recording step cannot be placed in doubt. However it is to be noted that the pitfall of exhaustively identifying all the constituent substances encountered during an operating lifetime is amplified since the probability of a substance being banned, which is considered banal and non-categorized at the time of construction, increases with the life expectancy under consideration (currently on the increase and exceeding 30 years).

The three above situations raise the complex problem of exhaustive knowledge of the content and components of a ship during its construction and over successive maintenance and modernisation operations. The designer like the construction project manager cannot require complete transparency by their sub-contractors or suppliers as to the design and content of their supplies since this would weaken their own liability in the common work and the necessary confidentiality of their know-how.

In addition, this requirement would probably lead to a cascade of exorbitant surcharges at the different levels of supply and sub-contracting. An optimum solution must therefore be sought via a voluntary declaration approach by suppliers which can only be based on a clear, finite list of substances of possible concern at the time of the contract under consideration. Improvement in knowledge concerning the interaction of new substances created by industry with man and the environment, and permanent developments in national, community and international regulations

allow foreseeable limits to be anticipated in this respect over the lifetime of civilian or naval ships (between 30 and 40 years, or even longer).

Moreover, during the MEPC 55 session, criticisms were raised concerning the accuracy of measurements, costs and delays brought by a rigid, exhaustive extension to all ships in service.

Aware of these practical limitations, the German and Japanese delegations at MEPC 55 proposed fixing inventory thresholds per substance, which does not however fully solve the problem of the technical and economic applicability to ships in service or at the end of their lifetime. Their proposed philosophy relates more to identifying and locating hazardous substances rather than to their accurate quantification. As a counterpart, this strategy would require the accurate identification of each item of equipment that is or is not concerned by each hazardous substance.

Nonetheless it is to be appreciated that a common perception of the technical and especially financial difficulty of a fully reliable initial inventory for an existing ship emerged from this MEPC meeting, all the more so since the classification societies showed much reluctance towards the preparation and certification of a Green Passport under these conditions. Also an additional stumbling block for the strategy of inventory thresholds lies in the possible confusion with upper and lower hazard thresholds for these same substances.

A first pathway to a practical solution seems to lie in focusing on the final objective and by associating the chosen dismantling site with the preparation of this document. This approach would have the advantage of producing a technical document originating from the dismantling site and the shipowner which would facilitate the prior notification process and would identify the proper recovery or disposal solution for each hazardous substance. This was moreover the spirit of the **Recycling Plan** mentioned in the initial successive resolutions and documents associated with the Green Passport.

The preparation of this Recycling Plan, by an approved dismantling site and prior to the contract, undeniably amounts to an engineering consultancy service which will have to be the subject of a confidentiality agreement and be financially taken in charge by the shipowner, as distinct from finalizing of the actual dismantling contract. Notification of the contract would be subjected to the prior obtaining of all official authorisations normally required for the submission of this plan. It is true that this slightly complicates the contract strategy but does not make it impossible to implement.

Under the current notification process in the draft IMO Convention, between the ship's flag State and the recycling State, this dismantling plan supplied by the recycling facility constitutes the input data allowing the authority of the flag State to notify its approval of dismantling through the issue of an "International Ready for Recycling" certificate via its competent services.

The preparation of a practical, applicable consensus in this matter will be one of the main challenges for future work by the MEPC Committee on the recycling of ships.

V. Application to French naval ships

Reminder: In its current form the draft IMO Convention on ship dismantling excludes naval ships and government-owned civilian ships from the scope of application of its regulations. However, each nation should be able to take appropriate measures for the voluntary application of these regulations to such ships.

The French navy recently requested the State organization in charge of armament programmes (DGA) to integrate the preparation of a Green Passport, in the meaning of the IMO resolution, into the following newbuild programmes: Horizon frigates, FREMM frigates, Barracuda nuclear attack submarines and PA2 aircraft carriers.

Also, it has charged the Fleet support service with preparing a similar certificate for ships currently in service. Documents meeting the spirit of the Green Passport have already been prepared for the amphibious assault ships BPC Mistral and Tonnerre, and for the tank landing ships TCD Orage and Ouragan.

VI. Application to foreign naval ships

The Royal Navy has entered into experiments inspired by the Green Passport in the form of a computerized database. The company appointed for this experiment, QinetiQ, is testing the system on the T23 frigates before any possible generalization to all units of the British military fleet. In parallel, the future British aircraft carrier is to be provided with a management system for hazardous wastes at the design stage conforming to the Green Passport and to construction standards of Lloyd's Register.

For its part, the British Disposal and Reserve Ships Organization, in charge of Royal Navy surface ships withdrawn from active service, systematically carries out an inventory inspired by the IMO's Green Passport, with known feasibility limits for obsolete ships now coming out of service which have no such prior document.

The German Navy has launched a gradual identification process to withdraw hazardous substances (which started with asbestos at the end of the 90s) conforming to the spirit of the Green Passport but without its formalities (e.g. monitoring by an outside inspection body).

The Swedish Navy is conducting a longer, more ambitious policy than the mere identification of hazardous substances conforming to the Green Passport. As for all the equipment of the Swedish armies, it applies principles of strict environmentally sound management of each item of equipment right from the design stage of its ships under an « eco-design » programme. It monitors this equipment throughout its entire service life preparing for its recycling at the design stage with the specific objective of minimizing impact on the environment. The strict identification of hazardous substances (already reduced to a minimum) is only one of many other methods used for tracking these materials.

Aside from the cases of the British, German and Swedish Navies, no other formal application of the principles of the Green Passport, even to a greater or lesser degree, has been identified in any other European navy.

VII. Measures supplementing the IMO Green Passport

Recycling or Dismantling Plan:

Pursuant to Section 8.3.2 of the IMO Guidelines on ship recycling, the Marine Environment Protection Committee (MEPC), at its fifty-fifth session (11-15 October 2004), gave its approval to the Guidelines for preparing a **Recycling Plan** for ships, whose text is given in Annex 2. This

document is to be prepared by the recycling facility in consultation with the shipowner, on the basis of data given in the **Green Passport** and possibly on the basis of any surveys which can be made by the recycling facility on board the ship before the actual dismantling operation. Quite logically this plan should be available before the signing of the related contract since it will form a reference document. In addition, it should also be prepared before the arrival of the ship at the recycling facility and notified to the shipowner in due time before the departure of the ship so that the shipowner can take necessary measures for the prior removal of substances which cannot be handled by the recycling facility.

In particular it must comprise the following compulsory information:

- plan relating to the health and safety of workers;
- plan relating to protection of the environment;
- commercial / operating plan.

In particular it must contain any and all information on safety equipment which must remain on board and information on hazardous substances which the dismantling site considers should be partly or fully removed from the ship before it arrives at its recycling facility, owing to the facility's limited capacity to handle such substances.

Nonetheless these Guidelines do specify that the ultimate responsibility lies with the recycling facility and not with the shipowner, even though it is mandatory for the shipowner to take part in the preparation of this plan.

“Ready for Recycling” Certificate:

This Certificate is to be issued by the authority of the flag State on the basis of a Recycling Plan submitted by the approved recycling facility and on the basis of the ship's Green Passport produced by the shipowner. This Certificate will be used to initiate the notification procedure between the respective authorities of the ship's flag State and the State of the approved recycling facility.

List of hazardous substances:

A first list of hazardous substances is given in initial resolution A.962(23). However, as stated, it was not an exhaustive list and its updating has been on the work programme of the MEPC Committee for several meetings. A second list was submitted by Japan at the MEPC 54 session.

Faced with the difficulty of identifying and keeping track of hazardous materials and with the practical and economic limits of proper onboard surveys, the MEPC participants soon agreed on the need to draw up a separate, precise list (easy to update) referencing potentially hazardous substances whose presence is to be identified on board ships.

This list is under preparation within the MEPC Committee and has already been the subject of several communications (MEPC documents 54/3/1 and 54/3/7). Japan appears to have some authority on the subject since the MEPC 55 session, and is leading the think tank on this matter.

The list of hazardous substances submitted by Japan and Germany at the MEPC 55 session is given in Appendix II.

VIII. List of hazardous substances for naval ships

Each of the European navies which has started a process similar to the principles requiring an inventory and record-keeping of hazardous substances, which governed the drafting of the IMO's Green Passport, has drawn up a national list of hazardous substances.

France's case:

Meeting the request made by the French navy, the naval programme department of the State organization responsible for armament (DGA) drew up a first list of substances to identified, inventoried and recorded throughout the lifetime of ships in service in the French navy. This list will be completed as and when new hazardous substances are identified which may be contained on board these ships.

Appendix I

Green Passport format (extract from IMO Resolution A962 (23))

I. POTENTIALLY HAZARDOUS MATERIALS IN THE SHIP'S STRUCTURE AND EQUIPMENT.

I.1. Asbestos (Note: All asbestos containing materials (ACMs) or presumed asbestos containing materials (PACMs) should be prominently labelled as such).

Type of Asbestos Materials (Board, Pipe lagging, Contained)	Location	Approximate Quantity / Volume
	Machinery rooms	
	Steam supply piping and hangers (General)	
	Steam exhaust piping and hangers (General)	
	Relief and safety valves (General)	
	Miscellaneous piping, outer covering and hangers (General)	
	Water pipes and hangers (General)	
	HP Turbine Insulation (General)	
	Boiler drums and casings (General)	
	Heaters, Tanks etc. (General)	
	Other (General)	
	Specific Machinery Locations (e.g. Pump Room, Boiler Room)	
	Accommodation	
	Sanitary Commissary spaces (General)	
	Interior decks – including underlay (General)	
	Steam & Exhaust pipes (General)	
	Refrigeration pipes (General)	
	Air conditioning ducts (General)	
	Cable transits (General)	
	External bulkheads (General)	
	Internal bulkheads (General)	
	External deckheads (General)	
	Internal deckheads (Global)	
	Decks adjoining machinery spaces (General)	
	Other (General)	
	Specific accommodation locations	
	Deck	
	Steam supply piping (General)	
	Exhaust piping (General)	
	Tank cleaning piping (General)	
	Stripping pump (General)	
	Other (General)	
	Specific deck locations	
	Machinery	
	Brake linings	

Caution!! Asbestos containing material (ACM) may be found underneath materials that do not contain asbestos.

I.2. Paint (on vessel's structure) – Additives

Additive (Lead, Tin, Cadmium, Organotins (TBTs), Arsenic, Zinc, Chromium, Strontium, Other)	Location

I.3. Plastic Materials

Type	Location	Approximate Quantity / Volume

I.4. Materials containing PCBs, PCTs, PBBs at levels of 50mg/kg or more

Material	Location	Approximate Quantity / Volume

I.5. Gases sealed in ship's equipment or machinery

Type	Location	Approximate Quantity / Volume
Refrigerants (R12/R22)		
HALON		
CO ₂		
Acetylene		
Propane		
Butane		
Oxygen		
Other (specify)		

I.6. Chemicals in ship's equipment or machinery

Type	Location	Approximate Quantity / Volume
Anti-seize Compounds		
Engine Additives		
Antifreeze Fluids		
Kerosene		
White spirit		
Boiler/Water Treatment		
De-ioniser Regenerating		
Evaporator Dosing and Descaling Acids		
Paint/Rust Stabilisers		
Solvents/Thinners		
Chemical Refrigerants		
Battery Electrolyte		
Hotel Service Cleaners		
Other (Specify)		

I.7. Other substances forming an integral part of the ship's machinery, equipment or installations

Type	Location	Approximate Quantity / Volume
Lubricating Oil		
Hydraulic Oil		
Lead Acid Batteries		
Alcohol		
Methylated Spirits		
Epoxy Reins		
Mercury		
Radioactive Materials		
Other (Specify)		

Part 1 completed by	Date

II. OPERATIONALLY GENERATED WASTES

II.1. Dry Tank residues

Description of residues	Location	Approximate Quantity / Volume

II.2. Bulk (non-oily) waste

Type	Location	Approximate Quantity / Volume
Ballast Water		
Raw Sewage		
Treated Sewage		
Garbage (inc. plastics)		
Debris		
Galley Wastes		
Other (Specify)		

II.3. Oily Waste/Oily residues

Type	Location	Approximate Quantity / Volume
Cargo Residues		
Tank Scale		
Bunkers: Fuel Oil		
Diesel Oil		
Gas Oil		
Lubricating Oil		
Grease		
Hydraulic Oil		
Waste Oil (sludge)		
Oily Water		
Oily /Contaminated Sludge		
Oily/Contaminated Rags		
Other (Specify)		

Part 2 completed by		Date	

III. STORES

III.1. Gases in store

Type	Number and size of cylinders	Location	Approximate Quantity / Volume
Refrigerants (R12/R22)			
HALON			
CO ₂			
Acetylene			
Propane			
Butane			
Oxygen			
Other (Specify)			

III.2. Chemicals in store

Type	Location	Approximate Quantity / Volume
Anti-seize Compounds		
Engine Additives		
Antifreeze Fluids		
Kerosene		
White Spirit		
Boiler/Water Treatment		
De-ioniser Regenerating		
Evaporator Dosing and Descaling Acids		
Paint/Rust Stabilisers		
Solvents/Thinners		
Refrigerants		
Battery Electrolyte		
Hotel Service Cleaners		
Other (Specify)		

III.3. Other Packaged Items in store

Type	Location	Approximate Quantity / Volume
Lubricating Oil		
Hydraulic Oil		
Lead Acid Batteries		
Medicines		
Insecticide Sprays		
Alcohol		
Methylated Spirits		
Epoxy Reins		
Paint		
Fire fighting clothing, equipment (e.g. blankets)		
Other (Specify)		

Part 3 completed by	Date

Appendix II
List of hazardous substances
Proposed by Japan and Germany
For MEPC 55

*This list is quoted from Joint Industry Guide No.101.

*This list is not comprehensive; it represents examples of chemicals with known CAS numbers.

Table	Material/Substance Category	Substances	CAS Numbers
	Asbestos	Asbestos	1332-21-4
		Actinolite	77536-66-4
		Amosite (Grunerite)	12172-73-5
		Anthophyllite	77536-67-5
		Chrysotile	12001-29-5
		Crocidolite	12001-28-4
		Tremolite	77536-68-6
	Certain Azocolourants and Azodyes (These may release one of the following 22 aromatic amines by reductive cleavage of azo groups, the European Community's ban (76/769/EEC; 2002/61/EEC; 2003/03/EC) applies to.)	biphenyl-4-ylamine	92-67-1
		Benzidine	92-87-5
		4-chloro-o-toluidine	95-69-2
		2-naphthylamine	91-59-8
		o-aminoazotoluene	97-56-3
		5-nitro-o-toluidine	99-55-8
		4-chloroaniline	106-47-8
		4-methoxy-m-phenylenediamine	615-05-4
		4,4'-methylenedianiline	101-77-9
		3,3'-dichlorobenzidine	91-94-1
		3,3'-dimethoxybenzidine	119-90-4
		3,3'-dimethylbenzidine	119-93-7
		4,4'-methylenedi-o-toluidine	838-88-0
		6-methoxy-m-toluidine	120-71-8
		4,4'-methylene-bis(2-chloroaniline)	101-14-4
		4,4'-oxydianiline	101-80-4
		4,4'-thiodianiline	139-65-1
	o-toluidine	95-53-4	
	4-methyl-m-phenylenediamine	95-80-7	
	2,4,5-trimethylaniline	137-17-7	
	o-anisidine	90-04-0	
	4-amino azobenzene	60-09-3	
	Cadmium/Cadmium Compounds	Cadmium	7440-43-9
		Cadmium oxide	1306-19-0
		Cadmium sulfide	1306-23-6
		Cadmium chloride	10108-64-2
Cadmium sulfate		10124-36-4	
Other cadmium compounds	-		
Chromium VI Compounds	Chromium (VI) oxide	1333-82-0	
	Barium chromate	10294-40-3	
	Calcium chromate	13765-19-0	
	Chromium trioxide	1333-82-0	
	Lead (II) chromate	7758-97-6	
	Sodium chromate	7775-11-3	
	Sodium dichromate	10588-01-9	
	Strontium chromate	7789-06-2	
	Potassium dichromate	7778-50-9	
	Potassium chromate	7789-00-6	
	Zinc chromate	13530-65-9	
	Other hexavalent chromium compounds	-	

Lead/Lead Compounds	Lead	7439-92-1
	Lead (II) sulfate	7446-14-2
	Lead (II) carbonate	598-63-0
	Lead hydrocarbonate	1319-46-6
	Lead acetate	301-04-2
	Lead (II) acetate, trihydrate	6080-56-4
	Lead phosphate	7446-27-7
	Lead selenide	12069-00-0
	Lead (IV) oxide	1309-60-0
	Lead (II,IV) oxide	1314-41-6
	Lead (II) sulfide	1314-87-0
	Lead (II) oxide	1317-36-8
	Lead (II) carbonate basic	1319-46-6
	Lead hydroxidcarbonate	1344-36-1
	Lead (II) phosphate	7446-27-7
	Lead (II) chromate	7758-97-6
	Lead (II) titanate	12060-00-3
	Lead sulfate, sulphuric acid, lead salt	15739-80-7
	Lead sulphate, tribasic	12202-17-4
	Lead stearate	1072-35-1
Other lead compounds	-	
Mercury /Mercury Compounds	Mercury	7439-97-6
	Mercuric chloride	33631-63-9
	Mercury (II) chloride	7487-94-7
	Mercuric sulfate	7783-35-9
	Mercuric nitrate	10045-94-0
	Mercuric (II) oxide	21908-53-2
	Mercuric sulfide	1344-48-5
Other mercury compounds	-	
	Trichlorofluoromethane (CFC11)	75-69-4
	Dichlorodifluoromethane (CFC12)	75-71-8
	Chlorotrifluoromethane (CFC 13)	75-72-9
	Pentachlorofluoroethane (CFC 111)	354-56-3
	Tetrachlorodifluoroethane (CFC 112)	76-12-0
	Trichlorotrifluoroethane (CFC 113)	354-58-5
	1,1,2 Trichloro-1,2,2 trifluoroethane	76-13-1
	Dichlorotetrafluoroethane (CFC 114)	76-14-2
	Monochloropentafluoroethane (CFC 115)	76-15-3
	Heptachlorofluoropropane (CFC 211)	422-78-6
		135401-87-5
	Hexachlorodifluoropropane (CFC 212)	3182-26-1
		2354-06-5
	Pentachlorotrifluoropropane (CFC 213)	134237-31-3
	Tetrachlorotetrafluoropropane (CFC 214)	29255-31-0
	1,1,1,3-Tetrachlorotetrafluoropropane	2268-46-4
	Trichloropentafluoropropane (CFC 215)	1599-41-3
	1,1,1-Trichloropentafluoropropane	4259-43-2
	1,2,3-Trichloropentafluoropropane	76-17-5
	Dichlorohexafluoropropane (CFC 216)	661-97-2
	Monochloroheptafluoropropane (CFC 217)	422-86-6
	Bromochlorodifluoromethane (Halon 1211)	353-59-3
	Bromotrifluoromethane (Halon 1301)	75-63-8
	Dibromotetrafluoroethane (Halon 2402)	124-73-2
	Carbon Tetrachloride (Tetrachloromethane)	56-23-5
	1,1,1, - Trichloroethane (methyl chloroform) and its isomer except 1,1,2-trichloroethane	71-55-6

	Chlorohexafluoropropane (HCFC 226) 134308-72-5	134308-72-8
	Pentachlorofluoropropane (HCFC 231) 134190-48-0	134190-48-0
	Tetrachlorodifluoropropane (HCFC 232) 134237-39-1	134237-39-1
	Trichlorotrifluoropropane (HCFC 233), 1,1,1-Trichloro-3,3,3-trifluoropropane	134237-40-4 7125-83-9
	Dichlorotetrafluoropropane (HCFC 234) 127564-83-4	127564-83-4
	Chloropentafluoropropane (HCFC 235), 1-Chloro-1,1,3,3,3-pentafluoropropane	134237-41-5 460-92-4
	Tetrachlorofluoropropane (HCFC 241) 134190-49-1	134190-49-1
	Trichlorodifluoropropane (HCFC 242) 134237-42-4	134237-42-6
	Dichlorotrifluoropropane (HCFC 243), 1,1-dichloro-1,2,2-trifluoropropane	134237-43-7 7125-99-7
	2,3-dichloro-1,1,1-trifluoropropane	338-75-0
	3,3-Dichloro-1,1,1-trifluoropropane	460-69-5
	Chlorotetrafluoropropane (HCFC 244), 3-chloro-1,1,2,2-tetrafluoropropane	134190-50-4 679-85-6
	Trichlorofluoropropane (HCFC 251), 1,1,3-trichloro-1-fluoropropane	134190-51-5 818-99-5
	Dichlorodifluoropropane (HCFC 252) 134190-52-4	134190-52-6
	Chlorotrifluoropropane (HCFC 253), 3-chloro-1,1,1-trifluoropropane (HCFC 253fb)	134237-44-8 460-35-5
	Dichlorofluoropropane (HCFC 261), 1,1-dichloro-1-fluoropropane	134237-45-9 7799-56-6
	Chlorodifluoropropane (HCFC 262), 2-chloro-1,3-difluoropropane	134190-53-7 102738-79-4
	Chlorofluoropropane (HCFC 271), 2-chloro-2-fluoropropane	134190-54-8 420-44-0
Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs)		2052-07-5 (2- 2113-57-7 (3- 92-66-0 (4- Bromobiphenyl) 101-55-3 (ether)
	Bromobiphenyl and its ethers	
	Decabromobiphenyl and its ethers	13654-09-6 1163-19-5 (ether)
	Dibromobiphenyl and its ethers	92-86-4 2050-47-7 (ether)
	Heptabromobiphenylether:	68928-80-3
		59080-40-9 36355-01-8 (hexabromo- 1,1'-biphenyl)
	Hexabromobiphenyl and its ethers	67774-32-7 (Firemaster FF-1) 36483-60-0 (ether)
		63936-56-1
	Nonabromobiphenylether 63936-56-1	61288-13-9 32536-52-0 (ether)
	Pentabromobidiphenyl ether (note: Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides.	32534-81-9 (CAS number used for commercial grades of PeBDPO)
	Polybrominated Biphenyls:	59536-65-1
	Tetrabromobiphenyl and its ethers	40088-45-7 40088-47-9 (ether)
Tribromobiphenyl ether	49690-94-0	

Polychlorinated Biphenyls (PCBs)	Polychlorinated Biphenyl:	1336-36-3
	Aroclor	12767-79-2
	Chlorodiphenyl (Aroclor 1260)	11096-82-5
	Kanechlor 500	27323-18-8
	Aroclor 1254	11097-69-1
	Terphenyls	26140-60-3
Polychlorinated Naphthalenes	Polychlorinated Naphthalene:	CAS Numbers
	Polychlorinated Naphthalene:	70776-03-3
	Other polychlorinated Naphthalenes	-
Radioactive Substances	Uranium	-
	Plutonium	-
	Radon	-
	Americium	-
	Thorium	-
	Cesium	7440-46-2
	Strontium	7440-24-6
	Other radioactive substances	-
Certain Shortchain Chlorinated Paraffins (with carbon length of 10-13 atoms)	Chlorinated paraffins (C10-13) 1 85535-84-8	85535-84-8
	Other Short Chain Chlorinated Paraffins	-
Tributyl Tin, Triphenyl Tin	Bis(tri-n-butyltin) oxide	56-35-9
	Triphenyltin N,N'-dimethyldithiocarbamate	1803-12-9
	Triphenyltin fluoride	379-52-2
	Triphenyltin acetate	900-95-8
	Triphenyltin chloride	639-58-7
	Triphenyltin hydroxide	76-87-9
	Triphenyltin fatty acid salts (C=9-11)	47672-31-1
	Triphenyltin chloroacetate	7094-94-2
	Tributyltin methacrylate	2155-70-6
	Bis(tributyltin) fumarate	6454-35-9
	Tributyltin fluoride	1983-10-4
	Bis(tributyltin) 2,3-dibromosuccinate	31732-71-5
	Tributyltin acetate	56-36-0
	Tributyltin laurate	3090-36-6
	Bis(tributyltin) phthalate	4782-29-0
	Copolymer of alkyl acrylate, methyl methacrylate and tributyltin methacrylate(alkyl; C=8)	-
	Tributyltin sulfamate	6517-25-5
	Bis(tributyltin) maleate	14275-57-1
	Tributyltin chloride	1461-22-9
	Mixture of tributyltin cyclopentanecarboxylate and its analogs (Tributyltin naphthenate)	-
Mixture of tributyltin 1,2,3,4,4a, 4b, 5,6,10,10adecahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthlenecarboxylate and its analogs (Tributyltin rosin salt)	-	
Other Tributyl Tins & Triphenyl Tins	-	
Tributyl Tin Oxide	Bis(tri-n-butyltin) oxide	56-35-9