



INDUSTRY CODE OF PRACTICE ON SHIP RECYCLING

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INDUSTRY CODE OF PRACTICE ON SHIP RECYCLING – August 2001

1. Foreword

1.1 The Industry Working Party on Ship Recycling was established under the co-ordination of ICS in February 1999 in response to growing concerns expressed by governments, environmental groups and the industry itself regarding:

- the legal position with respect to potentially hazardous substances on vessels sold for recycling;
- the working conditions and safety provisions for workers in recycling yards; and
- environmental controls at recycling yards.

1.2 The Industry Working Party comprises representatives from:

Baltic and International Maritime Council (BIMCO)
International Association of Dry Cargo Shipowners (INTERCARGO)
International Association of Independent Tanker Owners (INTERTANKO)
International Chamber of Shipping (ICS)
International Tanker Owners Pollution Federation (ITOPF)
International Transport Workers' Federation (ITF)
Oil Companies' International Marine Forum (OCIMF)

with active participation, as observers, also from

European Community Shipowners' Associations (ECSA)
International Association of Classification Societies (IACS)

1.3 At its first meeting the industry group, recognising the concerns of various parties, agreed to develop a Code of Practice, outlining a series of recommendations which would constitute "good practice" in respect of ships destined for recycling.

1.4 In the course of its discussions, the Working Party has come to realise that many parties are involved in the recycling process, each of whom carries a degree of responsibility for the safety, whether human or environmental, of the process of the disposal of time-expired tonnage. Likewise, the Working Party has had to recognise that there are major areas over which the majority of shipping companies have little or no direct influence, including, vitally, the standards applicable in the recycling yards.

1.5 This Code of Practice, therefore, deals primarily with issues which shipowners themselves can reasonably be expected to address.

1.6 Other parties must also be prepared to play their part. The Industry Working Party is willing to co-operate with other groups in seeking solutions to the problems involved and will actively encourage the widespread use of these and other measures designed to improve both worker safety and environmental protection in relation to the recycling industry.

1.7 It is hoped that this preliminary version of the Code of Practice, distributed with a view to test it in practice, will be seen as a contribution towards the safe and environmentally-conscious recycling of ships at the end of their working lives. Comments are invited from both users and other interested and concerned parties as contributions to its future revision

2. Introduction

2.1 The steady withdrawal of older ships and their replacement by new tonnage is a natural technological process allowing the introduction of safer and more environmentally friendly designs, greater operating efficiency and a general reduction in marine risks.

2.2 In general, ships are not scrapped but recycled, conforming to one of the basic principles of sustainable development. Recycling is defined by the World Wildlife Fund as “the processing of waste or rubbish back into raw materials so that it can be made into new items. It is undoubtedly beneficial – to the individual, the community and the planet.” (Source: *WWF-UK Recycling Fact Sheet*)

2.3 In the process of recycling ships, virtually nothing goes to waste. The materials and equipment are almost entirely reused. Steel is reprocessed to become, for instance, reinforcing rods for use in the construction industry or as corner castings and hinges for containers. Ships’ generators are reused ashore. Batteries find their way into the local economy. Hydrocarbons on board become reclaimed oil products to be used as fuel in rolling mills or brick kilns; light fittings find further use on land etc. Furthermore, new steel production from recycled steel requires only one third of the energy used for steel production from raw materials. Recycling makes a positive contribution to the global conservation of energy and resources and, in the process, employs a large, if predominantly unskilled, workforce. Properly handled, ship recycling is, without question, a “green” industry.

2.4 However, while the principle of ship recycling may be sound, the working practices and environmental standards in the yards often leave much to be desired. While ultimate responsibility for conditions in the yards has to lie with the countries in which they are situated, there is a corresponding responsibility on the shipping industry to do what it can to minimise potential problems in the yards.

2.5 A vessel may be sold and bought several times during its economic life. When a ship operator decides to sell a vessel which, for whatever reason, no longer meets his requirements, he will seek a buyer for his asset and appoint an agent, a “broker”, to act on his behalf. “Brokers” specialise in matching the seller with prospective buyers and facilitating communication and negotiations between them.

2.6 For many shipowners, the sale of a ship for whatever reason brings with it considerable commercial risk. If the market falls between the time that the contract is concluded and the delivery of the vessel, the shipowner will be concerned that the end buyer will look very closely at the terms of the contract to find reason to cancel the contract and/or to renegotiate at a lower price. Many shipowners, and their appointed brokers, prefer to avoid this commercial risk by selling to an intermediate buyer who is a specialist in the business and has knowledge and contacts not typically possessed by shipowners, for whom selling a ship is an infrequent activity. The middle buyer will then sell the ship on to the end buyer, perhaps via a broker acting on behalf of a recycling company. In such circumstances, the decision on which recycling company to select rests with the middle buyer rather than the shipowner.

2.7 Generally, potential buyers also appoint brokers, who may be acting on behalf of clients who are seeking vessels to operate in further trading, or on behalf of recycling yards who are seeking to purchase vessels with a potentially high residual “scrap” value. The seller’s broker will be seeking the best return for his client. The sale and purchase of the vessel is generally conducted between the brokers. This may happen several times during the life of the vessel. A shipping company seldom deals directly, or even indirectly, with a recycling yard and, therefore, usually has little opportunity to influence its selection.

2.8 Some brokers, however, specialise in obtaining vessels for recycling. Once a vessel is obtained, these brokers will usually offer the vessel for sale for recycling, sometimes “as is” (in

relation to its current geographical and physical condition), to one or more cash buyers, usually via another broker, with the contract stipulating the general area of delivery. The cash buyer will select the actual yard, normally at a later date, and his role in obtaining details of the vessels purchased, and passing these details to the recycling yard, is, therefore, vital.

2.9 The chain of communication between the operator who sells a ship and the yard which cuts it up is, therefore, a long one, potentially involving several parties. While the shipowner who is the last operator of the ship can seldom have a direct influence on conditions in recycling yards, or even on the choice of yard, he can and should contribute to ensuring that information is available on any potentially hazardous materials or conditions within the ship, and can determine the general condition of the ship when handed over. This Code of Practice is intended to encourage those objectives.

3. Industry Policy on Recycling

3.1 The organisations involved in the development of this Code of Practice will, as part of a commitment to promote safe operating and environmentally friendly practices in maritime operations:

- i) encourage the widespread use of this code within the industry;
- ii) urge the use of a standard ship recycling contract, such as the BIMCO document, to ensure that full account is taken of all relevant environmental, health and safety considerations;
- iii) take due note of available technical guidance on ship recycling such as the guidelines developed by Det Norske Veritas (DNV) or the US Environmental Protection Agency (EPA);
- iv) promote an open dialogue with international and national governmental and non-governmental agencies and the owners and operators of recycling yards to address mutual problems affecting environmental, health and safety standards;
- v) encourage the International Maritime Organization to endorse this industry code and contribute to its further development;
- vi) encourage the ship recycling industry to develop a code of practice appropriate to that industry, as guidance on work practices in relation to shore based activities in recycling yards to ensure acceptable environmental, safety and health standards and to monitor its application;
- vii) encourage appropriate international bodies to endorse any ship recycling industry code of practice;
- viii) encourage the authorities in flag states and ship recycling states, as appropriate, to take due account of any guidance developed in accordance with v), vi) and vii) above and to seek to facilitate the application of such guidance;
- ix) consider, with other interested parties, the development of criteria by which a vessel could, on request, be declared "ready for recycling";
- x) encourage national or regional administrations to work together with governments in ship recycling nations and other interested parties on projects involving the transfer of technology or aid funding to improve facilities and working practices in the yards;

xi) encourage recycling yards to make publicly available details regarding the chosen method for the safe handling of asbestos, PCBs and PABs, halon/freon, oily residues and hazardous atmospheres in enclosed spaces;

xii) encourage those administrations with responsibilities for recycling yards to consider introducing a "Certificate of Approval" for yards meeting acceptable worker safety and environmental control standards including ensuring that the handling and disposal of asbestos, oils and other hazardous substances, whether prior to the ship's arrival at the recycling yard or subsequently, have been conducted in an acceptable manner.

3.2 For the present, the organisations involved in the development of this Code of Practice will encourage all shipping companies to:

i) Initiate and complete a programme to identify and record, as far as is practicable, on each of their existing ships, any potentially hazardous materials (**see Annex 1**) inherent in their construction or used in their equipment and machinery. Such a record should be passed to any subsequent owners of the vessel;

ii) Make every effort to minimise the amount of potentially hazardous materials on board the ship, including those carried as stores;

iii) Ensure that the ship reaches the recycling yard with the minimum quantities of fuel, diesel, lubricating, hydraulic and other oils and chemicals consistent with the safe operation of the vessel;

iv) Deliver the ship to the recycling yard in a gas-free condition, with all tanks, except the necessary fuel tanks for the final voyage, cleaned and certified to full hot work and entry standards;

v) Make every effort to ensure that an arrival inventory is prepared of asbestos, oils, toxic substances, ozone-depleting substances and all other potentially hazardous materials, including those inherent in the structure of the vessel or used as coatings on the vessel, those contained in machinery, pipelines or cylinders or carried as stores, or accumulations of operational residues, to be handed over, against receipt, to the recycling yard (**a recommended inventory form is attached at Annex 2**);

vi) Ensure that any compartments on the ship which may contain an oxygen-deficient atmosphere are clearly marked as such, and that the yard is duly notified of these and other hazardous enclosed spaces and how to test them;

vii) Take measures to facilitate the controlled drainage, by the recycling yard, of potentially harmful liquids from the ship.

3.3 For the future, the organisations involved in the development of this Code of Practice commit themselves to:

i) Encourage naval architects and shipbuilders to take due account of the ship's ultimate disposal when designing and constructing a ship, by

- using materials which can be safely recycled;
- minimising the use of materials known to be potentially hazardous to health and the environment;
- limiting the use of composite materials such as sandwich panels;
- taking measures to facilitate the removal of such materials;

ii) Encourage equipment suppliers, classification societies and administrations to consider taking measures to facilitate an accurate inventory of hazardous materials used on board ships;

iii) Encourage shipbuilders to consider providing a “green passport” for new ships, based on the inventory of materials used in the vessel’s construction, including the identification and nature of potentially hazardous materials and their location and safe methods of demolition; (Note: This “green passport”, which would accompany the ship throughout its working life, should be in a format to register subsequent changes in materials or equipment. The shipowner should maintain the accuracy of the “Green Passport” and incorporate into it all relevant design and equipment changes, with the final owner delivering it, with the vessel, to the recycling yard.)

iv) Encourage suppliers of equipment which contain hazardous substances, such as Halon, to facilitate the safe removal of those substances, or give advice as to how such substances can be safely removed, at the end of the working life of the equipment.

3.4 The organisations involved in the development of this Code of Practice undertake to urge those entering into a contract of sale of a vessel to a recycling yard to consider the following, as far as is reasonable and practical

i) the working practices and facilities in the ship recycling yard(s) in question, including;

- their ability to handle safely, and dispose of properly, any potentially hazardous or environmentally harmful products that may be present in the ship such as asbestos, PCBs, halons, petroleum products and other residues;
- the provision of appropriate and sufficient personal protection and safety equipment;
- other information such as safety records, training programmes for workers and assessment of the work quality.

ii) the environmental, health and safety benefits of towing a vessel to the yard, fully cleaned and certified to be free of oil, tank residues and other potentially hazardous and toxic material;

iii) the possibility, prior to handing over the vessel for recycling, of:

- the removal and safe disposal of asbestos prior to arrival;
- the discharge of halon to an approved facility and the use of portable and returnable fire-fighting equipment for the final voyage to the recycling site;
- the cleaning and certification of all tanks, except the necessary fuel tanks for the final voyage, to full hot work and entry standards;
- providing advice on the nature of any hazardous materials on board, as indicated in the inventory of hazardous materials, and on correct handling and disposal methods (if required).

POTENTIALLY HAZARDOUS MATERIALS WHICH MAY BE ON BOARD VESSELS DELIVERED TO RECYCLING YARDS

Note 1: This list is not definitive - see also EU Council Regulation No.259/93 Annexes II, III & IV.

A. Operational Substances and Consumables

1. Cargo Residues including Slops
2. Dry tank Residues
3. Fuel oil, Diesel oil, Gas oil, Lubricating oil, Greases & Anti-seize Compounds
4. Hydraulic oil
5. Waste oils (contents of sludge tank)
6. Antifreeze fluids
7. Kerosene and White Spirit
8. Boiler and Feed Water Treatment Chemicals
9. Boiler and Feed Water Test Re-agents
10. De-ioniser Regenerating Chemicals
11. Evaporator Dosing and Descaling Acid
12. Domestic Water treatment Chemicals
13. Paints and Rust Stabilisers
14. Solvents and Thinners
15. Refrigerants (R12 or R22)
16. HALON
17. CO2 (in cylinders - engine room fire protection)
18. Acetylene, Propane and Butane
19. Hotel Services Cleaners
20. Lead-acid Batteries
21. Battery Electrolyte
22. PCB and / or PCT and / or PBB at levels of 50mg / kg or more
23. Mercury
24. Radio-active Material i.e. liquid level indicators
25. Miscellaneous Medicines
26. Insecticide Sprays
27. Miscellaneous Chemicals such as Alcohol, Methylated Spirits, Epoxy Resins, etc.
28. Plastics as covered by MARPOL
29. Raw and Treated Sewage

B. Toxic Materials (as part of the ship's structure)

1. Asbestos
2. Lead-based Paint Coatings on Ship's Structure
3. Tin-based Anti-fouling Coatings on Ship's Bottoms.
4. Others.



INVENTORY OF POTENTIALLY HAZARDOUS MATERIALS ON BOARD (Version August 2001)

Name of Vessel		GT		Date of Inventory	
IMO Number		DWT		Date of Delivery	
Date of Build		LDT		Received by	
				On behalf of	

This form is intended for completion by the shipowner and/or his authorised representatives, including the master, on the vessel's last voyage prior to being broken up. It provides an estimate of all known potentially hazardous or contaminating materials and substances which are thought to be on board the vessel, or inherent in its structure, or as an integral part of its machinery and/or equipment, at the point of sale. It should be handed over, together with any relevant attachments, by the shipowner or his representative to the purchaser or his representative on delivery of the vessel for breaking. The document may be supplemented, as appropriate, with more detailed information in respect of any of the categories included in this document. It is provided as guidance to the shipbreaking organisation and his workforce and should not be regarded as a formal statement of precise quantities. It has no contractual force.

Information on potentially hazardous materials inherent in the ship's structure or its machinery and equipment, such as items listed in part 1 of the inventory, are likely to be supplied by the operating department ashore. However, information such as that related to residues (part 2 of the inventory) or consumables (part 3) cannot be completed until near the end of a vessel's final voyage.

This form has been developed by and is recommended for use by the following organisations:

Baltic and International Maritime Council (BIMCO)
 International Association of Dry Cargo Shipowners (INTERCARGO)
 International Association of Independent Tanker Owners (INTERTANKO)
 International Chamber of Shipping (ICS)
 International Tanker Owners Pollution Federation (ITOPF)
 International Transport Workers' Federation (ITF)
 Oil Companies' International Marine Forum (OCIMF)

with the assistance of the European Community Shipowners' Associations (ECSA)

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IT IS STRESSED THAT THE INFORMATION PROVIDED IN THIS INVENTORY IS NOT A CONTRACTUAL STATEMENT OF PRECISE QUANTITIES OF RESIDUES AND MATERIALS ON BOARD. THE QUANTITIES GIVEN ARE ESTIMATES ONLY AND NO GUARANTEE OF THEIR ACCURACY IS EITHER GIVEN OR IMPLIED.

PART 1 POTENTIALLY DANGEROUS MATERIALS IN THE SHIP'S STRUCTURE AND EQUIPMENT

1A. 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
	Engine Room/Machinery Rooms	
	Steam supply piping and hangers (General)	
	Steam exhaust piping and hangers (General)	
	Relief & safety valves (General)	
	Miscellaneous piping outer covering and hangers (General)	
	Water pipes and hangers (General)	
	HP Turbine Insulation (General)	
	Boiler drums & 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 (General)	
	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.

1B. Paint (on vessel's structure) - Additives

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

1C. Plastic Materials

Type	Location	Approximate Quantity

1D. Materials containing PCBs, PCTs, PBBs at levels of 50mg / kg or more

Material	Location	Approximate Quantity

1E. Gases sealed in ship's equipment or machinery

Type	Location	Approximate Quantity
Refrigerants (R12/R22)		
HALON		
CO2		
Acetylene		
Propane		
Butane		
Oxygen		
Other (Specify)		

1F. Chemicals in ship's equipment or machinery

Type	Location	Approximate Quantity
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)		

1G. Other Substances inherent in ship's machinery, equipment or fittings

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

Part 1. completed by		Position	
Signature		On behalf of (Company)	

PART 2 OPERATIONALLY GENERATED WASTES

2A. Dry Tank Residues

Description of Residues	Location	Approximate Quantity

2B. Bulk (non-oily) waste

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

2C. Oily Waste/Oily Residues

Type	Location	Approximate Quantity
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		Position	
Signature		On behalf of (Company)	

PART 3 Stores**3A. Gases in store**

Type	No. and size of Cylinders	Location	Approximate Quantity
Refrigerants (R12/R22)			
HALON			
CO2			
Acetylene			
Propane			
Butane			
Oxygen			
Other (Specify)			

3B. Chemicals in store

Type	Location	Approximate Quantity
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)		

3C. Other Packaged items in store

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

Part 3 completed by		Position	
Signature		On behalf of (Company)	

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