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GUIDELINES FOR THE DEVELOPMENT OF THE SHIP RECYCLING PLAN

1 In accordance with section 8.3.2 of the IMO Guidelines on Ship Recycling, adopted by Assembly resolution A.962(23), the development and implementation of a recycling plan can help ensure that a ship has been prepared to the maximum extent possible prior to its recycling and that the safety of the ship, prior to delivery, has been taken into account.

2 The ship recycling plan should be developed by the recycling facility in consultation with the shipowner, taking into account the potential hazards which may arise during the recycling operation, the relevant national and international requirements and the facilities available at the recycling facility in terms of materials, handling and the disposal of any wastes generated during the recycling process.

3 The Marine Environment Protection Committee, at its fifty-second session (11 to 15 October 2004), approved the Guidelines for the development of the ship recycling plan, as set out at annex, aimed at providing technical information and guidance for its preparation.

4 Member Governments are invited to bring the annexed Guidelines to the attention of all parties concerned.

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ANNEX

GUIDELINES FOR THE DEVELOPMENT OF THE SHIP RECYCLING PLAN

SECTION 1 - INTRODUCTION

1.1 These Guidelines provide further technical information and guidance for the preparation of a suitable ship recycling plan (SRP), as recommended in section 8.3.2 of the IMO Guidelines on Ship Recycling (hereinafter referred to as the "IMO Guidelines"). Not all of the guidance provided herein may be applicable to all situations. Both recycling facilities and shipowners are encouraged to adopt those that are relevant to their situation.

SECTION 2 - GENERAL GUIDANCE

2.1 A SRP should be viewed as a tool by which the ship recycling facility and the shipowner can ensure an understanding of the process that will be used for the recycling of a ship. The SRP should include, but is not limited to, a description of the:

.1 methods and procedures for managing (including identification (sampling/analysis), abatement, removal, treatment, storage, transportation, and disposal) potentially hazardous materials;

.2 methods and procedures to be implemented to protect worker safety and health at the recycling facility;

.3 methods and procedures to be implemented to protect the environment; and

.4 methods, procedures, and sequencing of the ship recycling, including work that will be accomplished prior to, at and after the ship arrives at the recycling facility.

2.2 The SRP should be developed by the recycling facility in consultation with the shipowner. Although development of the SRP is a co-operative effort between the ship recycling facility and the shipowner, the major responsibility rests with the ship recycling facility, which is in the best position to:

.1 understand and describe the methods and procedures it uses in its recycling operation;

.2 be aware of the facilities and capabilities available for materials handling and the disposal of wastes generated during recycling;

.3 know the skills and capabilities of its workforce and the availability of local support services; and

.4 know the relevant national laws and regulations that apply to the facility and its activities.

2.3 Preparation of the SRP should begin well before the ship arrives at the recycling facility and should be largely complete and agreed prior to execution of a contract between the shipowner and the recycling facility.

2.4 The SRP should take into account potential hazards to worker health and safety and the environment that may arise during the recycling activity. It should make clear whether and to what extent work, such as pre-cleaning, identification of potential hazards, removal of stores, etc. will take place at a location other than at the ultimate recycling facility. In considering issues such as pre-cleaning prior to delivery, the recycling facility and the shipowner should keep in mind that the safe operation or towing of the ship and the safety of its crew are of paramount importance. The extent to which that work will be incorporated into the SRP will depend upon the relationship between the ultimate recycling facility, the shipowner and the facility at which the other work will take place. For example, the SRP between the shipowner and the ultimate recycling facility may reflect in general terms what activities will take place prior to the ship's arrival (e.g. hazardous materials marking, pre-arrival removal of some materials); however, it may not reflect details of how that work will be accomplished elsewhere.

2.5 The SRP should consider the information contained in the Green Passport/Inventory of hazardous materials as well as the ship's plans and drawings and relevant instruction manuals.

2.6 The SRP should include the following components:

.1 a Worker Safety and Health Plan;

.2 an Environmental Compliance Plan; and

.3 an Operational Plan.

SECTION 3 - SAFETY & HEALTH PLAN

3.1 The Safety & Health Plan (SHP) should provide a concise description of the recycling facility's plan and procedures for protecting worker health and safety and should reflect applicable requirements of national legislation and, where appropriate, the ILO Guidelines "Safety and Health in Shipbreaking: Guidelines for Asian Countries and Turkey". The SHP should demonstrate that the safety and health programme supports the level of effort, environmental compliance and recycling and disposal procedures required for the project.

3.2 Plans should include, but not be limited to, descriptions and procedures of the following:

.1 Diving Operations. Describe the diving programme and services to be employed, if any, during the ship recycling project;

.2 Confined and Enclosed Spaces. Provide procedures for identifying and working in dangerous atmospheres;

.3 Welding, Cutting, Grinding and Heating. Describe procedures for ventilation, personnel monitoring for lead/cadmium/mercury/beryllium exposure, protection of personnel, training, respiratory protection, torch cutting, permits and inspections (including hotwork certification);

.4 Fire Prevention/Protection. Describe procedures for fire watch, raising alarm, hazards, fire extinguishers, hose lines, water supply, fire fighting equipment, training, proper handling and storage procedures, and identification of potential ignition sources;

.5 Compressed Gas Cylinders. Describe procedures for transporting, moving, securing and storing, and the use of hoses and torches in vicinity of or on the bottles;

.6 Scaffolds, Ladders, Workman Aloft, Other Working Surfaces. Describe use of personnel flotation devices, guarding of deck openings and deck edges, platforms, personal fall arrest systems, guardrails, and access to ships;

.7 Housekeeping and Temporary Lighting. Provide procedures for work areas, including aisles, passageways, and temporary flooring openings;

.8 Health and Sanitation. Describe washing facilities, showers, eating and recreation areas to be used, toilet facilities and change rooms;

.9 Communication of Hazards. Describe procedures for providing information to employees on potential hazards associated with the job;

.10 Asbestos Abatement Programme. Describe the exposure assessment process, the use of regulated areas, in-process monitoring procedures, engineering controls and work practices, qualified persons, measures to prevent exposure of workers and the environment from asbestos, lunch areas, warning signs, etc.;

.11 Gear and Equipment for Rigging and Material Handling. Provide procedures for testing and inspections of ropes, chains and slings and hooks, chain-falls, and hoisting and hauling equipment. Describe qualifications required of operators;

.12 Personal Protective Equipment. Provide information on procedures/equipment used for protection of employees from various risks associated with ship recycling at the proposed facility;

.13 Employee Emergency Plans. Describe emergency escape routes, procedures to account for employees during evacuations, alarm systems, weather plans, rescue and medical duties, treatment of injured personnel, and training procedures;

.14 Lead Abatement Programme. Describe procedures to be used to provide ventilation, hygiene facilities and practices, shower/change rooms, warning signs, medical surveillance, exposure monitoring, testing, work clothing, training, etc.; and

.15 Spill Containment and Emergency Response Plans. Describe operating procedures, clean-up activities, personal protective equipment and emergency equipment, potential health hazards, labelling and disposing of wastes generated during clean-up, site security, etc.

SECTION 4 - ENVIRONMENTAL COMPLIANCE PLAN

4.1 The Environmental Compliance Plan (ECP) should serve as the primary basis for evaluating the degree to which the ship recycling facility:

.1 understands the environmental risks associated with ship recycling;

.2 understands and implements the environmental requirements imposed by national and international laws and regulations;

.3 can manage and dispose of all the materials used in the structure of the ship, its equipment and/or on board the ship in an environmentally sound manner; and

.4 implements controls to protect the environment, which include handling and disposing of the hazardous materials.

4.2 The ECP should include information on the recycler's ability to recycle ships and dispose of the resulting materials in a manner that is compliant with applicable national and international laws, regulations, and guidelines. Further, the ECP should reflect the applicable national legislation and, where appropriate, the Basel Convention "Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships".

4.3 Elements of the ECP

4.3.1 The ECP should provide a clear and concise explanation of procedures for managing potentially hazardous materials, including, but not limited to:

.1 fuel, lubricants, and coolants; chemicals in drums, buckets, pressurized bottles, stored solvents, and other chemicals stocks, etc.;

.2 cargo residue;

.3 floatable materials (e.g. plastics, Styrofoam insulation wood);

.4 materials possibly containing PCBs, such as wiring insulation (electrical cabling installed before 1975) (plastic covering may contain PCBs)[1];

.5 waste water/sludges (generated aboard the vessel during the scrapping process from rain water intrusion, fire fighting, asbestos control activity, etc., as well as water that may be in compartments of the vessel at the time of arrival); human waste in the form of sewage or gray water; residues of ballast water;

.6 harmful aquatic organisms, non-indigenous species and marine growth in ballast water and on the hull, and sediments in ballast tanks;

[1] **Polychlorinated Biphenyls** (PCBs) (includes transformers, capacitors, electrical cable insulation, felt and rubber gaskets, thermal and acoustic insulation materials, adhesives, paint, caulking, grouting, various rubber and plastic products). Address procedures for each potential application noted. The recycler must have a thoroughly documented sampling plan and methodology for testing materials that potentially contain (or are contaminated with) PCBs. Painted metal surfaces must also be tested in accordance with a sampling plan. A storage and disposal plan should also be in place and provided as part of the Plan.

.7 asbestos used in older ships as insulation material and in accommodation panelling (includes bulkhead and pipe insulation; bulkhead fire shields; electrical cable materials; brake linings; floor tiles and deck underlay; steam, water and vent flange gaskets; flexitalic gaskets; garlock seals; packing material; pipe hanger inserts; and weld shop protectors and turn covers);

.8 chromium (ballast water treatment, paint coatings, gaskets, etc.);

.9 TBT paints; and

.10 environmental monitoring.

4.3.2 Items on ships that may potentially contain substances of concern include those identified in section 4.2 of the IMO Guidelines.

4.3.3 In identifying potentially hazardous materials on board ships the list of "Potentially hazardous materials which may be on board ships delivered to recycling facilities" (appendix 2 of the IMO Guidelines) should be considered for guidance.

4.3.4 The ECP should identify all permits, certificates, approvals, and licences required by international, national and local environmental agencies and issued to the recycling facility to carry out the work, including those required for the management of potentially hazardous material.

4.3.5 The ECP should identify all entities to be involved with the process. This includes sub-contractors involved with recycling operations at the site, and those who test, transport and provide the disposal site/method. Copies of licences, approvals, permits, and insurance, etc. should be included.

4.3.6 The ECP should include a copy of the site's spill prevention and/or spill response plan. Information related to on-site water discharge requirements should be included.

4.3.7 The ECP should describe whether the recycling facility, any parent companies, subsidiaries or affiliates or any proposed subcontractors, disposal facilities, within the past five years has received any fines, notices, deficiencies, etc. from any regulatory entities or third party environmental auditors.

SECTION 5 - OPERATIONAL PLAN

5.1 The Operational Plan (OP) should describe the technical approach to performing the work, showing the procedures to accomplish hazardous/regulated materials handling during the cutting process, the step-by-step method for recycling the vessel, scrap metal handling, and the processes in place for assuring compliance with applicable worker safety and environmental laws.

5.2 The technical approach should address the following issues relating to all work being performed:

.1 provide a schedule showing the progressive order in which the work will be carried out;

.2 describe the arrangement of the facility to accommodate the flow of regulated material and completion of recycling. Include sufficient information to provide a detailed understanding of how production flow will be incorporated in the proposed facility. Include:

.1 production flow of hazardous/regulated material; and
.2 layout/arrangement (drawings) of the facility to be used;

.3 provide step-by-step procedures to be followed when performing the recycling, including hazardous/regulated material identification and remediation, and ship dismantling, including:

.1 plans for using a drydock, slip, floating dock or other method;
.2 procedures for identification and marking of hazardous materials;
.3 measures to be taken to insure intact stability during hull recycling;
.4 procedures for final recycling of the underwater hulls;
.5 measures to be taken to prevent flooding/sinking of the hull;
.6 measures to be taken to prevent slag or other contaminants from entering the water;
.7 cleaning tanks and bilges prior to recycling; and
.8 dealing with piping and fittings;

.4 the procedures should be sufficiently detailed to demonstrate the ability of the recycler to understand the scope of the work effort required and degree of difficulty involved;

.5 describe the procedures to be used for securing the vessel in the event of severe weather;

.6 describe procedures to be used in removing fuel and oils prior to cutting; and

.7 describe procedures for removing and disposing of bilge and sump oil.

SECTION 6 - SUPPORTING DOCUMENTS

6.1 The following documents should be consulted in the development of the SRP:

.1 the Green Passport as identified in the IMO Guidelines;

.2 the ship's plans and drawings;

.3 the IMO Guidelines on Ship Recycling;

.4 the ILO Guidelines "Safety and Health in Shipbreaking: Guidelines for Asian Countries and Turkey"; and

.5 the Basel Convention "Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships".
