
To: relevant ship owners, ship management companies, shipyards, designers, ship recycling facilities, relevant departments of the Headquarters, Technology Research & Development Center, Shanghai Rules & Research Institute, Wuhan Rules & Research Institute, plan approval centers, branches and CCS surveyors

Technical Notice on the upcoming entry into force of the Hong Kong Convention

The basic entry into force conditions of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (Hong Kong Convention) were met on June 26, 2023. According to Article 17 of the Convention, the Hong Kong Convention will officially enter into force on June 26, 2025. The Hong Kong Convention applies to 500 GT or more ships entitled to fly the flag of a Party or operating under a Party's authority and Ship Recycling Facilities operating under the jurisdiction of a Party. The main requirements are as follows:

1 Requirements for ships

(1) Controls of Hazardous Materials

The installation or use of Hazardous Materials (including asbestos, polychlorinated biphenyls(PCB), ozone- depleting substances, and hazardous anti fouling systems) listed in Appendix 1 on ships entitled to fly its flag or operating under its authority shall be prohibited and/or restricted.

(2) Inventory of Hazardous Materials (IHM)

① The Inventory of Hazardous Materials (IHM) shall be verified either by the Administration or by any person or organization authorized by it. The Inventory includes three parts: hazardous materials contained in ship structures and equipment (Part I), operationally generated wastes (Part II) and stores (Part III).

② Starting from June 26, 2025, each new ship shall have on board an Inventory of Hazardous Materials. The Inventory shall identify as Part I, Hazardous Materials listed in Appendices 1 and 2 to this Convention and contained in ship's structure or equipment, their location and approximate quantities.

③ Existing ships shall develop the Inventory as far as practicable not later than June 25, 2030, or before going for recycling if this is earlier.

④ Prior to recycling the Inventory shall, in addition to the properly maintained and updated Part I, incorporate Part II for operationally generated wastes and Part III for stores, and be verified either by the Administration or by any person or organization authorized by it.

(3) Surveys and certification

Ships to which this Convention applies shall be subject to the surveys specified below:

① An initial survey: To be carried out before the ship is put in service, or before the International Certificate on Inventory of Hazardous Materials is issued. This survey shall verify that Part I of the Inventory is in accordance with the requirements of this Convention;

② A renewal survey: To be carried out at intervals specified by the Administration, but not exceeding five years. This survey shall verify that Part I of the Inventory of Hazardous Materials complies with the requirements of this Convention;

③ An additional survey: To be carried out either general or partial, according to the circumstances, may be made at the request of the shipowner after a change, replacement, or significant repair of the structure, equipment, systems, fittings, arrangements and material. This survey shall be such as to ensure that any such change, replacement, or significant repair has been made in the way that the ship continues to comply with the requirements of this Convention, and that Part I of the Inventory is amended as necessary;

④ A final survey: To be carried out prior to the ship being taken out of service and before the recycling of the ship has started. This survey shall verify the Inventory of Hazardous Materials, the Ship Recycling Plan and the Ship Recycling Facility(ies) in accordance with the requirements of this Convention. The Administration shall issue the International Ready for Recycling Certificate after successful completion of a final survey.

2 Requirements for the Ship Recycling Facilities

(1) Ship Recycling Facilities authorized by a Party shall only accept ships that comply with this Convention or meet the requirements of this Convention.

(2) Ship Recycling Facilities authorized by a Party shall prepare a Ship Recycling Facility Plan (SRFP) .

(3) A ship-specific Ship Recycling Plan shall be developed by the Ship Recycling Facility(ies) prior to any recycling of a ship. The Ship Recycling Plan shall be approved by the Competent Authority authorizing the Ship Recycling Facility.

3 Other Notes

(1) The development of the Inventory of Hazardous Materials (IHM) for ships may refer to the “2023 Guidelines for the Development of the Inventory of Hazardous Materials” (IMO Resolution MEPC.379 (80)). Resolution MEPC.379 (80) includes guidance on anti-fouling systems containing cybutryne, replacing Resolution MEPC.269 (68) approved by the IMO in 2015;

(2) The development of the Ship Recycling Plan (SRP) may refer to the “2011

Guidelines for the Development of the Ship Recycling Plan” (IMO Resolution MEPC.196 (62)).

(3) The development of the Ship Recycling Facility Plan (SRFP) may refer to the “2012 Guidelines for the Safe and Environmentally Sound Ship Recycling” (IMO Resolution MEPC.210 (63)).

(4) China Classification Society (CCS) provides online services for the "Green Chain IHM Management System" at:

http://greenchain.ccs.org.cn/languageSys.do?request_locale=en_US .

(5) China Classification Society (CCS) has released the “Guidelines for development and survey of the Inventory of Hazardous Materials of Ships”, providing guidance for relevant parties to implement the convention.

2023 Guidelines for the Development of the Inventory of Hazardous Materials (MEPC.379 (80)) will be found in the Technical Services /IMO& IACS information column of CCS website (www.ccs.org.cn) in the near future.

This Notice is made public on CCS website (www.ccs.org.cn), and is to be notified to relevant ship owners, ship management companies, shipyards, designers and ship recycling facilities by CCS branches within their responsible areas. Please contact Technology & Information Department of CCS Headquarters for any inquiry in this regard (E-mail address: ti@ccs.org.cn).

Annex:

1. HONG KONG International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (Hong Kong Convention)
2. MEPC.196 (62)--2011 Guidelines for the Development of the Ship Recycling Plan
3. MEPC.210 (63)-- 2012 Guidelines for the Safe and Environmentally Sound Ship Recycling



INTERNATIONAL CONFERENCE ON THE
SAFE AND ENVIRONMENTALLY SOUND
RECYCLING OF SHIPS
Agenda item 8

SR/CONF/45
19 May 2009
Original: ENGLISH

**ADOPTION OF THE FINAL ACT AND ANY INSTRUMENTS, RECOMMENDATIONS
AND RESOLUTIONS RESULTING FROM THE WORK OF THE CONFERENCE**

**HONG KONG INTERNATIONAL CONVENTION FOR THE SAFE AND
ENVIRONMENTALLY SOUND RECYCLING OF SHIPS, 2009**

Text adopted by the Conference

1 As a result of its deliberations, as recorded in the Record of Decisions of the Plenary (SR/CONF/RD/2) and the Final Act of the Conference (SR/CONF/46), the Conference adopted the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009.

2 The above-mentioned Convention, as adopted by the Conference, is annexed hereto.

For reasons of economy, this document is printed in a limited number. Delegates are kindly asked to bring their copies to meetings and not to request additional copies.



ANNEX**HONG KONG INTERNATIONAL CONVENTION FOR THE SAFE AND ENVIRONMENTALLY SOUND RECYCLING OF SHIPS, 2009****THE PARTIES TO THIS CONVENTION,**

NOTING the growing concerns about safety, health, the environment and welfare matters in the ship recycling industry,

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,

RECALLING resolution A.962(23), adopted by the Assembly of the International Maritime Organization (Guidelines on Ship Recycling); amendments to the Guidelines adopted by resolution A.980(24); Decision VI/24 of the Sixth Meeting of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which adopted Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships; and the Guidelines approved by the 289th session of the Governing Body of the International Labour Office (Safety and Health in Shipbreaking: Guidelines for Asian countries and Turkey),

RECALLING ALSO resolution A.981(24), by which the Assembly of the International Maritime Organization requested the Organization's Marine Environment Protection Committee to develop a legally-binding instrument on ship recycling,

NOTING ALSO the role of the International Labour Organization in protecting the occupational safety and health of workers involved in ship recycling,

NOTING FURTHER the role of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal in protecting human health and the environment against the adverse effects which may result from such wastes,

MINDFUL of the precautionary approach set out in Principle 15 of the Rio Declaration on Environment and Development and referred to in resolution MEPC.67(37), adopted by the Organization's Marine Environment Protection Committee on 15 September 1995,

MINDFUL ALSO of the need to promote the substitution of hazardous materials in the construction and maintenance of ships by less hazardous, or preferably, non-hazardous materials, without compromising the ships' safety, the safety and health of seafarers and the ships' 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 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,

HAVE AGREED as follows:

ARTICLE 1

General obligations

1 Each Party to this Convention undertakes to give full and complete effect to its provisions in order to prevent, reduce, minimize and, to the extent practicable, eliminate accidents, injuries and other adverse effects on human health and the environment caused by Ship Recycling, and enhance ship safety, protection of human health and the environment throughout a ship's operating life.

2 No provision of this Convention shall be interpreted as preventing a Party from taking, individually or jointly, more stringent measures consistent with international law, with respect to the safe and environmentally sound recycling of ships, in order to prevent, reduce or minimize any adverse effects on human health and the environment.

3 Parties shall endeavour to co-operate for the purpose of effective implementation of, compliance with and enforcement of this Convention.

4 The Parties undertake to encourage the continued development of technologies and practices which contribute to safe and environmentally sound Ship Recycling.

5 The Annex to this Convention forms an integral part of it. Unless expressly provided for otherwise, a reference to this Convention constitutes at the same time a reference to its Annex.

ARTICLE 2

Definitions

For the purposes of this Convention, unless expressly provided otherwise:

1 "Convention" means the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009.

2 "Administration" means the Government of the State whose flag the ship is entitled to fly, or under whose authority it is operating.

3 "Competent Authority(ies)" means a governmental authority or authorities designated by a Party as responsible, within specified geographical area(s) or area(s) of expertise, for duties related to Ship Recycling Facilities operating within the jurisdiction of that Party as specified in this Convention.

4 "Organization" means the International Maritime Organization.

5 "Secretary-General" means the Secretary-General of the Organization.

6 "Committee" means the Marine Environment Protection Committee of the Organization.

7 “Ship” means a vessel of any type whatsoever operating or having operated in the marine environment and includes submersibles, floating craft, floating platforms, self elevating platforms, Floating Storage Units (FSUs), and Floating Production Storage and Offloading Units (FPSOs), including a vessel stripped of equipment or being towed.

8 “Gross tonnage” means the gross tonnage (GT) calculated in accordance with the tonnage measurement regulations contained in Annex I to the International Convention on Tonnage Measurement of Ships, 1969, or any successor convention.

9 “Hazardous Material” means any material or substance which is liable to create hazards to human health and/or the environment.

10 “Ship Recycling” means the activity of complete or partial dismantling of a ship at a Ship Recycling Facility in order to recover components and materials for reprocessing and re-use, whilst taking care of hazardous and other materials, and includes associated operations such as storage and treatment of components and materials on site, but not their further processing or disposal in separate facilities.

11 “Ship Recycling Facility” means a defined area that is a site, yard or facility used for the recycling of ships.

12 “Recycling Company” means the owner of the Ship Recycling Facility or any other organization or person who has assumed the responsibility for operation of the Ship Recycling activity from the owner of the Ship Recycling Facility and who on assuming such responsibility has agreed to take over all duties and responsibilities imposed by this Convention.

ARTICLE 3

Application

1 Unless expressly provided otherwise in this Convention, this Convention shall apply to:

- .1 ships entitled to fly the flag of a Party or operating under its authority;
- .2 Ship Recycling Facilities operating under the jurisdiction of a Party.

2 This Convention shall not apply to any warships, naval auxiliary, or other ships owned or operated by a Party and used, for the time being, only on government non-commercial service. However, each Party shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such ships owned or operated by it, that such ships act in a manner consistent with this Convention, so far as is reasonable and practicable.

3 This Convention shall not apply to ships of less than 500 GT or to ships operating throughout their life only in waters subject to the sovereignty or jurisdiction of the State whose flag the ship is entitled to fly. However, each Party shall ensure, by the adoption of appropriate measures, that such ships act in a manner consistent with this Convention, so far as is reasonable and practicable.

4 With respect to ships entitled to fly the flag of non-Parties to this Convention, Parties shall apply the requirements of this Convention as may be necessary to ensure that no more favourable treatment is given to such ships.

ARTICLE 4

Controls related to Ship Recycling

1 Each Party shall require that ships entitled to fly its flag or operating under its authority comply with the requirements set forth in this Convention and shall take effective measures to ensure such compliance.

2 Each Party shall require that Ship Recycling Facilities under its jurisdiction comply with the requirements set forth in this Convention and shall take effective measures to ensure such compliance.

ARTICLE 5

Survey and certification of ships

Each Party shall ensure that ships flying its flag or operating under its authority and subject to survey and certification are surveyed and certified in accordance with the regulations in the Annex.

ARTICLE 6

Authorization of Ship Recycling Facilities

Each Party shall ensure that Ship Recycling Facilities that operate under its jurisdiction and that recycle ships to which this Convention applies, or ships treated similarly pursuant to Article 3.4 of this Convention, are authorized in accordance with the regulations in the Annex.

ARTICLE 7

Exchange of information

For the Ship Recycling Facilities authorized by a Party, such Party shall provide to the Organization, if requested, and to those Parties which request it, relevant information, in regard to this Convention, on which its decision for authorization was based. The information shall be exchanged in a swift and timely manner.

ARTICLE 8

Inspection of ships

1 A ship to which this Convention applies may, in any port or offshore terminal of another Party, be subject to inspection by officers duly authorized by that Party for the purpose of determining whether the ship is in compliance with this Convention. Except as provided in paragraph 2, any such inspection is limited to verifying that there is on board either an International Certificate on Inventory of Hazardous Materials or an International Ready for Recycling Certificate, which, if valid, shall be accepted.

2 Where a ship does not carry a valid certificate or there are clear grounds for believing that:

- .1 the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate, and/or Part I of the Inventory of Hazardous Materials; or
- .2 there is no procedure implemented on board the ship for the maintenance of Part I of the Inventory of Hazardous Materials;

a detailed inspection may be carried out taking into account guidelines developed by the Organization.

ARTICLE 9

Detection of violations

1 Parties shall co-operate in the detection of violations and the enforcement of the provisions of this Convention.

2 When there is sufficient evidence that a ship is operating, has operated or is about to operate in violation of any provision in this Convention, a Party holding the evidence may request an investigation of this ship when it enters the ports or offshore terminals under the jurisdiction of another Party. The report of such an investigation shall be sent to the Party requesting it, to the Administration of the ship concerned and to the Organization, so that action may be taken as appropriate.

3 If the ship is detected to be in violation of this Convention, the Party carrying out the inspection may take steps to warn, detain, dismiss, or exclude the ship from its ports. A Party taking such action shall immediately inform the Administration of the ship concerned and the Organization.

4 If a request for an investigation is received from any Party, together with sufficient evidence that a Ship Recycling Facility is operating, has operated or is about to operate in violation of any provision of this Convention, a Party should investigate this Ship Recycling Facility operating under its jurisdiction and make a report. The report of any such investigation shall be sent to the Party requesting it, including information on action taken or to be taken, if any, and to the Organization for appropriate action.

ARTICLE 10

Violations

1 Any violation of the requirements of this Convention shall be prohibited by national laws and:

- .1 in the case of a ship, sanctions shall be established under the law of the Administration, wherever the violation occurs. If the Administration is informed of such a violation by a Party, it shall investigate the matter and may request the reporting Party to furnish additional evidence of the alleged violation. If the

Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its law. The Administration shall promptly inform the Party that reported the alleged violation, as well as the Organization, of any action taken. If the Administration has not taken any action within one year after receiving the information, it shall inform the Party which reported the alleged violation, and the Organization, of the reasons why no action has been taken;

- .2 in the case of a Ship Recycling Facility, sanctions shall be established under the law of the Party having jurisdiction over the Ship Recycling Facility. If the Party is informed of such a violation by another Party, it shall investigate the matter and may request the reporting Party to furnish additional evidence of the alleged violation. If the Party is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its law. The Party shall promptly inform the Party that reported the alleged violation, as well as the Organization, of any action taken. If the Party has not taken any action within one year after receiving the information, it shall inform the Party which reported the alleged violation, and the Organization, of the reasons why no action has been taken.

2 Any violation of the requirements of this Convention within the jurisdiction of any Party shall be prohibited and sanctions shall be established under the law of that Party. Whenever such a violation occurs, that Party shall either:

- .1 cause proceedings to be taken in accordance with its law; or
- .2 furnish to the Administration of the ship such information and evidence as may be in its possession that a violation has occurred.

3 The sanctions provided for by the laws of a Party pursuant to this Article shall be adequate in severity to discourage violations of this Convention wherever they occur.

ARTICLE 11

Undue delay or detention of ships

1 All possible efforts shall be made to avoid a ship being unduly detained or delayed under Article 8, 9 or 10 of this Convention.

2 When a ship is unduly detained or delayed under Article 8, 9 or 10 of this Convention, it shall be entitled to compensation for any loss or damage suffered.

ARTICLE 12

Communication of information

Each Party shall report to the Organization and the Organization shall disseminate, as appropriate, the following information:

- .1 a list of Ship Recycling Facilities authorized in accordance with this Convention and operating under the jurisdiction of that Party;
- .2 contact details for the Competent Authority(ies), including a single contact point, for that Party;
- .3 a list of the recognized organizations and nominated surveyors which are authorized to act on behalf of that Party in the administration of matters relating to the control of Ship Recycling in accordance with this Convention, and the specific responsibilities and conditions of the authority delegated to the recognized organizations or nominated surveyors;
- .4 an annual list of ships flying the flag of that Party to which an International Ready for Recycling Certificate has been issued, including the name of the Recycling Company and location of the Ship Recycling Facility as shown on the certificate;
- .5 an annual list of ships recycled within the jurisdiction of that Party;
- .6 information concerning violations of this Convention; and
- .7 actions taken towards ships and Ship Recycling Facilities under the jurisdiction of that Party.

ARTICLE 13

Technical assistance and co-operation

1 Parties undertake, directly or through the Organization and other international bodies, as appropriate, in respect of the safe and environmentally sound recycling of ships, to provide support for those Parties which request technical assistance:

- .1 to train personnel;
- .2 to ensure the availability of relevant technology, equipment and facilities;
- .3 to initiate joint research and development programmes; and
- .4 to undertake other actions aimed at the effective implementation of this Convention and of guidelines developed by the Organization related thereto.

2 Parties undertake to co-operate actively, subject to their national laws, regulations and policies, in the transfer of management systems and technology in respect of the safe and environmentally sound recycling of ships.

ARTICLE 14

Dispute settlement

Parties shall settle any dispute between them concerning the interpretation or application of this Convention by negotiation or any other peaceful means agreed upon by them, which may include enquiry, mediation, conciliation, arbitration, judicial settlement, or resort to regional agencies or arrangements.

ARTICLE 15

Relationship with international law and other international agreements

1 Nothing in this Convention shall prejudice the rights and obligations of any State under the United Nations Convention on the Law of the Sea, 1982, and under the customary international law of the sea.

2 Nothing in this Convention shall prejudice the rights and obligations of Parties under other relevant and applicable international agreements.

ARTICLE 16

Signature, ratification, acceptance, approval and accession

1 This Convention shall be open for signature by any State at the Headquarters of the Organization from 1 September 2009 to 31 August 2010 and shall thereafter remain open for accession by any State.

2 States may become Parties to this Convention by:

- .1 signature not subject to ratification, acceptance, or approval; or
- .2 signature subject to ratification, acceptance, or approval, followed by ratification, acceptance or approval; or
- .3 accession.

3 Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General.

4 If a State comprises two or more territorial units in which different systems of law are applicable in relation to matters dealt with in this Convention, it may at the time of signature, ratification, acceptance, approval, or accession declare that this Convention shall extend to all its territorial units or only to one or more of them and may modify this declaration by submitting another declaration at any time.

5 A declaration under paragraph 4 shall be notified to the Secretary-General in writing and shall state expressly the territorial unit or units to which this Convention applies.

6 A State at the time it expresses its consent to be bound by this Convention shall declare whether it requires explicit or tacit approval of the Ship Recycling Plan before a ship may be recycled in its authorized Ship Recycling Facility(ies). This declaration may be revised thereafter by notification to the Secretary-General. Such revision shall specify the effective date of the revision.

ARTICLE 17

Entry into force

1 This Convention shall enter into force 24 months after the date on which the following conditions are met:

- .1 not less than 15 States have either signed it without reservation as to ratification, acceptance or approval, or have deposited the requisite instrument of ratification, acceptance, approval or accession in accordance with Article 16;
- .2 the combined merchant fleets of the States mentioned in paragraph 1.1 constitute not less than 40 per cent of the gross tonnage of the world's merchant shipping; and
- .3 the combined maximum annual ship recycling volume of the States mentioned in paragraph 1.1 during the preceding 10 years constitutes not less than 3 per cent of the gross tonnage of the combined merchant shipping of the same States.

2 For States which have deposited an instrument of ratification, acceptance, approval or accession in respect of this Convention after the requirements for entry into force thereof have been met, but prior to the date of entry into force, the ratification, acceptance, approval or accession shall take effect on the date of entry into force of this Convention, or three months after the date of deposit of the instrument, whichever is the later date.

3 Any instrument of ratification, acceptance, approval or accession deposited after the date on which this Convention enters into force shall take effect three months after the date of deposit.

4 After the date on which an amendment to this Convention is deemed to have been accepted under Article 18, any instrument of ratification, acceptance, approval or accession deposited shall apply to the Convention, as amended.

ARTICLE 18

Amendments

1 This Convention may be amended by either of the procedures specified in the following paragraphs.

2 Amendments after consideration within the Organization:

- .1 Any Party may propose an amendment to this Convention. A proposed amendment shall be submitted to the Secretary-General, who shall then circulate it

to the Parties and Members of the Organization at least six months prior to its consideration.

- .2 An amendment proposed and circulated as above shall be referred to the Committee for consideration. Parties, whether or not Members of the Organization, shall be entitled to participate in the proceedings of the Committee for consideration and adoption of the amendment.
- .3 Amendments shall be adopted by a two-thirds majority of the Parties present and voting in the Committee, on condition that at least one-third of the Parties shall be present at the time of voting.
- .4 Amendments adopted in accordance with subparagraph 3 shall be communicated by the Secretary-General to the Parties for acceptance.
- .5 An amendment shall be deemed to have been accepted in the following circumstances:
 - .5.1 An amendment to an article of this Convention shall be deemed to have been accepted on the date on which two-thirds of the Parties have notified the Secretary-General of their acceptance of it.
 - .5.2 An amendment to the Annex shall be deemed to have been accepted at the end of a period to be determined by the Committee at the time of its adoption, which period shall not be less than ten months after the date of adoption. However, if by that date more than one-third of the Parties notify the Secretary-General that they object to the amendment, it shall be deemed not to have been accepted.
- .6 An amendment shall enter into force under the following conditions:
 - .6.1 An amendment to an article of this Convention shall enter into force, for those Parties that have declared that they have accepted it, six months after the date on which it is deemed to have been accepted in accordance with subparagraph .5.1.
 - .6.2 An amendment to the Annex shall enter into force with respect to all Parties six months after the date on which it is deemed to have been accepted, except for any Party that has:
 - .6.2.1 notified its objection to the amendment in accordance with subparagraph .5.2 and that has not withdrawn such objection; or
 - .6.2.2 notified the Secretary-General, prior to the entry into force of such amendment, that the amendment shall enter into force for it only after a subsequent notification of its acceptance.
 - .6.3 A Party that has notified an objection under subparagraph .6.2.1 may subsequently notify the Secretary-General that it accepts the amendment. Such amendment shall enter into force for such Party six months after the

date of its notification of acceptance, or the date on which the amendment enters into force, whichever is the later date.

- .6.4 If a Party that has made a notification referred to in subparagraph .6.2.2 notifies the Secretary-General of its acceptance with respect to an amendment, such amendment shall enter into force for such Party six months after the date of its notification of acceptance, or the date on which the amendment enters into force, whichever is the later date.

3 Amendment by a Conference:

- .1 Upon the request of a Party concurred in by at least one-third of the Parties, the Organization shall convene a Conference of Parties to consider amendments to this Convention.
- .2 An amendment adopted by such a Conference by a two-thirds majority of the Parties present and voting shall be communicated by the Secretary-General to all Parties for acceptance.
- .3 Unless the Conference decides otherwise, the amendment shall be deemed to have been accepted and shall enter into force in accordance with the procedures specified in paragraphs 2.5 and 2.6 respectively.

4 Any Party that has declined to accept an amendment to the Annex shall be treated as a non-Party only for the purpose of application of that amendment.

5 Any notification under this Article shall be made in writing to the Secretary-General.

6 The Secretary-General shall inform the Parties and Members of the Organization of:

- .1 any amendment that enters into force and the date of its entry into force generally and for each Party; and
- .2 any notification made under this Article.

ARTICLE 19

Denunciation

1 This Convention may be denounced by any Party at any time after the expiry of two years from the date on which this Convention enters into force for that Party.

2 Denunciation shall be effected by written notification to the Secretary-General, to take effect one year after receipt or such longer period as may be specified in that notification.

ARTICLE 20

Depositary

1 This Convention shall be deposited with the Secretary-General, who shall transmit certified copies of this Convention to all States which have signed this Convention or acceded thereto.

2 In addition to the functions specified elsewhere in this Convention, the Secretary-General shall:

- .1 inform all States that have signed this Convention, or acceded thereto, of:
 - .1.1 each new signature or deposit of an instrument of ratification, acceptance, approval or accession, together with the date thereof;
 - .1.2 the date of entry into force of this Convention;
 - .1.3 the deposit of any instrument of denunciation from this Convention, together with the date on which it was received and the date on which the denunciation takes effect; and
 - .1.4 other declarations and notifications received pursuant to this Convention; and
- .2 as soon as this Convention enters into force, transmit the text thereof to the Secretariat of the United Nations, for registration and publication in accordance with Article 102 of the Charter of the United Nations.

ARTICLE 21

Languages

This Convention is established in a single original in the Arabic, Chinese, English, French, Russian and Spanish languages, each text being equally authentic.

DONE AT HONG KONG, CHINA, this fifteenth day of May, two thousand and nine.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments for that purpose, have signed this Convention.

* * *

ANNEX

**REGULATIONS FOR SAFE AND ENVIRONMENTALLY SOUND
RECYCLING OF SHIPS**

CHAPTER 1 – GENERAL PROVISIONS

Regulation 1 – Definitions

For the purposes of this Annex:

1 “Competent person” means a person with suitable qualifications, training, and sufficient knowledge, experience and skill, for the performance of the specific work. Specifically, a Competent person may be a trained worker or a managerial employee capable of recognizing and evaluating occupational hazards, risks, and employee exposure to potentially Hazardous Materials or unsafe conditions in a Ship Recycling Facility, and who is capable of specifying the necessary protection and precautions to be taken to eliminate or reduce those hazards, risks, or exposures. The Competent Authority may define appropriate criteria for the designation of such persons and may determine the duties to be assigned to them.

2 “Employer” means a natural or legal person that employs one or more workers engaged in Ship Recycling.

3 “Existing ship” means a ship which is not a new ship.

4 “New ship” means a ship:

- .1 for which the building contract is placed on or after the entry into force of this Convention; or
- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after six months after the entry into force of this Convention; or
- .3 the delivery of which is on or after 30 months after the entry into force of this Convention.

5 “New installation” means the installation of systems, equipment, insulation, or other material on a ship after the date on which this Convention enters into force.

6 “Safe-for-entry” means a space that meets the following criteria:

- .1 the oxygen content of the atmosphere and the concentration of flammable vapours are within safe limits;
- .2 any toxic materials in the atmosphere are within permissible concentrations; and

- .3 any residues or materials associated with the work authorized by the Competent person will not produce uncontrolled release of toxic materials or an unsafe concentration of flammable vapours under existing atmospheric conditions while maintained as directed.

7 Safe-for-hot work means a space that meets the following criteria:

- .1 a safe, non-explosive condition, including gas-free status, exists for the use of electric arc or gas welding equipment, cutting or burning equipment or other forms of naked flame, as well as heating, grinding, or spark generating operations;
- .2 Safe-for-entry requirements of regulation 1.6 are met;
- .3 existing atmospheric conditions will not change as a result of the hot work; and
- .4 all adjacent spaces have been cleaned, or inerted, or treated sufficiently to prevent the start or spread of fire.

8 “Shipowner” means the person or persons or company registered as the owner of the ship or, in the absence of registration, the person or persons or company owning 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 owner of the ship. However, in the case of a ship owned by a State and operated by a company which in that State is registered as the ship’s operator, “owner” shall mean such company. This term also includes those who have ownership of the ship for a limited period pending its sale or handing over to a Ship Recycling Facility.

9 “Site inspection” means an inspection of the Ship Recycling Facility confirming the condition described by the verified documentation.

10 “Statement of Completion” means a confirmatory statement issued by the Ship Recycling Facility that the Ship Recycling has been completed in accordance with this Convention.

11 “Tanker” means an oil tanker as defined in MARPOL Annex I or an NLS tanker as defined in MARPOL Annex II.

12 “Worker” means any person who performs work, either regularly or temporarily, in the context of an employment relationship including contractor personnel.

Regulation 2 – General applicability

Unless expressly provided otherwise, the design, construction, survey, certification, operation and recycling of ships shall be conducted in accordance with the provisions of this Annex.

Regulation 3 – Relationship with other standards, recommendations and guidance

Parties shall take measures to implement the requirements of the regulations of this Annex, taking into account relevant and applicable standards, recommendations and guidance developed by the International Labour Organization and the relevant and applicable technical standards, recommendations and guidance developed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

CHAPTER 2 – REQUIREMENTS FOR SHIPS

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

Regulation 4 – Controls of ships' Hazardous Materials

In accordance with the requirements specified in Appendix 1 to this Convention each Party:

- .1 shall prohibit and/or restrict the installation or use of Hazardous Materials listed in Appendix 1 on ships entitled to fly its flag or operating under its authority; and
- .2 shall prohibit and/or restrict the installation or use of such materials on ships, whilst in its ports, shipyards, ship repair yards, or offshore terminals,

and shall take effective measures to ensure that such ships comply with those requirements.

Regulation 5 – Inventory of Hazardous Materials

1 Each new ship shall have on board an Inventory of Hazardous Materials. The Inventory shall be verified either by the Administration or by any person or organization authorized by it taking into account guidelines, including any threshold values and exemptions contained in those guidelines, developed by the Organization. The Inventory of Hazardous Materials shall be specific to each ship and shall at least:

- .1 identify as Part I, Hazardous Materials listed in Appendices 1 and 2 to this Convention and contained in ship's structure or equipment, their location and approximate quantities; and
- .2 clarify that the ship complies with regulation 4.

2 Existing ships shall comply as far as practicable with paragraph 1 not later than 5 years after the entry into force of this Convention, or before going for recycling if this is earlier, taking into account the guidelines developed by the Organization and the Organization's Harmonized System of Survey and Certification. The Hazardous Materials listed in Appendix 1, at least, shall be identified when the Inventory is developed. For existing ships a plan shall be prepared describing the visual/sampling check by which the Inventory of Hazardous Materials is developed, taking into account the guidelines developed by the Organization.

3 Part I of the Inventory of Hazardous Materials shall be properly maintained and updated throughout the operational life of the ship, reflecting new installations containing Hazardous Materials listed in Appendix 2 and relevant changes in ship structure and equipment, taking into account the guidelines developed by the Organization.

4 Prior to recycling the Inventory shall, in addition to the properly maintained and updated Part I, incorporate Part II for operationally generated wastes and Part III for stores, and be verified either by the Administration or by any person or organization authorized by it, taking into account the guidelines developed by the Organization.

Regulation 6 – Procedure for proposing amendments to Appendices 1 and 2

1 Any Party may propose an amendment to Appendix 1 and/or Appendix 2 in accordance with this regulation. The proposed amendment shall be considered within the Organization under Article 18 paragraph 2 and this regulation.

2 When the Organization receives a proposal, it shall also bring the proposal to the attention of the United Nations and its Specialized Agencies, intergovernmental organizations having agreements with the Organization and non-governmental organizations in consultative status with the Organization and shall make it available to them.

3 The Committee shall establish a technical group in accordance with regulation 7 to review proposals submitted in accordance with paragraph 1 of this regulation.

4 The technical group shall review the proposal along with any additional data, including decisions adopted by other international bodies regarding their lists of materials or hazardous substances, submitted by any interested entity, and shall evaluate and report to the Committee whether the Hazardous Material in question is likely, in the context of this Convention, to lead to significant adverse effects on human health or the environment such that the amendment of Appendix 1 or Appendix 2 is warranted. In this regard:

- .1 The technical group's review shall include:
 - .1.1 an evaluation of the association between the Hazardous Material in question and the likelihood, in the context of this Convention, that it will lead to significant adverse effects on human health or the environment based on the submitted data or other relevant data brought to the attention of the group;
 - .1.2 an evaluation of the potential risk reduction attributable to the proposed control measures and any other control measures that may be considered by the technical group;
 - .1.3 consideration of available information on the technical feasibility of control measures;
 - .1.4 consideration of available information on other effects arising from the introduction of such control measures relating to:
 - the environment;
 - human health and safety including that of seafarers and workers; and
 - the cost to international shipping and other relevant sectors.
 - .1.5 consideration of the availability of suitable alternatives to the Hazardous Material to be controlled, including a consideration of the potential risks of alternatives;

- .1.6 consideration of the risks posed by the Hazardous Material during the recycling process; and
- .1.7 consideration of suitable threshold values and any useful or necessary exemptions.
- .2 If the technical group finds that the Hazardous Material in question is likely, in the context of this Convention, to lead to significant adverse effects on human health or the environment, lack of full scientific certainty shall not be used as a reason to prevent the group from proceeding with an evaluation of the proposal.
- .3 The technical group's report shall be in writing and shall take into account each of the evaluations and considerations referred to in subparagraph .1, except that the technical group may decide not to proceed with the evaluations and considerations described in subparagraphs .1.2 to .1.7 if it determines after the evaluation in subparagraph .1.1 that the proposal does not warrant further consideration.
- .4 The technical group's report shall include, *inter alia*, a recommendation on whether international controls pursuant to this Convention are warranted on the Hazardous Material in question, on the suitability of the specific control measures suggested in the comprehensive proposal, or on other control measures which it believes to be more suitable.

5 The Committee shall decide whether to approve any proposal to amend Appendix 1 or Appendix 2, and any modifications thereto, if appropriate, taking into account the technical group's report. Any proposed amendment shall specify the application of the amendment for ships certified in accordance with this Convention before the entry into force of the amendment. If the report finds that the Hazardous Material in question is likely, in the context of this Convention, to lead to significant adverse effects on human health or the environment, lack of full scientific certainty shall not be used as a reason to prevent a decision from being taken to list a Hazardous Material in Appendix 1 or Appendix 2. A decision not to approve the proposal shall not preclude future submission of a new proposal with respect to a particular Hazardous Material if new information comes to light.

Regulation 7 – Technical Groups

1 The Committee may establish one or more technical groups pursuant to regulation 6 as needed. The technical group may comprise representatives of the Parties, Members of the Organization, the United Nations and its Specialized Agencies, intergovernmental organizations having agreements with the Organization, and non-governmental organizations in consultative status with the Organization, which should preferably include representatives of institutions and laboratories with expertise in environmental fate and effects of substances, toxicological effects, marine biology, human health, economic analysis, risk management, shipbuilding, international shipping, occupational health and safety or other fields of expertise necessary to objectively review the technical merits of a proposal.

2 The Committee shall decide on the terms of reference, organization, participation and operation of the technical groups. Such terms shall provide for protection of any confidential information that may be submitted. Technical groups may hold such meetings as required, but shall endeavour to conduct their work through written or electronic correspondence or other media as appropriate.

3 Only the representatives of Parties may participate in formulating any recommendation to the Committee pursuant to regulation 6. A technical group shall endeavour to achieve unanimity among the representatives of the Parties. If unanimity is not possible, the technical group shall communicate any minority views of such representatives.

Part B – Preparation for Ship Recycling

Regulation 8 – General requirements

Ships destined to be recycled shall:

- .1 only be recycled at Ship Recycling Facilities that are:
 - .1 authorized in accordance with this Convention; and
 - .2 fully authorized to undertake all the ship recycling which the Ship Recycling Plan specifies to be conducted by the identified Ship Recycling Facility(ies);
- .2 conduct operations in the period prior to entering the Ship Recycling Facility in order to minimize the amount of cargo residues, remaining fuel oil, and wastes remaining on board;
- .3 in the case of a tanker, arrive at the Ship Recycling Facility with cargo tanks and pump room(s) in a condition that is ready for certification as Safe-for-entry, or Safe-for-hot work, or both, according to national laws, regulations and policies of the Party under whose jurisdiction the Ship Recycling Facility operates;
- .4 provide to the Ship Recycling Facility all available information relating to the ship for the development of the Ship Recycling Plan required by regulation 9;
- .5 complete the Inventory required by regulation 5; and
- .6 be certified as ready for recycling by the Administration or organization recognized by it, prior to any recycling activity taking place.

Regulation 9 – Ship Recycling Plan

A ship-specific Ship Recycling Plan shall be developed by the Ship Recycling Facility(ies) prior to any recycling of a ship, taking into account the guidelines developed by the Organization. The Ship Recycling Plan shall:

- .1 be developed taking into account information provided by the shipowner;
- .2 be developed in the language accepted by the Party authorizing the Ship Recycling Facility, and if the language used is not English, French or Spanish, the Ship Recycling Plan shall be translated into one of these languages, except where the Administration is satisfied that this is not necessary;

- .3 include information concerning *inter alia*, the establishment, maintenance, and monitoring of Safe-for-entry and Safe-for-hot work conditions and how the type and amount of materials including those identified in the Inventory of Hazardous Materials will be managed;
- .4 in accordance with the declaration deposited pursuant to Article 16.6, be either explicitly or tacitly approved by the Competent Authority authorizing the Ship Recycling Facility. The Competent Authority shall send written acknowledgement of receipt of the Ship Recycling Plan to the Ship Recycling Facility, Ship Owner and Administration within three (3) working days of its receipt in accordance with regulation 24. Thereafter:
 - .1 where a Party requires explicit approval of the Ship Recycling Plan, the Competent Authority shall send written notification of its decision to approve or deny the Ship Recycling Plan to the Ship Recycling Facility, Ship Owner and Administration; and
 - .2 where a Party requires tacit approval of the Ship Recycling Plan, the acknowledgment of receipt shall specify the end date of a 14-day review period. The Competent Authority shall notify any written objection to the Ship Recycling Plan to the Ship Recycling Facility, Ship Owner and Administration within this 14-day review period. Where no such written objection has been notified, the Ship Recycling Plan shall be deemed to be approved.
- .5 once approved in accordance with paragraph .4, be made available for inspection by the Administration, or any nominated surveyors or organization recognized by it; and
- .6 where more than one Ship Recycling Facility is used, identify the Ship Recycling Facilities to be used and specify the recycling activities and the order in which they occur at each authorized Ship Recycling Facility.

Part C – Surveys and certification

Regulation 10 – Surveys

- 1 Ships to which this Convention applies shall be subject to the surveys specified below:
 - .1 an initial survey before the ship is put in service, or before the International Certificate on Inventory of Hazardous Materials is issued. This survey shall verify that Part I of the Inventory required by regulation 5 is in accordance with the requirements of this Convention;
 - .2 a renewal survey at intervals specified by the Administration, but not exceeding five years. This survey shall verify that Part I of the Inventory of Hazardous Materials required by regulation 5 complies with the requirements of this Convention;

- .3 an additional survey, either general or partial, according to the circumstances, may be made at the request of the shipowner after a change, replacement, or significant repair of the structure, equipment, systems, fittings, arrangements and material. The survey shall be such as to ensure that any such change, replacement, or significant repair has been made in the way that the ship continues to comply with the requirements of this Convention, and that Part I of the Inventory is amended as necessary; and
- .4 a final survey prior to the ship being taken out of service and before the recycling of the ship has started. This survey shall verify:
 - .1 that the Inventory of Hazardous Materials as required by regulation 5.4 is in accordance with the requirements of this Convention taking into account the guidelines developed by the Organization;
 - .2 that the Ship Recycling Plan, as required by regulation 9, properly reflects the information contained in the Inventory of Hazardous Materials as required by regulation 5.4 and contains information concerning the establishment, maintenance and monitoring of Safe-for-entry and Safe-for-hot work conditions; and
 - .3 that the Ship Recycling Facility(ies) where the ship is to be recycled holds a valid authorization in accordance with this Convention.

2 Surveys of ships for the purpose of enforcement of the provisions of this Convention shall be carried out by officers of the Administration, taking into account the guidelines developed by the Organization. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it.

3 An Administration nominating surveyors or recognizing organizations to conduct surveys, as described in paragraph 2 shall, as a minimum, empower such nominated surveyors or recognized organizations to:

- .1 require a ship that they survey to comply with the provisions of this Convention; and
- .2 carry out surveys and inspections if requested by the appropriate authorities of a port State that is a Party.

4 In every case, the Administration concerned shall be responsible to ensure the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.

5 The initial and renewal surveys should be harmonized with the surveys required by other applicable statutory instruments of the Organization.

Regulation 11 – Issuance and endorsement of certificates

1 An International Certificate on Inventory of Hazardous Materials shall be issued either by the Administration or by any person or organization authorized by it after successful completion of an initial or renewal survey conducted in accordance with regulation 10, to any ships to which regulation 10 applies, except for existing ships for which both an initial survey and a final survey are conducted at the same time, taking into account the guidelines developed by the Organization.

2 The International Certificate on Inventory of Hazardous Materials issued under paragraph 1, at the request of the shipowner, shall be endorsed either by the Administration or by any person or organization authorized by it after successful completion of an additional survey conducted in accordance with regulation 10.

3 Notwithstanding regulation 14.2 and the requirements of regulation 10.1.2, when the renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate.

4 When the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate.

5 When the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.

6 If a certificate is issued for a period of less than five years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum period specified in regulation 10.1.2.

7 If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the person or organization authorized by the Administration may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed five months from the expiry date.

8 If a ship at the time when a certificate expires is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed and then only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than three months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

9 A certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey

is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

10 In special circumstances, as determined by the Administration, a new certificate need not be dated from the date of expiry of the existing certificate as required by paragraph 4, 8 or 9 of this regulation. In these special circumstances, the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.

11 An International Ready for Recycling Certificate shall be issued either by the Administration or by any person or organization authorized by it, after successful completion of a final survey in accordance with the provisions of regulation 10, to any ships to which regulation 10 applies, taking into account the authorization of the Ship Recycling Facility and the guidelines developed by the Organization.

12 A certificate issued under the authority of a Party shall be accepted by the other Parties and regarded for all purposes covered by this Convention as having the same validity as a certificate issued by them. Certificates shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it. In every case, the Administration assumes full responsibility for the certificate.

Regulation 12 – Issuance or endorsement of a certificate by another Party

1 At the request of the Administration, another Party may cause a ship to be surveyed and, if satisfied that the provisions of this Convention are complied with, shall issue or authorize the issuance of a certificate to the ship, and where appropriate, endorse or authorize the endorsement of that certificate on the ship, in accordance with this Annex.

2 A copy of the certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.

3 A certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as a certificate issued by the Administration.

4 No certificate shall be issued to a ship entitled to fly the flag of a State which is not a Party.

Regulation 13 – Form of the certificates

The certificates shall be drawn up in an official language of the issuing Party, in the form set forth in Appendices 3 and 4. If the language used is not English, French or Spanish, the text shall include a translation into one of these languages. The Administration may, however, issue the International Certificate on Inventory of Hazardous Materials drawn up only in an official language of the issuing Party to ships not engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to this Convention and the International Ready for Recycling Certificate drawn up only in an official language of the issuing Party to ships recycled in Ship Recycling Facilities under the jurisdiction of the issuing Party.

Regulation 14 – Duration and validity of the certificates

1 An International Certificate on Inventory of Hazardous Materials issued under regulation 11 or 12 shall cease to be valid in any of the following cases:

- .1 if the condition of the ship does not correspond substantially with the particulars of the certificate, including where Part I of the Inventory of Hazardous Materials is not properly maintained and updated, reflecting changes in ship structure and equipment, in accordance with the guidelines developed by the Organization;
- .2 upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Party issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of regulation 10. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificates carried by the ship before the transfer and, if available, copies of the relevant survey reports;
- .3 if the renewal survey is not completed within the periods specified under regulations 10.1 and 11; or
- .4 if the certificate is not endorsed in accordance with regulation 11 or 12.

2 An International Certificate on Inventory of Hazardous Materials shall be issued for a period specified by the Administration, which shall not exceed five years.

3 An International Ready for Recycling Certificate shall be issued for a period specified by the Administration that shall not exceed three months.

4 An International Ready for Recycling Certificate issued under regulation 11 or 12 shall cease to be valid if the condition of the ship does not correspond substantially with the particulars of the certificate.

5 The International Ready for Recycling Certificate may be extended by the Administration or by any person or organization authorized by it for a single point to point voyage to the Ship Recycling Facility.

CHAPTER 3 – REQUIREMENTS FOR SHIP RECYCLING FACILITIES

Regulation 15 – Controls on Ship Recycling Facilities

1 Each Party shall 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 this Convention.

2 Each Party shall establish a mechanism for authorizing Ship Recycling Facilities with appropriate conditions to ensure that such Ship Recycling Facilities meet the requirements of this Convention.

3 Each Party shall establish a mechanism for ensuring that Ship Recycling Facilities comply with the requirements of this chapter including the establishment and effective use of inspection, monitoring and enforcement provisions, including powers of entry and sampling. Such a mechanism may include an audit scheme to be carried out by the Competent Authority(ies) or an organization recognized by the Party, taking into account guidelines developed by the Organization, and the results of these audits should be communicated to the Organization.

4 Each Party shall designate one or more Competent Authorities and the single contact point to be used by the Organization, Parties to this Convention and other interested entities, for matters related to Ship Recycling Facilities operating within the jurisdiction of that Party.

Regulation 16 – Authorization of Ship Recycling Facilities

1 Ship Recycling Facilities which recycle ships to which this Convention applies, or ships treated similarly pursuant to Article 3.4, shall be authorized by a Party taking into account the guidelines developed by the Organization.

2 The authorization shall be carried out by the Competent Authority(ies) and shall include verification of documentation required by this Convention and a site inspection. The Competent Authority(ies) may however entrust the authorization of Ship Recycling Facilities to organizations recognized by it.

3 The Party shall notify the Organization of the specific responsibilities and conditions of the authority delegated to the recognized organizations, for circulation to Parties. In every case, the Competent Authority(ies) retains full responsibility for the authorization issued.

4 The authorization shall be drawn up in the form set forth in Appendix 5. If the language used is not English, French or Spanish, the text shall include a translation into one of these languages.

5 The authorization shall be valid for a period specified by the Party but not exceeding five years. The Party shall identify the terms for which the authorization will be issued, withdrawn, suspended, amended and renewed, and communicate these terms to the Ship Recycling Facilities. If a Ship Recycling Facility refuses inspection by the Competent Authority(ies) or the recognized organization operating on its/their behalf, the authorization shall be suspended or withdrawn.

6 If incidents or actions taken at the Ship Recycling Facility have the effect that the conditions for the authorization are no longer fulfilled, the Ship Recycling Facility shall inform the Competent Authority(ies). The Competent Authority(ies) may accordingly decide to suspend or withdraw the authorization, or require corrective actions by the Ship Recycling Facility.

Regulation 17 – General requirements

1 Ship Recycling Facilities authorized by a Party shall establish management systems, procedures and techniques which do not pose health risks to the workers concerned or to the population in the vicinity of the Ship Recycling Facility and which will prevent, reduce, minimize and to the extent practicable eliminate adverse effects on the environment caused by Ship Recycling, taking into account guidelines developed by the Organization.

2 Ship Recycling Facilities authorized by a Party shall, for ships to which this Convention applies, or ships treated similarly pursuant to Article 3.4:

- .1 only accept ships that:
 - .1 comply with this Convention; or
 - .2 meet the requirements of this Convention;
- .2 only accept ships which they are authorized to recycle; and
- .3 have the documentation of its authorization available if such documentation is requested by a shipowner that is considering recycling a ship at that Ship Recycling Facility.

Regulation 18 – Ship Recycling Facility Plan

Ship Recycling Facilities authorized by a Party shall prepare a Ship Recycling Facility Plan. The Plan shall be adopted by the board or the appropriate governing body of the Recycling Company, and shall include:

- .1 a policy ensuring workers' safety and the protection of human health and the environment, including the establishment of objectives that lead to the minimization and elimination to the extent practicable of the adverse effects on human health and the environment caused by Ship Recycling;
- .2 a system for ensuring implementation of the requirements set out in this Convention, the achievement of the goals set out in the policy of the Recycling Company, and the continuous improvement of the procedures and standards used in the Ship Recycling operations;
- .3 identification of roles and responsibilities for employers and workers when conducting Ship Recycling operations;
- .4 a programme for providing appropriate information and training of workers for the safe and environmentally sound operation of the Ship Recycling Facility;
- .5 an emergency preparedness and response plan;
- .6 a system for monitoring the performance of Ship Recycling;
- .7 a record-keeping system showing how Ship Recycling is carried out;
- .8 a system for reporting discharges, emissions, incidents and accidents causing damage, or with the potential of causing damage, to workers' safety, human health and the environment; and
- .9 a system for reporting occupational diseases, accidents, injuries and other adverse effects on workers' safety and human health,

taking into account guidelines developed by the Organization.

Regulation 19 – Prevention of adverse effects to human health and the environment

Ship Recycling Facilities authorized by a Party shall establish and utilize procedures to:

- .1 prevent explosions, fires, and other unsafe conditions by ensuring that Safe-for-hot work conditions and procedures are established, maintained and monitored throughout Ship Recycling;
- .2 prevent harm from dangerous atmospheres and other unsafe conditions by ensuring that Safe-for-entry conditions and procedures are established, maintained, and monitored in ship spaces, including confined spaces and enclosed spaces, throughout Ship Recycling;
- .3 prevent other accidents, occupational diseases and injuries or other adverse effects on human health and the environment; and
- .4 prevent spills or emissions throughout Ship Recycling which may cause harm to human health and/or the environment,

taking into account guidelines developed by the Organization.

Regulation 20 – Safe and environmentally sound management of Hazardous Materials

1 Ship Recycling Facilities authorized by a Party shall ensure safe and environmentally sound removal of any Hazardous Material contained in a ship certified in accordance with regulation 11 or 12. The person(s) in charge of the recycling operations and the workers shall be familiar with the requirements of this Convention relevant to their tasks and, in particular, actively use the Inventory of Hazardous Materials and the Ship Recycling Plan, prior to and during the removal of Hazardous Materials.

2 Ship Recycling Facilities authorized by a Party shall ensure that all Hazardous Materials detailed in the Inventory are identified, labelled, packaged and removed to the maximum extent possible prior to cutting by properly trained and equipped workers, taking into account the guidelines developed by the Organization, in particular:

- .1 hazardous liquids, residues and sediments;
- .2 substances or objects containing heavy metals such as lead, mercury, cadmium and hexavalent chromium;
- .3 paints and coatings that are highly flammable and/or lead to toxic releases;
- .4 asbestos and materials containing asbestos;
- .5 PCB and materials containing PCBs, ensuring that heat inducing equipment is avoided during such operations;
- .6 CFCs and halons; and
- .7 other Hazardous Materials not listed above and that are not a part of the ship structure.

3 Ship Recycling Facilities authorized by a Party shall provide for and ensure safe and environmentally sound management of all Hazardous Materials and wastes removed from the ship recycled at that Ship Recycling Facility. Waste management and disposal sites shall be identified to provide for the further safe and environmentally sound management of materials.

4 All wastes generated from the recycling activity shall be kept separate from recyclable materials and equipment, labelled, stored in appropriate conditions that do not pose a risk to the workers, human health or the environment and only transferred to a waste management facility authorized to deal with their treatment and disposal in a safe and environmentally sound manner.

Regulation 21 – Emergency preparedness and response

Ship Recycling Facilities authorized by a Party shall establish and maintain an emergency preparedness and response plan. The plan shall be made having regard to the location and environment of the Ship Recycling Facility, and shall take into account the size and nature of activities associated with each Ship Recycling operation. The plan shall furthermore:

- .1 ensure that the necessary equipment and procedures to be followed in the case of an emergency are in place, and that drills are conducted on a regular basis;
- .2 ensure that the necessary information, internal communication and coordination are provided to protect all people and the environment in the event of an emergency at the Ship Recycling Facility;
- .3 provide for communication with, and information to, the relevant Competent Authority(ies), the neighbourhood and emergency response services;
- .4 provide for first-aid and medical assistance, fire-fighting and evacuation of all people at the Ship Recycling Facility, pollution prevention; and
- .5 provide for relevant information and training to all workers of the Ship Recycling Facility, at all levels and according to their competence, including regular exercises in emergency prevention, preparedness and response procedures.

Regulation 22 – Worker safety and training

1 Ship Recycling Facilities authorized by a Party shall provide for worker safety by measures including:

- .1 ensuring the availability, maintenance and use of personal protective equipment and clothing needed for all Ship Recycling operations;
- .2 ensuring that training programmes are provided to enable workers to safely undertake all Ship Recycling operations they are tasked to do; and
- .3 ensuring that all workers at the Ship Recycling Facility have been provided with appropriate training and familiarization prior to performing any Ship Recycling operation.

2 Ship Recycling Facilities authorized by a Party shall provide and ensure the use of personal protective equipment for operations requiring such use, including:

- .1 head protection;
- .2 face and eye protection;
- .3 hand and foot protection;
- .4 respiratory protective equipment;
- .5 hearing protection;
- .6 protectors against radioactive contamination;
- .7 protection from falls; and
- .8 appropriate clothing.

3 Ship Recycling Facilities authorized by a Party may co-operate in providing for training of workers. Taking into account the guidelines developed by the Organization, the training programmes set forth in paragraph 1.2 of this regulation shall:

- .1 cover all workers including contractor personnel and employees in the Ship Recycling Facility;
- .2 be conducted by Competent persons;
- .3 provide for initial and refresher training at appropriate intervals;
- .4 include participants' evaluation of their comprehension and retention of the training;
- .5 be reviewed periodically and modified as necessary; and
- .6 be documented.

Regulation 23 – Reporting on incidents, accidents, occupational diseases and chronic effects

1 Ship Recycling Facilities authorized by a Party shall report to the Competent Authority(ies) any incident, accident, occupational diseases, or chronic effects causing, or with the potential of causing, risks to workers safety, human health and the environment.

2 Reports shall contain a description of the incident, accident, occupational disease, or chronic effect, its cause, the response action taken and the consequences and corrective actions to be taken.

CHAPTER 4 – REPORTING REQUIREMENTS

Regulation 24 – Initial notification and reporting requirements

1 A shipowner shall notify the Administration in due time and in writing of the intention to recycle a ship in order to enable the Administration to prepare for the survey and certification required by this Convention.

2 A Ship Recycling Facility when preparing to receive a ship for recycling shall notify in due time and in writing its Competent Authority(ies) of the intent. The notification shall include at least the following ship details:

- .1 name of the State whose flag the ship is entitled to fly;
- .2 date on which the ship was registered with that State;
- .3 ship's identification number (IMO number);
- .4 hull number on new-building delivery;
- .5 name and type of the ship;
- .6 port at which the ship is registered;
- .7 name and address of the Shipowner as well as the IMO registered owner identification number;
- .8 name and address of the company as well as the IMO company identification number;
- .9 name of all classification society(ies) with which the ship is classed;
- .10 ship's main particulars (Length overall (LOA), Breadth (Moulded), Depth (Moulded), Lightweight, Gross and Net tonnage, and engine type and rating);
- .11 Inventory of Hazardous Materials; and
- .12 draft ship recycling plan for approval pursuant to regulation 9.

3 When the ship destined to be recycled has acquired the International Ready for Recycling Certificate, the Ship Recycling Facility shall report to its Competent Authority(ies) the planned start of the Ship Recycling. The report shall be in accordance with the reporting format in Appendix 6, and shall at least include a copy of the International Ready for Recycling Certificate. Recycling of the ship shall not start prior to the submission of the report.

Regulation 25 – Reporting upon completion

When the partial or complete recycling of a ship is completed in accordance with the requirements of this Convention, a Statement of Completion shall be issued by the Ship Recycling Facility and reported to its Competent Authority(ies). This report must be compiled as

shown in appendix 7. The Competent Authority(ies) shall send a copy of the Statement to the Administration which issued the International Ready for Recycling Certificate for the ship. The Statement shall be issued within 14 days of the date of partial or completed Ship Recycling in accordance with the Ship Recycling Plan and shall include a report on incidents and accidents damaging human health and/or the environment, if any.

APPENDIX 1

CONTROLS OF HAZARDOUS MATERIALS

Hazardous Material	Definitions	Control measures
Asbestos	Materials containing asbestos	For all ships, new installation of materials which contain asbestos shall be prohibited.
Ozone-depleting substances	<p>Ozone-depleting substances means controlled substances defined in paragraph 4 of article 1 of the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, listed in Annexes A,B,C or E to the said Protocol in force at the time of application or interpretation of this Annex.</p> <p>Ozone-depleting substances that may be found on board ship include, but are not limited to:</p> <p>Halon 1211 Bromochlorodifluoromethane Halon 1301 Bromotrifluoromethane Halon 2402 1,2-Dibromo-1,1,2,2-tetrafluoroethane (also known as Halon 114B2) CFC-11 Trichlorofluoromethane CFC-12 Dichlorodifluoromethane CFC-113 1,1,2-Trichloro-1,2,2-trifluoroethane CFC-114 1,2-Dichloro-1,1,2,2-tetrafluoroethane CFC-115 Chloropentafluoroethane</p>	New installations which contain ozone-depleting substances shall be prohibited on all ships, except that new installations containing hydrochlorofluorocarbons (HCFCs) are permitted until 1 January 2020.
Polychlorinated biphenyls (PCB)	“Polychlorinated biphenyls” means aromatic compounds formed in such a manner that the hydrogen atoms on the biphenyl molecule (two benzene rings bonded together by a single carbon-carbon bond) may be replaced by up to ten chlorine atoms	For all ships, new installation of materials which contain Polychlorinated biphenyls shall be prohibited.
Anti-fouling compounds and systems	Anti-fouling compounds and systems regulated under Annex I to the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001 (AFS Convention) in force at the time of application or interpretation of this Annex.	<ol style="list-style-type: none"> 1. No ship may apply anti-fouling systems containing organotin compounds as a biocide or any other anti-fouling system whose application or use is prohibited by the AFS Convention. 2. No new ships or new installations on ships shall apply or employ anti-fouling compounds or systems in a manner inconsistent with the AFS Convention.

APPENDIX 2

MINIMUM LIST OF ITEMS FOR THE INVENTORY OF HAZARDOUS MATERIALS

Any Hazardous Materials listed in Appendix 1
Cadmium and Cadmium Compounds
Hexavalent Chromium and Hexavalent Chromium Compounds
Lead and Lead Compounds
Mercury and Mercury Compounds
Polybrominated Biphenyl (PBBs)
Polybrominated Diphenyl Ethers (PBDEs)
Polychlorinated Naphthalenes (more than 3 chlorine atoms)
Radioactive Substances
Certain Shortchain Chlorinated Paraffins (Alkanes, C10-C13, chloro)

APPENDIX 3

FORM OF THE INTERNATIONAL CERTIFICATE ON INVENTORY OF HAZARDOUS MATERIALS

INTERNATIONAL CERTIFICATE ON INVENTORY OF HAZARDOUS MATERIALS

(Note: This certificate shall be supplemented by Part I of the Inventory of Hazardous Materials)

(Official seal)

(State)

Issued under the provisions of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereinafter referred to as “the Convention”) under the authority of the Government of

.....
(Full designation of the country)

by
*(Full designation of the person or organization authorized
under the provisions of the Convention)*

Particulars of the Ship

Name of Ship	
Distinctive number or letters	
Port of Registry	
Gross tonnage	
IMO number	
Name and address of shipowner	
IMO registered owner identification number	
IMO company identification number	
Date of Construction	

Particulars of Part I of the Inventory of Hazardous Materials

Part I of the Inventory of Hazardous Materials identification/verification number:

Note: Part I of the Inventory of Hazardous Materials, as required by regulation 5 of the Annex to the Convention, is an essential part of the International Certificate on Inventory of Hazardous Materials and must always accompany the International Certificate on Inventory of Hazardous Materials. Part I of the Inventory of Hazardous Materials should be compiled on the basis of the standard format shown in the guidelines developed by the Organization.

THIS IS TO CERTIFY:

1. that the ship has been surveyed in accordance with regulation 10 of the Annex to the Convention; and
2. that the survey shows that Part I of the Inventory of Hazardous Materials fully complies with the applicable requirements of the Convention.

Completion date of survey on which this certificate is based: (dd/mm/yyyy)

This certificate is valid until (dd/mm/yyyy)

Issued at
(Place of issue of certificate)

(dd/mm/yyyy)
(Date of issue) (Signature of duly authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID FOR
LESS THAN FIVE YEARS WHERE REGULATION 11.6 APPLIES***

The ship complies with the relevant provisions of the Convention, and this certificate shall, in accordance with regulation 11.6 of the Annex to the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date: (dd/mm/yyyy)

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND
REGULATION 11.7 APPLIES***

The ship complies with the relevant provisions of the Convention, and this certificate shall, in accordance with regulation 11.7 of the Annex to the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date: (dd/mm/yyyy)

(Seal or stamp of the authority, as appropriate)

* This page of the endorsement at survey shall be reproduced and added to the certificate as considered necessary by the Administration.

**ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE UNTIL
REACHING THE PORT OF SURVEY OR FOR A PERIOD OF GRACE WHERE
REGULATION 11.8 OR 11.9 APPLIES***

This certificate shall, in accordance with regulation 11.8 or 11.9** of the Annex to the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date: (dd/mm/yyyy)

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ADDITIONAL SURVEY*

At an additional survey in accordance with regulation 10 of the Annex to the Convention, the ship was found to comply with the relevant provisions of the Convention.

Signed:

(Signature of duly authorized official)

Place:

Date: (dd/mm/yyyy)

(Seal or stamp of the authority, as appropriate)

* This page of the endorsement at survey shall be reproduced and added to the certificate as considered necessary by the Administration.

** Delete as appropriate.

APPENDIX 4

FORM OF THE INTERNATIONAL READY FOR RECYCLING CERTIFICATE

INTERNATIONAL READY FOR RECYCLING CERTIFICATE

(Note: This certificate shall be supplemented by the Inventory of Hazardous Materials and the Ship Recycling Plan)

(Official seal)

(State)

Issued under the provisions of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereinafter referred to as “the Convention”) under the authority of the Government of

.....
(Full designation of the country)

by
(Full designation of the person or organization authorized under the provisions of the Convention)

Particulars of the Ship

Name of Ship	
Distinctive number or letters	
Port of Registry	
Gross tonnage	
IMO number	
Name and address of shipowner	
IMO registered owner identification number	
IMO company identification number	
Date of Construction	

Particulars of the Ship Recycling Facility(ies)

Name of Ship Recycling Facility	
Distinctive Recycling Company identity number*	
Full address	
Date of expiry of DASR	

* This number is based on the Document of Authorization to conduct Ship Recycling (DASR).

Particulars of the Inventory of Hazardous Materials

Inventory of Hazardous Materials identification/verification number:

Note: The Inventory of Hazardous Materials, as required by regulation 5 of the Annex to the Convention, is an essential part of the International Ready for Recycling Certificate and must always accompany the International Ready for Recycling Certificate. The Inventory of Hazardous Materials should be compiled on the basis of the standard format shown in the guidelines developed by the Organization.

Particulars of the Ship Recycling Plan

Ship Recycling Plan identification/verification number:

Note: The Ship Recycling Plan, as required by regulation 9 of the Annex to the Convention, is an essential part of the International Ready for Recycling Certificate and must always accompany the International Ready for Recycling Certificate.

THIS IS TO CERTIFY:

- 1 that the ship has been surveyed in accordance with regulation 10 of the Annex to the Convention;
- 2 that the ship has a valid Inventory of Hazardous Materials in accordance with regulation 5 of the Annex to the Convention;
- 3 that the Ship Recycling Plan, as required by regulation 9, properly reflects the information contained in the Inventory of Hazardous Materials as required by regulation 5.4 and contains information concerning the establishment, maintenance and monitoring of Safe-for-entry and Safe-for-hot work conditions; and
- 4 that the Ship Recycling Facility(ies) where this ship is to be recycled holds a valid authorization in accordance with the Convention.

This certificate is valid until (dd/mm/yyyy)
(Date)

Issued at
(Place of issue of certificate)

(dd/mm/yyyy)
(Date of issue) (Signature of duly authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE UNTIL
REACHING THE PORT OF THE SHIP RECYCLING FACILITY FOR A PERIOD OF
GRACE WHERE REGULATION 14.5 APPLIES***

This certificate shall, in accordance with regulation 14.5 of the Annex to the Convention, be accepted as valid for a single point to point voyage

from the port of:

to the port of:

Signed:

(Signature of duly authorized official)

Place:

Date: (dd/mm/yyyy)

(Seal or stamp of the authority, as appropriate)

* This page of the endorsement shall be reproduced and added to the certificate as considered necessary by the Administration.

APPENDIX 5

FORM OF THE AUTHORIZATION OF SHIP RECYCLING FACILITIES

Document of Authorization to conduct Ship Recycling (DASR) in accordance with the requirements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

Issued under the provision of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereinafter referred to as “the Convention”) under the authority of the Government of:

.....
(Full designation of the country)

by.....
(Full designation of the Competent Authority under the Convention)

Name of Ship Recycling Facility	
Distinctive Recycling Company identity No.	
Full address of Ship Recycling Facility	
Primary contact person	
Phone number	
E-mail address	
Name, address, and contact information of ownership company	
Working language(s)	

This is to verify that the Ship Recycling Facility has implemented management systems, procedures and techniques in accordance with Chapters 3 and 4 to the Annex to the Convention.

This authorization is valid until and is subject to the limitations identified in the attached supplement.

This authorization is subject to amendment, suspension, withdrawal, or periodic renewal in accordance with regulation 16 of the Annex to the Convention.

Issued at
(Place of issue of the authorization)

(dd/mm/yyyy)
(Date of issue) (Signature of duly authorized official issuing the authorization)

.....
(Typed name and title of duly authorized official issuing the authorization)

(Seal or stamp of the authority, as appropriate)

SUPPLEMENT TO:

Document of Authorization to undertake Ship Recycling (DASR) in accordance with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

Notes:

- 1 This record shall be permanently attached to the DASR. The DASR shall be available at the Ship Recycling Facility at all times.
- 2 All procedures, plans and other documents produced by the Ship Recycling Facility and required under the terms to which the DASR has been issued shall be available in the working language of the Ship Recycling Facility and in either English, French or Spanish.
- 3 The authorization is subject to the limitations defined by this supplement.

1 GENERAL TERMS

1.1 Requirements of the Convention

The Ship Recycling Facility meets the requirements that it be designed, constructed, and operated in a safe and environmentally sound manner in accordance with the Convention, including meeting the relevant requirements of:

- Regulation 16 – Authorization of Ship Recycling Facilities
- Regulation 17 – General requirements
- Regulation 18 – Ship Recycling Facility Plan
- Regulation 19 – Prevention of adverse effects to human health and the environment
- Regulation 20 – Safe and environmentally sound management of Hazardous Materials
- Regulation 21 – Emergency preparedness and response
- Regulation 22 – Worker safety and training
- Regulation 23 – Reporting on incidents, accidents, occupational diseases and chronic effects
- Regulation 24 – Initial notification and reporting requirements
- Regulation 25 – Reporting upon completion

These requirements are imposed on the Ship Recycling Facility by way of

.....
(Identify the permit, licence, authorization, legal standards, or other mechanism that applies)

Ship Recycling Facility Plan identification/verification number:

1.2 Acceptance of ships

For ships to which the Convention applies and ships treated similarly pursuant to Article 3.4 of the Convention, the Ship Recycling Facility can only accept a ship for recycling in accordance with regulation 17 of the Annex to the Convention.

1.3 Safe-for-hot work and Safe-for-entry conditions

The Ship Recycling Facility is capable of establishing, maintaining and monitoring Safe-for-hot work and Safe-for-entry conditions throughout the Ship Recycling process.

1.4 Management of Hazardous Materials

The Ship Recycling Facility is designed, constructed, operated, and required to ensure that all Hazardous Materials' management shall be safe and environmentally sound in compliance with the Convention and with all relevant local or national regulations/requirements.

1.5 Map and location of Ship Recycling operations

A map of the boundary of the Ship Recycling Facility and the location of Ship Recycling operations within it, is attached.

2 CAPABILITY OF SHIP RECYCLING FACILITY

2.1 Size of ships

The Ship Recycling Facility is authorized to accept a ship for recycling subject to the following size limitations:

Maximum Size		Other Limitations
Length		
Breadth		
Lightweight		

2.2 Safe and Environmentally Sound Management of Hazardous Materials

The Ship Recycling Facility is authorized to accept a ship for recycling that contains Hazardous Materials as specified in the following table subject to the conditions noted below:

Hazardous Material(*4)	Management of Hazardous Materials			Authorization/Limitations
	Removal Y/N (* 2)	Storage Y/N	Process (* 1) Y/N (* 3)	
Asbestos				
Ozone-depleting substances				
Polychlorinated biphenyls (PCB)				
Anti-fouling compounds and systems				
Cadmium and Cadmium Compounds				
Hexavalent Chromium and Hexavalent Chromium Compounds				
Lead and Lead Compounds				
Mercury and Mercury Compounds				
Polybrominated Biphenyl (PBBs)				
Polybrominated Diphenyl Ethers (PBDEs)				
Polychlorinated Naphthalenes (more than 3 chlorine atoms)				
Radioactive substances				
Certain Shortchain Chlorinated Paraffins (Alkanes, C10-C13, chloro)				
Hazardous liquids, residues and sediments				
Paints and coatings that are highly flammable and/or lead to toxic release				
Other Hazardous Materials not listed above and that are not a part of the ship structure (specify)				

- Notes: *1 Process means the processing of Hazardous Materials in the Ship Recycling Facility, such as:
- a. incineration of Hazardous Materials;
 - b. reclamation of Hazardous Materials; and
 - c. treatment of oily residues.
- *2 If Yes (Y), indicate in the Ship Recycling Facility Plan the responsible personnel authorized to carry out the removal, with the certificate number or other relevant information.
- *3 If No (N), describe in the Ship Recycling Plan where the Hazardous Materials are to be processed/disposed.
- *4 These Hazardous Materials are specified in Appendices 1 and 2 and regulation 20 of the Convention.

APPENDIX 6

FORM OF REPORT OF PLANNED START OF SHIP RECYCLING

The
(Name of Ship Recycling Facility)

located at
(Full Ship Recycling Facility address)

Authorized in accordance with the requirements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereinafter referred to as “the Convention”) to conduct Ship Recycling under the authority of the Government of:

.....
(Full designation of country)

as indicated in the Document of Authorization to conduct Ship Recycling issued at

.....
(Place of authorization)

by
(Full designation of the Competent Authority under the Convention)

on (dd/mm/yyyy)
(Date of issue)

Hereby reports that the Ship Recycling Facility is ready in every respect to start the recycling of the vessel
(IMO number)

The International Ready for Recycling Certificate issued under the provisions of the Convention under the authority of the Government of

.....
(Full designation of country)

by
(Full designation of the person or organization authorized under the provisions of the Convention)

on (dd/mm/yyyy)
(Date of issue)

is enclosed.

Signed

APPENDIX 7

FORM OF THE STATEMENT OF COMPLETION OF SHIP RECYCLING

STATEMENT OF COMPLETION OF SHIP RECYCLING

This document is a statement of completion of Ship Recycling for

.....
(Name of the ship when it was received for recycling/at the point of deregistration)

Particulars of the Ship as received for recycling

Distinctive number or letters	
Port of Registry	
Gross tonnage	
IMO number	
Name and address of shipowner	
IMO registered owner identification number	
IMO company identification number	
Date of Construction	

THIS CONFIRMS THAT:

The ship has been recycled in accordance with the Ship Recycling Plan as part of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereinafter referred to as “the Convention”) at

.....
(Name and location of the authorized Ship Recycling Facility)

and the recycling of the ship as required by the Convention was completed on:

(dd/mm/yyyy)
(Date of completion)

Issued at
(Place of issue of the Statement of Completion)

(dd/mm/yyyy)
(Date of issue) (Signature of the owner of the Ship Recycling Facility or
a representative acting on behalf of the owner)

ANNEX 2

RESOLUTION MEPC.196(62)

Adopted on 15 July 2011

2011 GUIDELINES FOR THE DEVELOPMENT OF THE SHIP RECYCLING PLAN

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution,

RECALLING ALSO that the International Conference on the Safe and Environmentally Sound Recycling of Ships held in May 2009 adopted the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the Hong Kong Convention) together with six Conference resolutions,

NOTING that regulation 9 of the Annex to the Hong Kong Convention requires that a ship-specific Ship Recycling Plan shall be developed by the Ship Recycling Facility(ies) prior to any recycling of a ship, taking into account the guidelines developed by the Organization,

BEARING IN MIND that the International Conference on the Safe and Environmentally Sound Recycling of Ships, in its resolution 4, invited the Organization to develop Guidelines for global, uniform and effective implementation and enforcement of the relevant requirements of the Convention as a matter of urgency,

HAVING CONSIDERED, at its sixty-second session, the draft 2011 Guidelines for the development of the ship recycling plan, developed by the Working Group on Guidelines for Ship Recycling,

1. ADOPTS the 2011 Guidelines for the development of the ship recycling plan, as set out in the annex to this resolution;
2. INVITES Governments to bring the Guidelines to the attention of shipowners, ship operators and ship recycling facilities and to encourage their application as soon as possible; and to apply them when the Hong Kong Convention becomes applicable to them; and
3. REQUESTS the Committee to keep the Guidelines under review.

ANNEX

2011 GUIDELINES FOR THE DEVELOPMENT OF THE SHIP RECYCLING PLAN (SRP)

TABLE OF CONTENTS

1	INTRODUCTION
1.1	Objectives of the guidelines
1.2	Approach of the guidelines
2	DEFINITIONS
3	GENERAL
3.1	Review of ship-specific information
3.2	Comparison of ship-specific information with the Ship Recycling Facility Plan (SRFP) and/or Document of Authorization to conduct Ship Recycling (DASR)
4	FRAMEWORK OF SRP
4.1	Pre-arrival elements
4.2	Arrival of ship
4.3	Management of Hazardous Materials
4.4	Safe-for-entry and Safe-for-hot-work procedures
4.5	Dismantling sequence
4.6	Other necessary elements
4.7	Attaching a copy of DASR
5	VERIFICATION OF COMPETENT AUTHORITY APPROVAL
APPENDIX	Sample cover page - Ship Recycling Plan, Summary of information of ship and Ship Recycling Facility

1 INTRODUCTION

1.1 Objectives of the guidelines

These guidelines provide stakeholders, particularly Ship Recycling Facilities, with recommendations for the development of a Ship Recycling Plan (SRP) in accordance with the requirements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereafter referred to as "the Convention").

It should be noted that regulation 9 of the annex to the Convention requires the Ship Recycling Facility to develop a ship-specific SRP, taking these guidelines into account.

These guidelines should be used primarily by Ship Recycling Facilities, taking into account information provided by the shipowner. Competent Authorities and Administrations may also find merit in these guidelines with respect to the approval process and implementation of the Convention.

1.2 Approach of the guidelines

Regulation 9 of the Annex to the Convention requires Ship Recycling Facilities to prepare a ship-specific SRP. These guidelines are separated into two parts: general guidance on information that should be gathered and reviewed by the Ship Recycling Facility in order to develop the SRP (section 3: General) and guidance for the recommended content of a ship-specific SRP (section 4: Framework of SRP).

2 DEFINITIONS

The terms used in these guidelines have the same meaning as those defined in the Convention and in the *Guidelines for Safe and Environmentally Sound Ship Recycling* ("Facility Guidelines"). The following additional definition applies to these guidelines only:

"The ship" means the particular ship which a Ship Recycling Facility is going to recycle, and for which an SRP is required.

3 GENERAL

The Convention requires that the SRP should be explicitly or tacitly approved by the Competent Authority and verified as properly reflecting the information contained in the Inventory of Hazardous Materials (IHM) during the final survey before issuance of an International Ready for Recycling Certificate. Preparation of the SRP should therefore begin well before the ship arrives at the Ship Recycling Facility.

As regards the languages of the SRP, in accordance with regulation 9.2 of the annex to the Convention, the shipowner may ask the Administration whether it is acceptable for the Ship Recycling Facility to use a language other than English, French or Spanish, and convey the decision of the Administration to the Ship Recycling Facility accordingly.

3.1 Review of ship-specific information

For each ship that is to be recycled, the Ship Recycling Facility should, in accordance with regulation 8.4 of the Annex to the Convention, cooperate with the shipowner in order to prepare a SRP that incorporates all relevant information about the ship that may affect its safe and environmentally sound recycling.

The IHM is essential to the Ship Recycling Facility for planning and executing the removal and management of Hazardous Materials. The Ship Recycling Facility should obtain the completed IHM, including Part II and Part III, taking into account possible variations resulting from the ship's subsequent operations.

Examples of ship-specific information that is useful to the Ship Recycling Facility when developing a SRP include finished drawings and final specifications such as: general arrangement, capacity plan, shell expansion plan, fire control plan, trim and stability calculation, and light weight distribution or calculation table. Also the following may provide useful information: midship section, construction profile (including longitudinal sections, deck, inner bottom and deckhouse), longitudinal and transverse bulkhead principal transverse sections, fore and aft construction, superstructures, accommodation plan, hydrostatic curve or table, deck piping system, general arrangement of ventilators and air ducts, painting scheme, joiner works, engine room arrangement (if appropriate) and bilge piping system of pump room, pump room arrangement, engine room piping diagram, ballast piping and cargo piping diagram and manufacturers' finished drawings of major equipment. Such information could be useful in planning the ship recycling sequence in its entirety.

3.2 Comparison of ship-specific information with the Ship Recycling Facility Plan (SRFP) and/or Document of Authorization to conduct Ship Recycling (DASR)

For each ship to be recycled, the ship-specific information obtained from the shipowner should be evaluated in the context of the capabilities and limitations specified in the Ship Recycling Facility Plan (SRFP) and/or Document of Authorization to conduct Ship Recycling (DASR). The SRP will need to address any ship-specific considerations that are not covered in the SRFP or that will require special procedures.

4 FRAMEWORK OF SRP

The responsibility for developing a comprehensive SRP rests with the Ship Recycling Facility, although development of the SRP is a cooperative effort between the Ship Recycling Facility and the shipowner. The Ship Recycling Facility is best placed to understand and describe the methods and procedures that it uses in its recycling operations and it has knowledge of the available facilities and capabilities for the safe and environmentally sound management of all Hazardous Materials and wastes generated during recycling, of the skills and capabilities of its workforce and the availability of local support services, and of the relevant national laws and regulations that apply to the facility and its activities, including the activities which it is approved to perform under its DASR. A sample cover page for the SRP is included in the appendix. The body of the SRP should include a more detailed narrative of the ship-specific recycling elements.

The SRP should describe how the Ship Recycling Facility will recycle the specific ship in a safe and environmentally sound manner, covering the recycling process steps and their sequence over the entire process. Any processes or procedures that deviate from the SRFP and are specific to the ship should be described in detail in the SRP.

Where more than one Ship Recycling Facility is used, SRPs should be prepared separately, in principle, by each of the Facilities involved, according to their respective duties and indicate the order in which the activities will occur.

4.1 Pre-arrival elements

The SRP should include a description of any specific preparatory work that should be carried out. The SRP should clarify whether and to what extent any preparatory work – such as

pre-treatment, identification of potential hazards and removal of stores – will take place at a location other than the Ship Recycling Facility identified in the SRP. The extent to which such preparatory work will be covered in the SRP will depend upon the capability of the authorized Ship Recycling Facility and the scope of the agreement with the shipowner. In the case of a tanker, the ship should arrive at the Ship Recycling Facility with cargo tanks and pump room(s) in a condition that is ready for certification as Safe-for-entry, or Safe-for-hot work, or both.

The Ship Recycling Facility should plan appropriately for the ship's arrival. The SRP should include the location where the ship will be placed during recycling operations and a concise plan for the arrival and safe placement of the specific ship to be recycled.

4.2 Arrival of ship

The SRP should describe the procedures that the Ship Recycling Facility will follow to conduct a walk-through (on-board check) of the vessel in an effort to identify any potential environmental or safety issues. The Ship Recycling Facility should verify whether safe access and egress have been provided for and that the SRP is in place throughout the ship recycling process.

It is recommended that the Ship Recycling Facility should mark the location of the known Hazardous Materials. Any specific items or locations on board whose hazardous characteristics are uncertain should be marked for additional sampling as necessary.

4.3 Management of Hazardous Materials

The SRP should include information on how the type and amount of Hazardous Materials will be managed, as required by regulation 9.3 of the Convention and specify the facility's approach for managing each Hazardous Material. Special attention should be paid to the types and quantities of Hazardous Materials on the ship. If ship-specific conditions require deviation from normal practices for managing Hazardous Materials, the appropriate ship-specific measures should be described in detail in the SRP. In order to avoid confusion, it is recommended that the SRP should use the same nomenclature and identification scheme as those included in the IHM.

The SRP should also contain additional information on the management of Hazardous Materials as required in Appendix 5 of the Convention (also known as the DASR). Specifically, the SRP should describe where the Hazardous Materials are to be processed or disposed of if the operation is not being conducted at the Ship Recycling Facility. The SRP should state that the removal of Hazardous Materials will be undertaken by responsible personnel who are trained and authorized to do so.

4.4 Safe-for-entry and Safe-for-hot-work procedures

Regulation 9 of the Convention requires the SRP to include information concerning the establishment, maintenance and monitoring of Safe-for-entry and Safe-for-hot-work procedures. The Ship Recycling Facility is encouraged to review the Facility Guidelines, as they contain specific technical recommendations to address these important safety issues.

While the SRFP will describe general procedures on how the Ship Recycling Facility will achieve safe atmospheric conditions during the ship recycling process, the SRP should describe in detail how Safe-for-entry and Safe-for-hot-work procedures will be implemented on the specific ship, taking account of such features as its structure, configuration, and previous cargo.

4.5 Dismantling sequence

An important component of the dismantling sequence is the removal of Hazardous Materials to the maximum extent practicable prior to and during cutting activities. Depending on a number of factors, including the age of the ship and the quantity of Hazardous Materials present, it may be impossible to remove all Hazardous Materials prior to the start of cutting activities. The SRP should include a dismantling sequence that is ship-specific and takes into account the cutting operations and locations of Hazardous Materials.

4.6 Other necessary elements

In addition to the elements described above, the SRP should include any ship specific processes and/or procedures that will be necessary to recycle the ship and that are not fully covered in the SRFP. For example, a Ship Recycling Facility may need to use additional workers or subcontractors, or they may need additional equipment to deal with unique aspects of the ship. Such ship-specific processes/procedures may take into account the technical guidance manual to be developed by the Organization.

4.7 Attaching a copy of DASR

The Ship Recycling Facility should attach a copy of the DASR to the SRP.

5 VERIFICATION OF COMPETENT AUTHORITY APPROVAL

Article 16.6 of the Convention stipulates that a State shall declare whether it requires tacit or explicit approval of the SRP before a ship may be recycled. The Ship Recycling Facility should be familiar with the procedures implemented by the Competent Authority for approval of the SRP. The Competent Authority's approval process will, at a minimum, include written acknowledgement of receipt of the SRP and may include further written documentation of approval or denial for the ship-specific recycling. The written acknowledgement and/or documentation of approval should be appended to the SRP immediately upon availability and made available to appropriate authorities and stakeholders as necessary.

APPENDIX

SAMPLE COVER PAGE

**Ship Recycling Plan
Summary of information on ship and Ship Recycling Facility**

This Ship Recycling Plan was developed in accordance with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the Convention).

Ship information

Name of ship	
Distinctive number or letters	
Port of registry	
Gross tonnage	
IMO number	
Name and address of shipowner	
IMO-registered owner identification number	
IMO company identification number	
Telephone number	
E-mail address	

Ship Recycling Facility information

Name of Ship Recycling Facility	
Distinctive Recycling Company identity No.	
Full address of Ship Recycling Facility	
Primary contact person	
Telephone number	
E-mail address	
Name, address and contact information of ownership company	
Working language(s)	

Projected schedule for ship recycling

Date of ship arrival at Ship Recycling Facility	
Date of commencement of ship recycling	
Date of Completion of ship recycling	
Date of completion of sale/disposal of all components	

.....
(Date)

.....
(Signature of Ship Recycling Facility owner/operator)

ANNEX 4

RESOLUTION MEPC.210(63)

Adopted on 2 March 2012

2012 GUIDELINES FOR SAFE AND ENVIRONMENTALLY SOUND SHIP RECYCLING

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by the international conventions for the prevention and control of marine pollution,

RECALLING ALSO that the International Conference on the Safe and Environmentally Sound Recycling of Ships held in May 2009 adopted the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the Hong Kong Convention) together with six Conference resolutions,

NOTING that regulations 17.1 and 19 of the annex to the Hong Kong Convention require that Ship Recycling Facilities shall establish management systems, procedures and techniques which do not pose health risks to the workers or to the population in the vicinity of the Ship Recycling Facility and which will prevent, reduce, minimize and to the extent practicable eliminate adverse effects on the environment caused by Ship Recycling, taking into account guidelines developed by the Organization,

NOTING ALSO that regulation 18 of the annex to the Hong Kong Convention requires that Ship Recycling Facilities shall prepare a Ship Recycling Facility Plan, addressing worker safety and training; protection of human health and the environment; roles and responsibilities of personnel; emergency preparedness and response; and monitoring, reporting and record-keeping systems, taking into account the guidelines developed by the Organization,

NOTING FURTHER that regulations 20.2 and 22 of the annex to the Hong Kong Convention require that Ship Recycling Facilities shall ensure that all Hazardous Materials are identified, labelled, packaged and removed to the maximum extent possible prior to cutting, and shall also ensure that all workers at the Ship Recycling Facility have been provided with appropriate training and familiarization prior to performing any Ship Recycling operation, taking into account the guidelines developed by the Organization,

BEARING IN MIND that the International Conference on the Safe and Environmentally Sound Recycling of Ships, in its resolution 4, invited the Organization to develop Guidelines for global, uniform and effective implementation and enforcement of the relevant requirements of the Convention as a matter of urgency,

HAVING CONSIDERED, at its sixty-third session, the draft 2012 Guidelines for safe and environmentally sound ship recycling developed by the Working Group on Ship Recycling,

1. ADOPTS the 2012 Guidelines for safe and environmentally sound ship recycling, as set out in the annex to this resolution;

2. INVITES Governments to bring the Guidelines to the attention of ship recycling facilities and to encourage their application as soon as possible; and to apply them when the Hong Kong Convention becomes applicable to them; and
3. REQUESTS the Committee to keep the Guidelines under review.

ANNEX

2012 GUIDELINES FOR SAFE AND ENVIRONMENTALLY SOUND SHIP RECYCLING

TABLE OF CONTENTS

1	INTRODUCTION
1.1	Objectives of the guidelines
1.2	Approach of the guidelines
2	DEFINITIONS
3	SHIP RECYCLING FACILITY PLAN (SRFP)
3.1	Facility management
3.1.1	Company information
3.1.2	Training programme
3.1.3	Worker management
3.1.4	Records management
3.2	Facility operation
3.2.1	Facility information
3.2.2	Permits, licences and certification
3.2.3	Acceptability of ships
3.2.4	Ship Recycling Plan (SRP) development
3.2.5	Vessel arrival management
3.2.6	Ship recycling methodology
3.2.7	Reporting upon completion
3.3	Worker safety and health compliance approach
3.3.1	Worker health and safety
3.3.2	Key safety and health personnel
3.3.3	Job hazard assessment
3.3.4	Prevention of adverse effects to human health
3.3.4.1	Safe-for-entry procedures
3.3.4.1.1	Safe-for-entry criteria
3.3.4.1.2	Competent person for Safe-for-entry determination
3.3.4.1.3	Safe-for-entry inspection and testing procedures
3.3.4.1.4	Oxygen
3.3.4.1.5	Flammable atmospheres
3.3.4.1.6	Toxic, corrosive, irritant or fumigated atmospheres and residues
3.3.4.1.7	Safe-for-entry determination by a Competent person
3.3.4.1.8	Safe-for-entry certificate, warning signs and labels
3.3.4.1.9	Safe-for-entry operational measures

- 3.3.4.2 Safe-for-hot-work procedures
 - 3.3.4.2.1 Safe-for-hot-work criteria
 - 3.3.4.2.2 Competent person for Safe-for-hot-work determination
 - 3.3.4.2.3 Safe-for-hot-work inspection, testing and determination
 - 3.3.4.2.4 Safe-for-hot-work certificate, warning signs and labels
 - 3.3.4.2.5 Safe-for-hot-work operational measures
 - 3.3.4.3 Welding, cutting, grinding and heating
 - 3.3.4.4 Drums, containers and pressure vessels
 - 3.3.4.5 Prevention of falling from heights and accidents caused by falling objects
 - 3.3.4.6 Gear and equipment for rigging and materials handling
 - 3.3.4.7 Housekeeping and illumination
 - 3.3.4.8 Maintenance and decontamination of tools and equipment
 - 3.3.4.9 Health and sanitation
 - 3.3.4.10 Personal protective equipment
 - 3.3.4.11 Worker exposure and medical monitoring
 - 3.3.5 Emergency preparedness and response plan (EPRP)
 - 3.3.6 Fire and explosion prevention, detection and response
- 3.4 Environmental compliance approach
- 3.4.1 Environmental monitoring
 - 3.4.2 Management of Hazardous Materials
 - 3.4.2.1 Potentially containing Hazardous Materials
 - 3.4.2.2 Additional sampling and analysis
 - 3.4.2.3 Identification, marking and labelling and potential on-board locations
 - 3.4.2.4 Removal, handling and remediation
 - 3.4.2.5 Storage and labelling after removal
 - 3.4.2.6 Treatment, transportation and disposal
 - 3.4.3 Environmentally sound management of Hazardous Materials
 - 3.4.3.1 Asbestos and materials containing asbestos
 - 3.4.3.2 PCBs and materials containing PCBs
 - 3.4.3.3 Ozone-depleting substances (ODSs)
 - 3.4.3.4 Paints and coatings
 - 3.4.3.4.1 Anti-fouling compounds and systems (organotin compounds including tributyltin (TBT))
 - 3.4.3.4.2 Toxic and highly flammable paints
 - 3.4.3.5 Hazardous liquids, residues and sediments (such as oils, bilge and ballast water)
 - 3.4.3.6 Heavy metals (lead, mercury, cadmium and hexavalent chromium)
 - 3.4.3.7 Other Hazardous Materials
 - 3.4.4 Prevention of adverse effects to the environment
 - 3.4.4.1 Spill prevention, control and countermeasures
 - 3.4.4.2 Storm-water pollution prevention
 - 3.4.4.3 Debris prevention and control
 - 3.4.4.4 Incident and spills reporting procedures

APPENDIX 1	Recommended format of the Ship Recycling Facility Plan
APPENDIX 2	Example format of Facility information in SRFP
APPENDIX 3	Ship recycling process from preparation to completion
APPENDIX 4	Relevant instruments of the International Labour Organization (ILO)
APPENDIX 5	Relevant instruments and reference materials of the United Nations Environment Programme (UNEP) and others
APPENDIX 6	Materials found on board ships that the ship recycling facility should be prepared to handle (included in Part III of the Inventory of Hazardous Materials)

1 INTRODUCTION

1.1 Objectives of the guidelines

These guidelines provide stakeholders, particularly Ship Recycling Facilities, with recommendations for the safe and environmentally sound recycling of ships and implementation of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (hereafter "the Convention").

It should be noted that article 6 and regulations 9 and 17 to 25 of the annex to the Convention provide requirements for Ship Recycling Facilities and require these guidelines to be taken into account.

These guidelines should be used primarily by Ship Recycling Facilities, but other stakeholders such as the Competent Authority(ies) and the organizations recognized by it may also find them useful in implementing the Convention.

1.2 Approach of the guidelines

Article 6 of the Convention requires the authorization of Ship Recycling Facilities that recycle ships to which the Convention applies or ships treated similarly pursuant to article 3.4 of the Convention. Regulation 18 specifies that such authorized Ship Recycling Facilities shall develop a comprehensive Ship Recycling Facility Plan (SRFP) that, among others, should cover worker safety and training, protection of human health and the environment, roles and responsibilities of personnel, emergency preparedness and response and systems for monitoring, reporting and record-keeping.

These guidelines describe the recommended content of the SRFP, and information is provided where appropriate to illustrate the performance standards anticipated by specific regulations of the Convention.

2 DEFINITIONS

The terms used in these guidelines have the same meaning as those defined in the Convention. The following additional definitions apply to these guidelines only.

2.1 "Adjacent space" means those spaces bordering a space in all directions, including all points of contact, corners, diagonals, decks, tank tops and bulkheads.

2.2 "Dangerous atmosphere" means an atmosphere that may expose workers to the risk of death, incapacitation, impairment of ability to self-rescue (i.e. to escape unaided from a space), injury or acute illness.

2.3 "Enclosed space" means a space that has any of the following characteristics:

- .1 limited openings for entry and exit;
- .2 inadequate ventilation; and/or
- .3 is not designed for continuous worker occupancy.

Enclosed spaces include, but are not limited to, cargo spaces, double bottoms, fuel tanks, ballast tanks, cargo pump-rooms, cargo compressor rooms, cofferdams, void spaces, duct keels, inter-barrier spaces, boilers, engine crankcases, engine scavenge air receivers, sewage tanks and adjacent connected spaces.

2.4 "Entry" means the action by which a person passes through an opening into a space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

2.5 "Hot work" means any activity requiring the use of electric arc or gas welding equipment, cutting burner equipment or other forms of flame, as well as heating or spark-generating tools, regardless of where it is carried out on board a ship.

2.6 "Space" means a permanent or temporary three-dimensional structure or compartment on a ship such as, but not limited to, cargo tanks or holds; pump or engine rooms; storage lockers; tanks containing flammable or combustible liquids, gases, or solids; other rooms; crawl spaces; tunnels (i.e. shaft alleys); or access ways. The atmosphere within a space is the entire volume within its bounds.

3 SHIP RECYCLING FACILITY PLAN (SRFP)

The Ship Recycling Facility Plan (SRFP) shall be adopted by the board or appropriate governing body of the Recycling Company. The SRFP is the main document that the Competent Authority(ies), or organization recognized by it, will rely on in authorizing a Ship Recycling Facility. Site inspections are to be utilized to verify that Facility operations conform to the description in the SRFP. It is therefore critical that the SRFP should fully describe the operations and procedures that are in place at the Ship Recycling Facility to ensure compliance with the Convention.

The SRFP should demonstrate knowledge and understanding of all applicable statutory and regulatory requirements and a strong commitment to worker health and safety and protection of the environment. The SRFP should also describe the operational processes and procedures involved in ship recycling at the Ship Recycling Facility, demonstrating how the requirements of the Convention will be met. The recommended format for the SRFP is included in appendix 1.

3.1 Facility management

The SRFP should provide information regarding the organizational structure and management policies of the Recycling Company, an overview of the Ship Recycling Facility, and methodologies related to ship recycling. The SRFP should provide sufficient detail to demonstrate a thorough understanding of production processes and project management associated with ship recycling, and should demonstrate that the Ship Recycling Facility uses valid and practical solutions to the technical problems inherent in ship recycling.

The SRFP should anticipate alterations to recycling operational processes as a result of the discovery of previously unknown factors or items during ship recycling. Procedures should be established for identifying and dealing with previously unknown features. In addition, the decision-making process should lead to an approach that will ensure protection of the safety and health of workers and the environment.

3.1.1 Company information

The SRFP should provide detailed information on:

- .1 the operator of the Ship Recycling Facility, including the organizational structure and a detailed summary of the operator's experience relevant to ship recycling;
- .2 the name of the land or Facility owner, if different to the operator;
- .3 the roles, responsibilities and qualifications of management personnel;
- .4 the roles and responsibilities of the key personnel at the Ship Recycling Facility (key personnel should have the appropriate skills and experience for the intended job functions. The Ship Recycling Facility should have a dedicated environmental, safety and health manager and a person trained in first aid or medical care);
- .5 the Ship Recycling Facility's environmental, occupational safety and health management systems, including application of any formally recognized international standards for an environmental management system (e.g. ISO14001) and occupational safety and health management systems (e.g. OHSAS18001), and any certification awarded, as applicable;
- .6 the policy statement on the Facility's commitment to protection of the environment and occupational safety and health, including the objectives set by the Facility for the minimization and ultimate elimination of adverse effects on human health and the environment caused by ship recycling;
- .7 the methodologies used for ensuring compliance with the applicable statutory and regulatory requirements; and
- .8 the system by which the objectives and goals set out in the policy of the Recycling Company and the continuous improvement of the performance of the Facility are to be achieved.

The Ship Recycling Facility's environmental and occupational safety and health management programme, policies and objectives should be communicated to and understood by all personnel working at the Facility.

3.1.2 Training programme

Regulation 22 of the Convention specifies that the Ship Recycling Facility shall ensure that training programmes are provided. The SRFP should provide detailed information on the general workforce and job functions and on training procedures to ensure the appropriate level of worker safety and environmental protection. The training programmes should cover all workers and members of the Ship Recycling Facility, including contractor personnel and employees (regulation 22.3.1), and should identify the type and frequency of training. The training programme shall be reviewed periodically and modified as necessary (regulation 22.3.5).

The training programme should enable workers to safely undertake all operations that they are tasked to do and ensure that all workers at the Ship Recycling Facility have been provided with the appropriate training prior to performing any ship recycling operation.

The programme should include appropriate training for tasks and operations performed by the employees including, but not limited to, the following:

- .1 awareness and communication of information about Hazardous Materials;
- .2 job hazard awareness, including handling and management of Hazardous Materials;
- .3 personal protective equipment;
- .4 fire protection and prevention;
- .5 emergency response and evacuation;
- .6 safety and health training;
- .7 environmental awareness; and
- .8 first-aid awareness.

3.1.3 Worker management

The SRFP should include specific information on worker responsibilities, including qualifications, training and monitoring responsibilities.

3.1.4 Records management

The SRFP should outline the policies and procedures for retaining vital records associated with Facility operations and, specifically, the recycling of each ship. The retention of records should include, but not be limited to, laboratory analytical results, manifests, shipping documents, truck receipts, waste shipment records, records of training and exercises/drills, worker accidents, injuries and medical or health records such as occupational health examinations carried out and occupational diseases contracted, and a description of any national requirements for records management and retention. If national requirements do not specify a time period, it is recommended that records should be kept for five years.

3.2 Facility operation

The SRFP should demonstrate an understanding of the regulations, production processes, project management and other requirements associated with performing recycling operations in accordance with applicable laws and regulations, and demonstrate how the Ship Recycling Facility plans to prevent adverse effects to human health and the environment (regulation 19).

3.2.1 Facility information

The SRFP should provide a clear and concise description of the physical location of the Facility, including acreage and Facility access routes. A detailed Ship Recycling Facility drawing or map should be included, with information regarding the area where recycling will occur. The SRFP should include a clear and concise description of the pertinent details of the Ship Recycling Facility, such as Facility layout, water depth, accessibility, maintenance and dredging.

The SRFP should include a clear and concise description of the total estimated ship recycling capacity, the production throughput/capacity of recyclables including steel and engineering features for material segregation and processing. Temporary and permanent buildings such as offices, workers' complex, drinking water supply, sanitation, medical and first-aid facilities, gas storage and Hazardous Materials storage and processing facilities should be identified, as should the floor construction, other structures, roadways and emergency access routes.

The SRFP should include a clear and concise description of the pertinent details of the principle operational equipment in use at the Ship Recycling Facility. It is recommended that this should include the quantity, capacity and type of such equipment and other pertinent information such as test certificates, safe working loads and qualifications of operators, in relation to worker safety and protection of the environment.

An example of Facility information is given in appendix 2, which also covers the guidance contained in section 3.2.2 ("Permits, licences and certification").

3.2.2 Permits, licences and certification

The SRFP should document the procedures in place to ensure that the Ship Recycling Facility is operated and maintained in a manner that complies with all applicable laws and regulations.

The SRFP should include information on site-specific permits, licences, and/or certificates that are in effect or obtained prior to the start of ship recycling, including any lease or authorization from a landowner, port or other entity granting authorization to use the Facility for ship recycling purposes.

The SRFP should include procedures to ensure the appropriate level of certification and/or verification in order that all subcontractors (including those involved in handling, transport, treatment, storage and disposal) hold valid permits, registrations and/or certificates, as applicable.

The use of subcontractors for any part of the process of working with or managing Hazardous Materials in the Ship Recycling Facility does not relieve the Ship Recycling Facility of its responsibilities. In all matters covered by these guidelines, the Ship Recycling Facility should ensure and maintain records to document safe and environmentally sound management by subcontractors.

3.2.3 Acceptability of ships

The Convention contains requirements for the acceptance of ships for recycling. The SRFP should describe the processes and procedures to be implemented before the ship arrives at the Ship Recycling Facility for recycling.

When preparing to receive a ship for recycling, the first step shall be to notify the Competent Authority(ies) of the intent (see regulation 24.2). When the ship destined to be recycled has acquired the International Ready for Recycling Certificate, the Ship Recycling Facility shall report to its Competent Authority(ies) the planned start date of the ship recycling, using the reporting format in appendix 6 of the Convention. The procedures to be followed by stakeholders from the recycling preparation phase to the completion of recycling, as required by the Convention, are illustrated in appendix 3 of these guidelines.

3.2.4 Ship Recycling Plan (SRP) development

Under regulation 9 of the Convention, a ship-specific Ship Recycling Plan (SRP) shall be developed by the Ship Recycling Facility before any recycling of a ship can take place. The operational processes that are indicated in the SRFP can be used to prepare the SRP. The Convention requires that the SRP should be approved, in accordance with regulation 9, prior to issuance of an International Ready for Recycling Certificate. The SRFP should describe the process for developing a SRP, taking into account the *Guidelines for the Development of the Ship Recycling Plan (SRP)*.

3.2.5 Vessel arrival management

The SRFP should describe the procedures to be implemented to secure vessels upon arrival at the Ship Recycling Facility, including provisions for mooring, heavy and/or severe weather contingencies, afloat monitoring, stability during recycling and flooding and/or sinking prevention methods. Provisions may be different depending on the ship recycling method.

3.2.6 Ship recycling methodology

The SRFP should provide a comprehensive description of the Ship Recycling Facility's ship recycling methodology, covering the entire process of recycling a vessel including management of Hazardous Materials and wastes and a description of the methodology and procedures for identifying and segregating materials. The SRFP should also include a detailed description of how recycled materials, reusable items and wastes are handled and/or disposed of in a safe and environmentally sound manner.

The SRFP should include procedures for conducting assessments of the hazards associated with the safe and environmentally sound recycling of ships and should identify the subsequent process for minimizing and eliminating any such hazards.

Where materials or wastes are removed from the Ship Recycling Facility for further processing and/or disposal, the SRFP should provide details of the procedures that will be used to ensure that they are transferred only to a facility that is authorized to deal with their treatment and/or disposal in an environmentally sound manner.

3.2.7 Reporting upon completion

Regulation 25 of the Convention contains requirements for reporting upon completion. The SRFP should describe the procedures in place for such reporting, including how the Ship Recycling Facility will document and report any incidents and accidents.

3.3 Worker safety and health compliance approach

3.3.1 Worker health and safety

In this section of the SRFP, the Ship Recycling Facility should provide a comprehensive description of the Facility's plans and procedures for protecting worker health and safety and should reflect applicable requirements of the Convention (particularly regulations 19 and 21 to 23) and national legislation. The Ship Recycling Facility should also take into account, as appropriate, guidelines developed by international organizations. A reference list of these guidelines is provided in appendix 4. The SRFP should identify and demonstrate the Ship Recycling Facility's knowledge and understanding of applicable worker safety and occupational health processes, procedures, laws, regulations and guidance. Further, the SRFP should demonstrate that the safety and health programme supports the activities necessary for environmental compliance and for recycling and disposal at the Ship Recycling Facility.

3.3.2 Key safety and health personnel

The SRFP should identify one or more key personnel who possess the level of training and experience necessary to effectively ensure that safe conditions are maintained during operations at the Ship Recycling Facility, including one or more Competent persons for the performance of specific work. Depending upon the size of the Ship Recycling Facility and the number of workers, the SRFP could include a hierarchy of safety and health management staff, including an overall manager, supervisory staff and general workers.

3.3.3 Job hazard assessment

The SRFP should include the procedures to be implemented to conduct a job-hazard assessment to determine the proper approach to maximizing worker safety. Responsibility for job hazard assessments should be assigned to a Competent person for the specific hazards of each job. It is recommended that the assessments should be conducted by a team of personnel including the Competent person, a representative of management and workers with the appropriate level of expertise.

3.3.4 Prevention of adverse effects to human health

Regulation 19 of the Convention specifies that the Ship Recycling Facility shall establish and utilize procedures to prevent explosions by ensuring that Safe-for-hot-work and Safe-for-entry conditions are established and maintained throughout the ship recycling process; to prevent other accidents that cause or have the potential to cause damage to human health; and to prevent spills of cargo residues and other materials which may cause harm to human health and/or the environment. Since these are among the more critical aspects for the safe operation of Ship Recycling Facilities, it is important that the SRFP clearly demonstrates that it has procedures in place to prevent workplace accidents and injuries. The guidelines below outline the key considerations that should be included in the SRFP.

3.3.4.1 Safe-for-entry procedures

Throughout the entire recycling process, the Ship Recycling Facility should ensure that, prior to entry and during work, enclosed spaces and other areas where the atmosphere is dangerous are monitored to ensure that they remain Safe-for-entry and safe for continued activity. The Ship Recycling Facility should ensure that shipboard spaces are not entered until a Safe-for-entry certificate has been issued by a Competent person. A Competent person should visually inspect and test each space on the ship to determine the areas which are safe for entry before issuing a certificate and before recycling activities are commenced.

Safe-for-entry certification, inspection and testing should be conducted in all spaces that have the potential to pose harm to human health as a result of the space's oxygen content, flammability or atmospheric toxicity, with particular attention paid to enclosed spaces and to spaces and adjacent spaces where hot work has been or will be performed during the course of the daily recycling work.

Designation as "Safe-for-entry" is not sufficient for hot work, as additional criteria should be met to address safety issues related to hot work.

3.3.4.1.1 Safe-for-entry criteria

For entry purposes, steady readings of all the following should be obtained:

- .1 the oxygen content of the atmosphere is 21 per cent by volume, measured using an oxygen content meter (Note: National requirements may determine a safe atmosphere range);
- .2 where the preliminary assessment has determined that there is potential for flammable gases or vapours, the concentration of those gases or vapours is not higher than 1 per cent of their lower flammable limit (LFL), measured using a suitably sensitive combustible gas indicator; and
- .3 the concentration of any toxic vapours and gases is not higher than 50 per cent of their occupational exposure limit (OEL)¹.

If these conditions cannot be met, the space should be ventilated further and retested after a suitable interval.

3.3.4.1.2 Competent person for Safe-for-entry determination

Regulation 1 of the Convention defines "Competent person". The Competent Authority should define the appropriate criteria for designation of a Competent person. However, the Competent person(s) for Safe-for-entry and/or Safe-for-hot-work determination should be able to determine oxygen content, concentration of flammable vapours and gases and the presence of toxic, corrosive, irritant or fumigated atmospheres and residues. The Competent person should possess sufficient knowledge and practical experience to make an informed assessment based on the structure, location and designation of spaces where work is done. The Competent person should possess the ability to inspect, test and evaluate spaces to determine the need for further testing. The Competent person should also monitor the maintenance of appropriate conditions in spaces.

3.3.4.1.3 Safe-for-entry inspection and testing procedures

Designation as "Safe-for-entry" is not sufficient for hot work, as additional criteria must be met to address safety issues related to hot work. Testing should be carried out by a Competent person using appropriate and properly certified and calibrated equipment, including, but not limited to, an oxygen content meter, combustible gas indicator, toxicity meter and gas or vapour detection equipment.

3.3.4.1.4 Oxygen

The Ship Recycling Facility should ensure that spaces are tested by a Competent person to determine the atmosphere's oxygen content prior to initial entry into the space by workers, and also that the space is periodically monitored and recorded for as long as it is occupied. Spaces that warrant particular consideration include the following:

- spaces that have been sealed;

¹ It should be noted that the term occupational exposure limit (OEL) includes the permissible exposure limit (PEL), maximum allowable concentration (MAC) and threshold limit value (TLV), or any other internationally recognized terms.

- spaces and adjacent spaces that contain or have recently contained combustible or flammable liquids or gases;
- spaces and adjacent spaces that contain or have recently contained liquids, gases or solids that are toxic, corrosive, or irritant;
- spaces and adjacent spaces that have been fumigated; and
- spaces containing materials or residues of materials that create an oxygen-deficient atmosphere.

A worker should only enter a space where the oxygen content, by volume, has the value noted in 3.3.4.1.1. In such a case, the space should be labelled "Safe-for-entry". If an oxygen-deficient or oxygen-enriched atmosphere is found, ventilation should be provided at volumes and flow rates sufficient to ensure that the oxygen content is maintained at the value noted in 3.3.4.1.1. The label may be reattached when the oxygen content returns to the value noted in 3.3.4.1.1, and after it has been tested and inspected by the Competent person.

3.3.4.1.5 Flammable atmospheres

The Ship Recycling Facility should ensure that spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases are visually inspected and tested by the Competent person prior to entry by workers, and that they are periodically monitored and the results recorded throughout the time that the spaces are occupied.

If the concentration of flammable vapours or gases in the space to be entered is equal to or greater than 1 per cent of the lower flammable limit, then no one should enter the space and the label "Safe-for-entry" should be removed. Ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapours is maintained below 1 per cent of the lower flammable limit. The label may be reattached when the concentration of flammable vapours falls below 1 per cent of the lower flammable limit and after it has been tested and inspected by the Competent person.

3.3.4.1.6 Toxic, corrosive, irritant or fumigated atmospheres and residues

The Ship Recycling Facility should ensure that spaces or adjacent spaces that contain or have contained liquids, gases or solids that are toxic, corrosive or irritant are visually inspected and tested by a Competent person prior to initial entry by workers.

If a space contains an air concentration of a material which exceeds 50 per cent of their OEL, then no one should enter the space and it should not be labelled "Safe-for-entry". Ventilation should be provided at volumes and flow rates sufficient to ensure that air concentrations are maintained below 50 per cent of their OEL. The label may be reattached when the concentration of contaminants is maintained below 50 per cent of their OEL and after it has been tested and inspected by the Competent person.

3.3.4.1.7 Safe-for-entry determination by a Competent person

A Competent person should visually inspect and test each space certified as "Safe-for-entry" as often as necessary to ensure that atmospheric conditions within that space are maintained within the conditions established by the certificate. However, at a minimum, the space should be inspected and tested at least once in an eight-hour shift period. The results of these tests should be recorded on the Safe-for-entry certificate.

When a change occurs that could alter conditions within a tested enclosed space or other dangerous atmosphere, work in the affected space or area should be stopped. Work may not be resumed until the affected space or area is visually inspected and retested by the Competent person and found to comply with the certification. It is recommended that the space should be ventilated and the atmospheric conditions returned to the acceptable limits after a space has been found to exceed limits.

If the Competent person has initially determined that a space is safe for an employee to enter and they subsequently find that the conditions within the tested space fail to meet the requirements, work should be stopped until the conditions in the tested space are corrected to comply with the certification requirements. If it is safe to do so, the Competent person may be asked to investigate the reason for the space's non-compliance and to ensure that the remedial action to be taken will prevent a reoccurrence.

3.3.4.1.8 Safe-for-entry certificate, warning signs and labels

Any determination of a space as "Safe-for-entry" should be accompanied by a certificate which, at a minimum, should clearly indicate the following information:

- name and title of the Competent person performing the test(s) and inspection(s);
- signature of the above person;
- name of vessel and location;
- the areas of the ship that are Safe-for-entry;
- date and time of the inspection;
- location of inspected spaces;
- tests performed;
- type of equipment used in testing;
- test results;
- period of retesting of the spaces;
- results of periodic retesting undertaken;
- conditions when the Competent person should be recalled or conditions that void the certificate;
- safety designation(s) ("Safe-for-entry", "Not Safe-for-entry");
- validity period and expiration date of the certificate, recommended to be a maximum of 24 hours, with periodic retesting intervals not exceeding eight hours;
- type of ventilation; and
- any additional relevant information or instructions.

Safe-for-entry certificates should be posted at every access point between ashore and the ship. A record of inspection of atmospheric tests should be appended to the certificate.

The certificate and/or the spaces themselves should be clearly marked and presented in a manner that can be seen and understood by all workers in the working language of the yard and, if possible, with pictorial representations.

If an entire work area has been tested and labelled with the proper signage (for example, as being "Safe-for-entry") at all points of access to the work area, an individual tank or other space located within the work area need not be labelled separately.

The certificate, updates and any other records should be kept on file for a period of at least three months from the completion date of the specific job for which they were generated.

If a space at any time ceases to meet the Safe-for-entry criteria, the label "Safe-for-entry" should be removed.

3.3.4.1.9 Safe-for-entry operational measures

In addition to ensuring certification as "Safe-for-entry", the following operational measures should also be observed:

- no person may open or enter an enclosed space unless authorized by the Competent person of the Ship Recycling Facility and unless the appropriate safety procedures have been followed;
- a permit for entry has been issued for those intended to enter the space by the same individual(s) who is/are responsible for maintaining the certificate on behalf of the Ship Recycling Facility, confirming that all certification processes and operational measures for safe entry have been completed and are in effect;
- the space is properly illuminated;
- there is appropriate access and egress to the space and the working area in the enclosed space is suitable for the work that is being considered, specifically for heavy, large or complex lifting operations;
- a suitable system of communication between all parties for use during entry is agreed upon, tested and used;
- the space is adequately isolated from gases, liquids or other identified hazardous substances that could inadvertently be released into the space in which work is being undertaken;
- a fully-trained supervisor, who may be in charge of one or more work teams, has oversight of the area and frequently monitors the conditions to which the workers are exposed;
- the style of ventilation equipment is such that no ignition sources are introduced into a hazardous space;
- the ventilation provided for the space is adequate for the work to be undertaken and for any diurnal variation in environmental conditions that may be experienced in hot or humid regions;
- the ventilation system is designed to prevent the persistence of gas pockets within tanks/spaces – owing either to the complex structure of the tank/space or to the fact that the gas pockets are heavier than air vapours in the tank – which may be achieved by suction/evacuation style ventilation rather than blower ventilation;

- in the event of ventilation system failure, some means of alert is provided so that any persons in the space can leave immediately;
- appropriate rescue and fire control plans are in place;
- appropriate personal protective equipment (PPE), protective clothing and safety equipment (including harnesses and lifelines) are provided to the workers, and used during entry to and work in the designated spaces; and
- adequate and functioning rescue and resuscitation equipment has been provided and is positioned ready for use at the entrance of the space.

If the fire alarm is activated, the space should be evacuated until the all-clear for re-entry is given by the Competent person.

3.3.4.2 Safe-for-hot-work procedures

The Ship Recycling Facility should ensure that no hot work commences on a ship unless the area is deemed "Safe-for-hot-work".

Safe-for-hot-work certification, inspection and testing apply to all of the following:

- enclosed spaces and all other spaces enclosed by bulkheads and decks (including cargo holds, tanks, quarters, and machinery and boiler spaces) that potentially contain dangerous atmospheres;
- within, on, or immediately adjacent to spaces that contain or have contained combustible or flammable liquids or gases;
- within, on, or immediately adjacent to fuel tanks that contain or have last contained fuel;
- on pipelines, heating coils, pump fittings or other accessories connected to spaces that contain or have last contained fuel; and
- bilges, cargo holds, engine room spaces and boiler spaces not containing dangerous atmospheres.

The Ship Recycling Facility should ensure that no hot work commences in any of these spaces until Safe-for-hot-work certification has been issued by a Competent person; these inspections and tests should be entered on the record of inspection and testing and posted in a conspicuous place on board. A Competent person should visually inspect and test each space on the ship to determine the areas which are deemed "Safe-for-hot-work" before a certificate is issued and before recycling activities commence.

3.3.4.2.1 Safe-for-hot-work criteria

A space that is "Safe-for-hot-work" is one that meets all the Safe-for-entry criteria and also the following criteria:

- any residues or materials in the space are not capable of producing an oxygen-enriched or oxygen-deficient environment, and are not capable of generating flammable or explosive vapours;

- all adjacent spaces have been cleaned, rendered inert or sufficiently treated to prevent the risk of explosion, the release of noxious or toxic fumes or gases and the spread of fire; and
- work in adjacent spaces is not affected by the hot work, such as tank entry, lifting operations or deconstruction by hand.

3.3.4.2.2 Competent person for Safe-for-hot-work determination

A Competent person for matters related to Safe-for-hot-work determination should meet the criteria identified in 3.3.4.1 and possess the additional knowledge and skills required to handle hot work activities.

3.3.4.2.3 Safe-for-hot-work inspection, testing and determination

Each space should be certified by a Competent person as "Safe-for-hot-work" as often as necessary to ensure that conditions within that space are maintained as established by the certificate. The frequency with which a space should be monitored to determine whether conditions are being maintained is a function of the following, but should in any event not exceed an eight-hour shift period:

- temperature: any changes in temperature in the space could result in a change in its atmospheric conditions, and hotter days can cause residues to produce more vapours, resulting in a greater risk of flammable or explosive conditions;
- work in the space: activity in the space can change its atmospheric conditions; gas leaks from a hose or torch or manual tank cleaning by scraping or using hand-held high-pressure spray devices can stir up residues, which can result in a greater risk of flammable or explosive conditions;
- period of elapsed time: if a sufficient period of time (not to exceed 24 hours) has elapsed since Safe-for-hot-work certificate was issued, the condition of the space should be retested prior to entry and commencement of work;
- unattended spaces: a tank or space that has been certified as "Safe-for-hot-work" then subsequently left unattended for a sufficient period of time should be retested prior to entry and commencement of work;
- work break: tanks or spaces should be checked for equipment left behind when workers take a break or leave at the end of the shift, and the condition of the tank or space should be retested prior to entry and resumption of work; and
- ballasting or trimming: changing the position of the ballast or moving or trimming the ship in any way can produce a change in the atmosphere of the spaces; the condition of the spaces should be retested prior to entry and resumption of work.

3.3.4.2.4 Safe-for-hot-work certificate, warning signs and labels

Any determination of a space as "Safe-for-hot-work" should be accompanied by a certificate which, at a minimum, should include the information identified in section 3.3.4.1.8 ("Safe-for-entry certificate, warning signs and labels"). Warning signs and labels should be posted in the manner described in section 3.3.4.1.8 for Safe-for-entry determination, clearly indicating that the space is "Safe-for-hot-work".

3.3.4.2.5 Safe-for-hot-work operational measures

In addition to the measures identified in section 3.3.4.1.9 ("Safe-for-entry operational measures"), the following should also be applied in order to achieve certification as "Safe-for-hot-work":

- each area where hot work is to be performed should be carefully prepared and isolated before hot work commences;
- all trash, debris, oil residues or other materials that could generate flammable or explosive vapours should be removed from the space prior to commencing hot work. The space and adjacent spaces should be kept free of any trash, debris, oil residues or other materials that could result in a risk of flammable or explosive conditions;
- drums and similar small containers which have contained flammable substances should, before they are cut, be either filled with water or thoroughly cleaned of such substances;
- deck tanks should be appropriately cleaned, gas freed and certified as Safe-for-entry and tested for hot work as described in the general sections (see sections 3.3.4.1 and 3.3.4.2). A suitable supply of fresh air should be maintained, given that oxygen from the atmosphere may be removed in the combustion process. The tanks should be isolated and tested in accordance with the guidance given in these guidelines. Particular attention should be paid to access and egress and to the unique challenges presented by these spaces regarding tank rescue in an emergency situation;
- fixed cargo or fuel tanks should be cleaned and ventilated before any work commences and after having been passed as "Safe-for-entry" and "Safe-for-hot-work". Cleaning should be sufficient to remove any hazardous liquids, light solids and clinkage to allow the tank to be gas freed. Complex structures may require additional preparation before being certified as "Safe-for-hot-work". The need for localized manual cleaning should be considered. Ventilation should allow an adequate flow of air to all parts of the space to prevent a build-up of gases either from the hot work or from the tank coatings;
- ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapours is maintained below 1 per cent of the lower flammable limit;
- general mechanical ventilation should be of sufficient capacity and so arranged as to produce sufficient air changes to maintain safe levels of welding fumes and smoke; and
- the Ship Recycling Facility's fire safety procedures should be followed.

3.3.4.3 Welding, cutting, grinding and heating

The SRFP should include procedures for ventilation, personnel monitoring for heavy-metals exposure, protection of personnel, training, respiratory protection, torch cutting, permits and inspections (including hot-work certification). The SRFP should include procedures for transporting, moving, securing, storing and using hoses and torches.

3.3.4.4 Drums, containers and pressure vessels

The SRFP should include procedures for handling, transporting and storing pressure vessels containing flammable gases, such as acetylene (C₂H₂), propane gas (C₃H₈) or oxygen (O₂) for welding, heating and cutting works, in order to avoid any human injuries, caused by external forces, shock or heat to such vessels.

Procedures for removing pressure vessels containing carbon dioxide (CO₂), nitrogen (N₂) and other ozone-depleting substances used in fire-fighting and refrigeration systems should also be included.

Procedures for transporting and storing drums and containers containing hazardous liquids, using appropriate PPEs, should also be described in the SRFP.

3.3.4.5 Prevention of falling from heights and accidents caused by falling objects

The SRFP should include procedures for using personal flotation devices, guarding deck openings, deck edges and platforms, utilizing personal fall arrest systems and guard rails and ensuring safe access to ships to prevent slip-and-fall accidents and the dropping and scattering of objects.

3.3.4.6 Gear and equipment for rigging and materials handling

The SRFP should include procedures for testing and inspecting ropes, chains, slings, hooks, chain-falls and hoisting and hauling equipment. It should further include a description of operations using cranes, machines, mobile equipment and aerial and man-lift systems and a list of qualifications required for the operators.

3.3.4.7 Housekeeping and illumination

The SRFP should include procedures for work areas, such as aisles, passageways and temporary deck openings.

3.3.4.8 Maintenance and decontamination of tools and equipment

The SRFP should include procedures for inspection and maintenance of equipment, regulatory requirements for third-party inspections and decontamination procedures. These activities and the result of the inspections should be recorded.

The Ship Recycling Facility should ensure that the quantity and the deployment of tools and equipment are suitable for the corresponding recycling activities, especially when a number of ships are to be recycled at the same time.

3.3.4.9 Health and sanitation

The SRFP should include a description of washing facilities, showers, eating and recreation areas, toilet facilities and changing rooms. It is recommended that appropriate changing rooms and sanitary and washing facilities should be provided by the Ship Recycling Facility to control exposure and avoid the spread of Hazardous Materials. Sanitary and washing facilities should be conveniently accessible and situated so that they are not at risk of contamination from the workplace. Separate and appropriate changing rooms and sanitary and washing facilities should be provided for exclusive use by workers handling asbestos. It is also recommended that the Ship Recycling Facility should designate separate and uncontaminated areas for workers to use for eating, drinking and other breaks.

3.3.4.10 Personal protective equipment

The SRFP should include information on procedures and equipment used for the protection of employees from various risks associated with ship recycling.

Respiratory protection and hearing conservation programmes should be developed for all employees who could be exposed to excessive levels. The SRFP should describe how the programmes are in compliance with national regulations. In the absence of domestic law, the Ship Recycling Facility should utilize best industry practices to provide effective respiratory protection and hearing conservation programmes.

3.3.4.11 Worker exposure and medical monitoring

The SRFP should include procedures to be used for monitoring exposure and for medical surveillance.

3.3.5 Emergency preparedness and response plan (EPRP)

Regulations 18.5 and 21 of the Convention specify that Ship Recycling Facilities shall establish and maintain an emergency preparedness and response plan (EPRP). While the EPRP could be incorporated into the SRFP, it is highly recommended that the EPRP should be a separate, self-contained document. By having it as a self-contained document, the information contained within is more readily available and easily accessible, and the Ship Recycling Facility may want to distribute copies to several locations at the site. It is also helpful to have a summary page at the front of the document for quick access, showing 24-hour contact information (including telephone numbers) for the appropriate contact personnel (such as management personnel and emergency response personnel).

The SRFP should identify the locations where the EPRP will be readily available, and should contain a brief summary of the EPRP, so that the appropriate entities (such as those that are authorizing facilities) or other relevant stakeholders can easily confirm that it exists. The EPRP should take into consideration a wide variety of potential scenarios, including, but not limited to, human injuries, environmental accidents, extreme acts of nature and the activities of the surrounding community (such as an emergency at a nearby chemical processing plant).

The EPRP should, at a minimum, include the Facility's response to:

- fire or explosion or ingress of water on the ship being recycled or awaiting recycling, within the perimeter of the Facility, or in an adjacent facility;
- accidents to workers within the Facility;
- spillages of Hazardous Materials; and
- probable acts of nature in the area concerned, such as earthquakes or flooding.

The location, physical and environmental characteristics of the Ship Recycling Facility and the size and nature of activities associated with each ship recycling operation should be taken into consideration during preparation of the EPRP. The EPRP should do the following:

- ensure that the necessary equipment – including fire hydrants, extinguishers, first-aid facilities, clean-up equipment, breathing apparatus, alarms and signals and details of training arrangements that are commensurate with the possible

emergency situations likely to occur at the Ship Recycling Facility – and emergency procedures are in place, and that drills are being held on a regular basis;

- provide for the information and internal communication and coordination necessary to protect all people in the event of an emergency at the Ship Recycling Facility;
- provide information to and ensure communication with the relevant Competent Authority(ies) or organization recognized by it, the surrounding community and the emergency response services;
- provide for first-aid and medical assistance, fire-fighting, evacuation of all people from the Ship Recycling Facility (including emergency escape route and muster station) and pollution prevention measures such as the response to spills of Hazardous Materials (including the safe handling of spilled or emitted materials and the procedure for cleaning contaminated areas);
- provide visible indications of location of first aid stations, fire control stations and evacuation routes;
- further ensure the provision of relevant information and training to all workers at the Ship Recycling Facility, at all levels and according to their competence, including regular exercises in emergency prevention, preparedness and response procedures; and
- include procedures for recording of an emergency incident and investigation and corrective actions following an emergency incident.

3.3.6 Fire and explosion prevention, detection and response

The Ship Recycling Facility should have systems in place for preventing fires and explosions and for fire-fighting, by controlling any outbreak of fire quickly and efficiently and by quickly and safely evacuating all personnel at the Facility. The SRFP should provide for the following:

- sufficient and secure storage areas for flammable liquids, solids, and gases;
- procedures for the prohibition of smoking through "no smoking" notices;
- precautions to be implemented in spaces where flammable gases, vapours or dust can cause danger (no naked light or flame or hot work should be permitted unless the space has been tested and deemed safe by a Competent person); and
- procedures for the proper storage of combustible materials, greasy or oily wastes and scrap wood or plastics.

The SRFP should also include procedures for regular inspections of spaces where there are risks of fire and explosion. This includes the vicinity of heating appliances, electrical installations, conductors, stores of flammable and combustible materials and areas where operations involving hot welding, cutting, grinding and heating are conducted. The appropriate precautions to reduce the risk of fire and explosions from welding, flame cutting and other hot work should be identified.

The SRFP should include procedures for the provision and selection of fire-extinguishing equipment according to the provisions of applicable international and national laws and regulations, and should record the results of the initial hazard identification and risk assessment of the Ship Recycling Facility operations. Equipment deployment should take account of the following: any restrictions to access or egress to spaces inside the ship; the quantity and characteristics of hazardous, flammable and explosive substances handled in ship recycling operations; site transport and storage facilities; and first-stage fire-fighting demands (such as hand-held or trolley-mounted portable fire extinguishers).

The SRFP should identify the locations of the fire-extinguishing equipment, ensuring that they are readily available, easily visible and in accessible areas. Adequate water supply should be provided in places where the danger of fire exists (in accordance with national laws and regulations).

The SRFP should include procedures for the provision, proper operation, maintenance and regular inspection of all fire-extinguishing equipment by a Competent person. Access to fire-extinguishing equipment, such as hydrants, portable extinguishers, and connections for hoses, should be kept clear at all times.

The SRFP should describe procedures for providing suitable training, instruction and information to all supervisors and workers (including details of the frequency of such training) about the hazards of fires, appropriate precautions to be taken and use of fire-extinguishing equipment, so that adequately trained personnel are readily available during all working periods. Records of training and drills/exercises should be maintained, including such information as type of training/drill, role of person trained, equipment used, duration, location, date and time.

The SRFP should include procedures for the installation of sufficient, suitable and effective warning signals (such as sight and sound signals) in case of fire. There should be an effective evacuation plan so that all personnel are evacuated speedily and safely. The SRFP should include procedures for posting notices in conspicuous places indicating, if applicable, the nearest fire alarm, the telephone number and address of the nearest emergency services and the nearest first-aid station.

3.4 Environmental compliance approach

The SRFP should provide a description of the Ship Recycling Facility's plan and procedures for protecting the environment. The SRFP should demonstrate that the Ship Recycling Facility understands the environmental risks associated with ship recycling, understands and is implementing the environmental requirements imposed by applicable international and national laws and regulations, is capable of managing and disposing of all the materials in the ship in an environmentally sound manner, and is implementing controls to protect the environment, including with respect to handling and disposing of Hazardous Materials. The SRFP should reflect applicable requirements of the Convention (particularly regulations 20 to 22).

The SRFP should describe dedicated infrastructure for the treatment and disposal of Hazardous Materials generated from ship recycling operations pursuant to national laws and regulations. The Ship Recycling Facility should also take account of guidelines developed by international organizations as appropriate. A reference list of such guidelines is provided in appendix 5.

3.4.1 Environmental monitoring

The SRFP should describe the environmental monitoring programme aimed at preventing possible negative impacts to the environment during ship recycling.

Possible negative impacts during ship recycling may be divided into four main categories:

- releases of Hazardous Materials to ground and sediments;
- releases of Hazardous Materials to water;
- emissions of Hazardous Materials to air; and
- noise/vibrations.

The monitoring programme, if included in the SRFP, should be Facility-specific, taking into account the Facility's characteristics, such as the use of dry dock, jetty/piers and/or recycling plots on land-sea interface, and should identify chemical, biological and physical changes in the environment surrounding the Ship Recycling Facility.

The monitoring programme, if included in the SRFP, should utilize well-established standards for the sampling and analysis of relevant environmental parameters.

3.4.2 Management of Hazardous Materials

Prior to recycling, the IHM shall, in addition to the properly maintained and updated Part I, incorporate Part II for operationally generated wastes and Part III for stores (regulation 5.4).

Ships destined to be recycled shall conduct operations in the period prior to entering the Ship Recycling Facility in a manner that minimizes the amount of cargo residues, fuel oil and wastes remaining on board (regulation 8.2).

The following Hazardous Materials, at the very least, should be addressed in the SRFP:

- (a) Hazardous materials contained in the ship's structure and equipment (IHM, Part I):
 - Asbestos
 - Polychlorinated biphenyls (PCBs)
 - Ozone-depleting substances (ODSs)
 - Anti-fouling compounds and systems
 - Cadmium and cadmium compounds
 - Hexavalent chromium and hexavalent chromium compounds
 - Lead and lead compounds
 - Mercury and mercury compounds
 - Polybrominated biphenyls (PBBs)
 - Polybrominated diphenyl ethers (PBDEs)
 - Polychlorinated naphthalenes (PCNs)
 - Radioactive substances
 - Certain short-chain chlorinated paraffins

(b) Operationally generated wastes (IHM, Part II):

Waste oil (sludge)
Bilge and/or waste water generated by the after-treatment systems fitted on machineries
Oily liquid cargo residues
Ballast water
Raw sewage
Treated sewage
Non-oily liquid cargo residues
Dry cargo residues
Medical/infectious waste
Incinerator ash
Garbage
Fuel tank residues
Oily solid cargo tank residues
Oily or chemical contaminated rags
Dry tank residues
Cargo residues

(c) Stores including regular consumable goods (IHM, Part III). A list of these is shown in appendix 6 to these guidelines.

Regular consumable goods potentially containing Hazardous Materials comprise goods which are not integral to a ship and are unlikely to be dismantled or treated at a Ship Recycling Facility.

The Ship Recycling Facility's approach for properly managing each of the Hazardous Materials found on board a ship should be described in its SRFP.

The SRFP should describe the Ship Recycling Facility's process, control procedures and abatement methodologies used for the removal, labelling, storage, segregation, transport, treatment and disposal of all such Hazardous Materials, which should be developed in accordance with national requirements, as applicable.

It is important to describe the sequence of removal of Hazardous Materials as part of the ship recycling activities.

It is recommended that the following aspects of proper management of Hazardous Materials should be clearly addressed for each of the potentially Hazardous Materials identified above:

- identification, marking and labelling and potential on-board locations;
- recycling approach;
- removal, handling and remediation;
- storage and labelling; and
- treatment, transportation and disposal.

The Facility's approach to the safe and environmentally sound removal and treatment of any non-hazardous wastes on board should be described in the SRFP. The SRFP should describe the Facility's processes, control procedures and capabilities for removing and treating all such non-hazardous wastes, taking into account applicable IMO guidance, including but not limited to the *Comprehensive Manual on Port Reception Facilities*.

3.4.2.1 Potentially containing Hazardous Materials

The prerequisite for classification as "potentially containing Hazardous Materials" (PCHM) is "a comprehensible justification such as the impossibility of conducting sampling without compromising the safety of the ship and its operational efficiency" (paragraph 4.2.3 of the *2011 Guidelines for the Development of the Inventory of Hazardous Materials*, hereafter "the Inventory Guidelines").

The SRFP should describe how PCHMs will be treated; either:

- they will be removed, stored and treated as Hazardous Materials in accordance with the requirements of the Convention; or
- sampling and analysis will be conducted and PCHMs will be treated accordingly, based on the findings of sampling and analysis.

The basis of such a decision on how to treat PCHMs should be transparent and consistent as far as practicable. This information will need to be fully described in the Ship Recycling Plan.

3.4.2.2 Additional sampling and analysis

If, during the recycling process or in preparation for it, the Ship Recycling Facility deems it necessary, sampling, analysis and/or visual inspection should be conducted, possibly with the cooperation of the shipowner, to enable the identification of Hazardous Materials. A sampling plan should be developed describing the sampling locations, number of samples to be taken, the name of the sampler (including subcontractors) and the type of analysis to be performed.

When conducting the sampling of any possible Hazardous Materials, the samplers should be protected from exposure by the worker-safety measures required for the Hazardous Materials in question. Analysis of the samples should be performed by an accredited laboratory.

It is recommended that, in conducting additional sampling, the Ship Recycling Facility should follow the relevant part on sampling and analysis of the Inventory Guidelines.

After the sampling and analysis results are known, the Ship Recycling Facility should manage the materials appropriately according to whether they have been found to be hazardous.

3.4.2.3 Identification, marking and labelling and potential onboard locations

The Ship Recycling Facility should utilize the information in the IHM for the purposes of identifying the type, location and quantity of any Hazardous Materials and for marking and/or labelling. Asbestos, PCBs, other Hazardous Materials and ship tanks – such as crude oil tank (COT), fuel oil tank (FOT), lubricating oil tank (LOT), fresh water tank (FWT) and water ballast tank (WBT) – should be clearly marked in an easily identifiable manner.

It is recommended that the Ship Recycling Facility should ensure that it is fully aware of all the potential locations of Hazardous Materials on board ships. Examples of typical locations for many of the Hazardous Materials are provided in section 2.2 ("Indicative List") of appendix 5 ("Example of the Development Process for Part I of the Inventory for Existing Ships") of the Inventory Guidelines.

3.4.2.4 Removal, handling and remediation

The SRFP should describe how to safely remove, handle and/or clean the Hazardous Materials that have been identified on the ship, taking account of their potential adverse effects on human health and/or the environment.

Removal of Hazardous Materials should only be conducted by appropriately trained personnel following the worker-safety measures required for the Hazardous Materials in question.

Whenever in use, the space where the removal work is occurring should be isolated from other work spaces and should be clearly marked to inform all persons of the hazards in the area.

After the removal of highly toxic, explosive or reactive Hazardous Materials, decontamination or remediation of the space should be performed by trained personnel.

Methods and procedures for the removal, handling and remediation of Hazardous Materials should be established to ensure safe and environmentally sound operations in accordance with the applicable national requirements.

Pursuant to section 2.2 of the Supplement to the Document of Authorization to conduct Ship Recycling (DASR) (appendix 5 of the Convention), the SRFP should indicate the responsible personnel authorized to carry out removal of Hazardous Materials, with the certificate number or other relevant information, for each of the Hazardous Materials identified.

In the normal handling of all hazardous materials due attention should be paid to relevant occupational exposure limits.

3.4.2.5 Storage and labelling after removal

The SRFP should describe how all wastes generated from recycling activity will be kept separate from recyclable materials and equipment, labelled for clear identification and stored in appropriate conditions either temporarily or for a longer term. The SRFP should describe how the Ship Recycling Facility will avoid waste being mixed or contaminated in a way that interferes with subsequent handling, storage, treatment, recycling or disposal.

3.4.2.6 Treatment, transportation and disposal

The SRFP should demonstrate how the Ship Recycling Facility will ensure environmentally sound management of all Hazardous Materials and wastes removed from a ship at the Ship Recycling Facility. If treatment or disposal is taking place at the Ship Recycling Facility, the SRFP should describe how the materials will be managed in an environmentally sound manner and in compliance with applicable national requirements.

In situations where the Hazardous Materials and wastes are sent off site, the SRFP should describe procedures to ensure that they are transferred only to a facility authorized to deal with their safe and environmentally sound treatment and disposal.

The SRFP should identify all off-site management and disposal facilities, describe how the materials will be managed at those facilities and identify all authorizations, permits, certificates, approvals and licences required by national and other agencies authorizing the facilities to manage the wastes. The SRFP should include procedures for tracking Hazardous Materials and wastes as they are transported from the Ship Recycling Facility to their ultimate destination, and for managing and storing documentation, including that of subcontractors.

The final waste-management facilities should adhere to national standards and requirements which should take into account applicable international standards and requirements.

3.4.3 Environmentally sound management of Hazardous Materials

3.4.3.1 Asbestos and materials containing asbestos

The Ship Recycling Facility should identify the location and quantity of asbestos and materials containing asbestos by actively utilizing the IHM. Identification, marking and labelling should be conducted by the Ship Recycling Facility before asbestos and materials containing asbestos are removed.

Indicative lists of shipboard locations for asbestos are provided in the Inventory Guidelines (section 2.2.2.1 of appendix 5), and can be used as supporting material if additional assessment and sampling are required.

In order to safely remove asbestos and materials containing asbestos, the following protective measures should be taken, and the SRFP should describe how they are implemented by the Ship Recycling Facility:

- .1 workers should be present who are trained and authorized in the removal of asbestos and materials containing asbestos in accordance with applicable national requirements;
- .2 the removal of the asbestos and materials containing asbestos should be conducted under the monitoring and management of the Competent person;
- .3 the number of workers exposed to asbestos should be limited to the necessary minimum;
- .4 the area in which the removal of asbestos and materials containing asbestos is to be conducted should be isolated from the other work areas, and entry should be allowed only to appropriately trained personnel. The area should be clearly posted with a caution that asbestos removal work is occurring;
- .5 if the removal work includes cutting, boring, grinding or otherwise disturbing friable asbestos and materials containing asbestos which may scatter into the environment, appropriate protection should be provided, so as not to release the asbestos in the air, by isolating the area in the room or space where the removal will occur; a common approach is as follows:
 - seal the room or space with plastic sheets;
 - the plastic sheets should be of sufficient strength;

- where the machines, equipment, pipes or spaces cannot be isolated or sealed (for example, a complex and narrow area under a floor plate in the engine room), partial protection may be provided with plastic sheets;
 - the isolated area should be maintained under negative pressure where possible; and
 - practices for dealing with materials containing asbestos under a partial pressure chamber system and the use of wet methods should be encouraged as far as possible;
- .6 materials containing friable asbestos in areas such as walls and ceilings should be carefully removed, and water or an appropriate wetting agent should be applied prior to the removal of materials containing asbestos in order to prevent the asbestos from scattering into the atmosphere;
- .7 personal protection equipment (PPE) for workers, including respiratory protection and special protective clothing for asbestos, should be provided;
- .8 after removal of asbestos, the area should be cleaned in the following manner:
- equipment and tools should be washed/cleaned and then removed from the area;
 - the asbestos and materials containing asbestos should be packed and sealed in plastic containers prior to being removed from the area;
 - the plastic sheets used for isolating the area should be moistened with water and handled carefully to prevent the asbestos from scattering;
 - an efficient vacuum cleaner should be used for cleaning the area, such as one equipped with a high efficiency particulate air (HEPA) filter; and
 - the airborne asbestos in the air and/or space should be checked before removing the plastic isolation sheets and allowing other work to continue in the area;
- .9 workers removing asbestos should properly prepare for entry into a contaminated area, and should be decontaminated before leaving the contaminated area, as follows:
- workers should not be allowed to wear street clothes in the isolated area or under their PPE;
 - after completing work in the isolated area, workers should shower to remove asbestos, and then enter a separate clean area to put on their clothes; and
 - work clothes should not be laundered at home; they should be bagged, labelled and laundered at an appropriate location at the Facility or off site;

- .10 containers used for packing and transporting the removed asbestos materials should be properly labelled and sufficiently strong and resilient as to minimize the possibility of accidental damage or breakage during transport, which could result in the uncontained release of asbestos fibres into the atmosphere; and
- .11 asbestos should not be reused or recycled, and its management and final disposal should comply with national requirements.

3.4.3.2 PCBs and materials containing PCBs

The Ship Recycling Facility should identify the location and quantity of the Hazardous Materials and wastes containing PCBs (polychlorinated biphenyls) by actively utilizing the IHM.

Indicative lists of shipboard locations for PCBs are provided in the Inventory Guidelines (section 2.2.2.2 of appendix 5), and can be used as supporting material if additional assessment and sampling are required. PCBs may be contained in the equipment and materials in both solid and liquid forms as shown on the IHM. Since PCB sampling and analytical procedures can be expensive and time consuming, it may be more economical to presume that the materials do contain PCBs and remove and manage them accordingly.

In order to safely remove PCBs and materials containing PCBs, the following protective measures should be taken and the SRFP should describe how they are implemented by the Ship Recycling Facility:

- .1 workers should be specifically trained and authorized in the removal of PCBs;
- .2 personal protection equipment (PPE) for workers, including respiratory protection and dermal protection, should be provided;
- .3 removal of Hazardous Materials and wastes containing PCBs should be carefully performed to avoid spills, volatilization or scattering, in the following manner:
 - spill prevention measures should be taken when draining or removing liquid-filled equipment, including booms, drip pans, liners and/or absorbent materials placed around the system or piece of equipment; and
 - most solid materials containing PCBs can be removed by using manual, chemical or mechanical means such as blasting, scraping, cutting, stripping or gouging;
- .4 thermal or "hot" methods of removal or recycling should not be used if the presence of PCB is known or suspected (for example, electric cable insulation, hydraulic oil, transformer oil and paints containing PCBs should not be burned);

- .5 equipment used to remove PCB-containing materials should be decontaminated appropriately after use (a common decontamination process for equipment would be to rinse with non-polar organic solvent such as kerosene or diesel, then wash with soap and water and rinse with clean water); any water or other liquid used should be appropriately managed as waste;
- .6 removed PCBs and materials containing PCBs should be appropriately stored in properly labelled, leak-proof containers that are made for transport and are sealed (liquids) or covered (solids);
- .7 a separate storage area should be set up for PCB wastes, in accordance with the following points:
 - Hazardous Materials and wastes containing PCBs should not be stored or kept with other Hazardous Materials and wastes;
 - the storage area should be clearly marked on the exterior with warnings that it contains PCBs;
 - the storage area should provide protection from rain; and
 - containers should be regularly inspected for leaks and damage;
- .8 containers or vehicles used for packing and transporting the removed PCB materials should be properly labelled and the possibility of accidental release during transport should be minimized; and
- .9 PCBs should not be reused or recycled and their management and final disposal should comply with national requirements.

3.4.3.3 Ozone-depleting substances (ODSs)

The Ship Recycling Facility should identify the location and quantity of ozone-depleting substances (ODSs) prior to removal by actively utilizing the IHM.

The indicative list for ODSs in the Inventory Guidelines (section 2.2.2.3 of appendix 5) can be used as the supporting material if an additional survey and sampling are required.

The SRFP should describe how the Ship Recycling Facility implements the following protective measures to safely remove and manage ODSs:

- .1 extraction of ODSs from the system should be done by persons who are trained and authorized for handling such materials;
- .2 ODSs on board in containers, equipment and piping systems should not be released into the atmosphere;
- .3 management or destruction of ODSs should comply with national requirements; and
- .4 ODSs used as blowing agents and trapped in insulation foam in refrigerated areas should not be released into the atmosphere and environmentally sound management should be observed while dismantling and disposing of the foam waste.

3.4.3.4 Paints and coatings

The SRFP should describe procedures for properly managing any paints and coatings that are highly flammable or that may release toxins during cutting.

3.4.3.4.1 Anti-fouling compounds and systems (organotin compounds including tributyltin (TBT))

The Convention applies to all anti-fouling compounds and systems regulated under annex 1 of the International Convention on the Control of Harmful Anti-Fouling Systems on Ships (hereafter "the Anti-Fouling Convention"). Since the only systems currently regulated by the Anti-Fouling Convention are organotin compounds, these guidelines address the proper management of organotins only. However, similar considerations should be applied to future anti-fouling compounds that become subject to the Anti-Fouling Convention.

Organotin compounds include tributyltin (TBT), triphenyltin (TPT) and tributyltin oxide (TBTO). Organotin compounds have been commonly used as anti-fouling paint on the bottom of ships. Some ships applied the organotin compounds with a coating forming a barrier to stop such compounds from leaching into sea. Therefore, the Ship Recycling Facility should check the IHM carefully, and might inspect the hull paint.

Organotin paint should not be released into the sea or soil during the ship recycling process. If it is possible that organotin paint might be removed as a result of work (whether it is intentionally removed, or the collateral effect of some other effort, such as dragging), the work should be conducted in an environmentally sound manner to ensure that any organotin paint removed is not released into the sea.

Organotin paint may be removed using techniques such as blasting, chemical stripping or mechanical removal. However, special attention should be given to preventing scattering of the paint chips in the air or adjacent areas.

Blasted paints should be collected, stored and disposed of in an environmentally sound manner in accordance with national requirements.

3.4.3.4.2 Toxic and highly flammable paints

The removal of paints prior to cutting during ship recycling may not be necessary unless the process leads to the release of toxic compounds or the paint is highly flammable. Prior to cutting painted surfaces, the Ship Recycling Facility should check the flammability and toxicity of the paint or coating. If it is toxic or flammable, it is suggested that, prior to hot cutting, a sufficiently wide band of paint is mechanically or chemically removed (for example, through blasting, scraping or stripping) from along the cut line. Appropriate PPE should be worn, and a containment system for paint particles should be used (especially for blasting operations).

If removal is not possible or feasible, cutting can proceed in a controlled manner provided that the workers are well protected with PPEs specifically designed for breathing and eye protection.

3.4.3.5 Hazardous liquids, residues and sediments (such as oils, bilge and ballast water)

The Ship Recycling Facility should identify the location and volume of hazardous liquids remaining on board by actively utilizing the IHM. Identification, marking and labelling of the

tanks and other areas should be conducted by the Ship Recycling Facility before the liquids are removed.

The residual oil storage tank should be protected against leakage, overflow, fire and other potential accidents.

Hazardous liquids, residues and sediments in stores, tanks, machines, equipment and piping should be removed under safe and environmentally sound conditions.

Ballast water should be handled in accordance with relevant national requirements.

3.4.3.6 Heavy metals (lead, mercury, cadmium and hexavalent chromium)

As indicated in the Inventory Guidelines, heavy metals are found in batteries, galvanized materials, level switches, gyro compasses, thermometers, coatings, etc. Radioactive substances may be found in level indicators and smoke detectors.

Equipment and other instruments containing heavy metals should be removed carefully to ensure that they do not break and to avoid contamination of the environment. Reusable equipment and instruments should be stored properly. Broken equipment and instruments should be delivered to the appropriate companies for repair, recycling or disposal in accordance with national requirements.

Anodes fitted to the ship's hull as sacrificial metal should be removed in the course of block cutting and should be managed properly.

3.4.3.7 Other Hazardous Materials

Other Hazardous Materials not listed above and which are not part of the ship's structure – those materials listed in the IHM, Parts II and III – should be removed under safe conditions.

To the maximum extent possible, these materials should be removed prior to cutting according to the provisions of national laws and regulations. After the materials have been removed from ships, safe and environmentally sound methods should be used for storing and processing them; for example, electric cable insulation containing chlorinated compounds should not be burned.

3.4.4 Prevention of adverse effects to the environment

3.4.4.1 Spill prevention, control and countermeasures

The purpose of developing and implementing a programme for spill prevention, control and countermeasures is to minimize the risk of spills and leaks that could adversely impact the environment. The SRFP should include a programme that defines the Ship Recycling Facility's procedures for spill prevention, response and countermeasures. The programme should define proactive approaches to spill prevention and procedures to be implemented in the event of spills.

At a minimum, the programme should demonstrate that the Ship Recycling Facility has adequate containment and spill clean-up equipment and procedures, by identifying the following:

- containment and diversionary structures in place to prevent discharged Hazardous Materials from contaminating soil and water;
- Facility drainage areas;
- location of spill response equipment;
- environmental protection measures to be implemented during transfer and offloading of fuels;
- location of other oils and bilges;
- fuel storage locations;
- inspection and record-keeping procedures;
- security measures;
- personnel training programmes;
- spill prevention and reporting procedures; and
- the history of incidents at the Ship Recycling Facility.

As part of the procedures for spill prevention, response and countermeasures, the SRFP should identify the designated in-house and subcontracted personnel who will be responsible for managing the programme and for responding to spills or similar emergencies, as well as the local authorities (such as the fire department) that may have jurisdiction at the Ship Recycling Facility. This SRFP should include 24-hour contact information. The SRFP should include both a narrative and graphic description of the Facility layout, including the location of any water bodies or other routes of migration, the storage location of oil or other Hazardous Materials, procedures for fuel transfer from ship to shore, procedures to be implemented in the event of a spill and the types and locations of emergency-response equipment (such as absorbent materials, personal protective equipment and first-aid equipment).

By identifying the potential sources of spills or leaks, the Ship Recycling Facility can then identify proactive measures to be implemented in order to minimize the risk associated with Facility activities. It is helpful for the Ship Recycling Facility to review the potential sources for spills and leaks and to determine the types of failures associated with them in order to determine the most appropriate and effective prevention measures. For example, drums should not be left open unless being filled, should be within a secondary containment or beamed structure and should not be exposed to rainfall that could corrode them over time.

The programme for spill prevention, control and countermeasures can be used as a tool by the Ship Recycling Facility to communicate practices on preventing and responding to spills and leaks, as a resource during emergency response and as a repository for information on storage, inspection and testing. It is important to maintain records on maintenance, inspections and employee training. Periodic review of the programme for spill prevention, control and countermeasures is also an effective tool for determining which procedures are fulfilling their intended function and for identifying weaknesses in the programme.

3.4.4.2 Storm-water pollution prevention

Storm-water run-off from industrial facilities has the potential to adversely affect the environment. Improper storage and handling of Hazardous Materials and wastes could increase the risk of environmental degradation through contact with water. The SRFP should include a programme that defines measures to be implemented and maintained to minimize the potential for storm-water contamination at the Ship Recycling Facility.

A programme for the prevention of storm-water pollution should include the identification of all potential pollutant sources at the Ship Recycling Facility that could come into contact with storm water, with the nearby receiving waters and with storm water-conveyance systems. A site map should be developed that depicts such information.

Following compilation of the relevant site information, an assessment should be conducted in order to determine the appropriate control measures. Control measures should be implemented to reduce the threat of storm-water pollution, to control erosion and sediment and to protect nearby natural resources. Control measures can include best management practices, maintenance and inspection programmes, employee training and reporting.

As an example, a potential pollutant source at a Ship Recycling Facility is the storage of drums, tanks or other containers for the offloading of fuel from a ship. The activity of transferring and storing the fuel includes multiple potential pollutant sources, such as spills and leaks during transfer to the water or the ground, leaking drums or containers or run-off from the drum storage area. Control measures to minimize the risk to the environment from storm-water contamination could include storing drums and other containers under semi-permanent or permanent coverings, controlling spills or run-off from drum storage areas with appropriately sized secondary containment, conducting routine inspections of drum storage areas and establishing appropriate clean-up procedures in the event of spills or leaks.

The development of preventive measures is the most effective way to minimize the discharge of pollutants via storm water. It is important to maintain records on maintenance, inspections and employee training. Periodic review of the storm-water management programme is also an effective tool for determining which best management practices are fulfilling their intended function and for identifying weaknesses in the programme.

3.4.4.3 Debris prevention and control

The introduction of debris into the marine environment by ship recycling activities has the potential to adversely affect the environment. The SRFP should include a programme that defines measures to be implemented and maintained to minimize the potential for debris deposition into the water, including the maintenance of areas from which debris might be transported into the marine environment by wind, storm drains, tides or run-off. Control measures should be implemented to reduce the likelihood of debris deposition.

3.4.4.4 Incident and spills reporting procedures

The SRFP should describe the procedures for reporting incidents and spills, including at a minimum the following information:

- how duties and responsibilities are assigned to the Ship Recycling Facility's responsible team, department or persons and their reporting responsibilities in the event of an incident;

- how the reporting procedures relate to the emergency preparedness and response plan (EPRP);
- communication link to the local community for any necessary assistance; and
- procedures for providing information to the public and for carrying out post-incident surveys and releasing post-incident reports.

APPENDIX 1

RECOMMENDED FORMAT OF THE SHIP RECYCLING FACILITY PLAN

SHIP RECYCLING FACILITY PLAN

1 Facility management

- 1.1 Company information
- 1.2 Training programme
- 1.3 Worker management
- 1.4 Records management

2 Facility operation

- 2.1 Facility information
- 2.2 Permits, licences and certification
- 2.3 Acceptability of ships
- 2.4 Ship Recycling Plan (SRP) development
- 2.5 Vessel arrival management
- 2.6 Ship recycling methodology
- 2.7 Reporting upon completion

3 Worker safety and health compliance approach

- 3.1 Worker health and safety
- 3.2 Key safety and health personnel
- 3.3 Job hazard assessment
- 3.4 Prevention of adverse effects to human health
 - 3.4.1 Safe-for-entry procedures
 - 3.4.1.1 Safe-for-entry criteria
 - 3.4.1.2 Competent person for Safe-for-entry determination
 - 3.4.1.3 Safe-for-entry inspection and testing procedures
 - 3.4.1.4 Oxygen
 - 3.4.1.5 Flammable atmospheres
 - 3.4.1.6 Toxic, corrosive, irritant or fumigated atmospheres and residues
 - 3.4.1.7 Safe-for-entry determination by a Competent person
 - 3.4.1.8 Safe-for-entry certificate, warning signs and labels
 - 3.4.1.9 Safe-for-entry operational measures
 - 3.4.2 Safe-for-hot-work procedures
 - 3.4.2.1 Safe-for-hot-work criteria
 - 3.4.2.2 Competent person for Safe-for-hot-work determination
 - 3.4.2.3 Safe-for-hot-work inspection, testing and determination
 - 3.4.2.4 Safe-for-hot-work certificate, warning signs and labels
 - 3.4.2.5 Safe-for-hot-work operational measures
 - 3.4.3 Welding, cutting, grinding and heating
 - 3.4.4 Drums, containers and pressure vessels
 - 3.4.5 Prevention of falling from heights and accidents caused by falling objects
 - 3.4.6 Gear and equipment for rigging and materials handling
 - 3.4.7 Houskeeping and illumination

- 3.4.8 Maintenance and decontamination of tools and equipment
- 3.4.9 Health and sanitation
- 3.4.10 Personal protective equipment
- 3.4.11 Worker exposure and medical monitoring
- 3.5 Emergency preparedness and response plan
- 3.6 Fire and explosion prevention, detection and response

4 Environmental compliance approach

- 4.1 Environmental monitoring
- 4.2 Management of Hazardous Materials
 - 4.2.1 Potentially containing Hazardous Materials
 - 4.2.2 Additional sampling and analysis
 - 4.2.3 Identification, marking and labelling and potential on-board locations
 - 4.2.4 Removal, handling and remediation
 - 4.2.5 Storage and labelling after removal
 - 4.2.6 Treatment, transportation and disposal
- 4.3 Environmentally sound management of Hazardous Materials
 - 4.3.1 Asbestos and materials containing asbestors
 - 4.3.2 PCBs and materials containing PCBs
 - 4.3.3 Ozone-depleting substances (ODSs)
 - 4.3.4 Paints and coatings
 - 4.3.4.1 Anti-fouling compounds and systems (organotin compounds including tributyltin (TBT))
 - 4.3.4.2 Toxic and highly flammable paints
 - 4.3.5 Hazardous liquids, residues and sediments (such as oils, bilge, and ballast water)
 - 4.3.6 Heavy metals (lead, mercury, cadmium and hexavalent chromium)
 - 4.3.7 Other Hazardous Materials
- 4.4 Prevention of adverse effects to the environment
 - 4.4.1 Spill prevention, control and countermeasures
 - 4.4.2 Storm-water pollution prevention
 - 4.4.3 Debris prevention and control
 - 4.4.4 Incident and spills reporting procedures

Plan Attachments

Facility Map
Organizational Flow Chart
Permits, Licences and Certification
Resumes

APPENDIX 2

EXAMPLE FORMAT OF FACILITY INFORMATION IN SRFP

(relating to sections 3.2.1 (Facility information) and 3.2.2 (Permits, licences and certification))

Facility name and contact information			
Facility name			
Registered address			
Facility address			
Representative and communication address			
Number of employees			
Tel. No.		Fax No.	
E-mail address		URL	
Working language			

Capacity of Facility	
Maximum capacity of ship to be recycled	<div style="display: flex; justify-content: space-between;"> <div> Length Breadth Width Depth </div> <div> DWT GT LDT </div> </div>
Types of ship to be accepted	
Annual recycling capacity (in LDT)	

Waste management capacity	
Asbestos	removal storage process
Ozone-depleting substances	removal storage process
Polychlorinated biphenyls (PCB)	removal storage process
Anti-fouling compounds and system	removal storage process

Cadmium and Cadmium Compounds	removal storage process
Hexavalent Chromium and Hexavalent Chromium Compounds	removal storage process
Lead and Lead Compounds	removal storage process
Mercury and Mercury Compounds	removal storage treatment process
Polybrominated Biphenyl (PBBs)	removal storage treatment process
Polybrominated Diphenyl Ethers (PBDEs)	removal storage treatment process
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	removal storage treatment process
Radioactive substances	removal storage treatment process
Certain Shortchain Chlorinated Paraffins (Alkanes, C10-C13, chloro)	removal storage treatment process
Hazardous liquids, residues and sediments	removal storage treatment process
Paints and coatings that are highly flammable and/or lead to toxic release	removal storage treatment process
Other Hazardous Materials not listed above and that are not a part of the ship structure (specify)	removal storage treatment process

Facility equipment and other information			
Area of Facility (m ²) [*]		Area of pavement (m ²)	
Description of ship recycling facility (layout, waterdepth, accessibility, etc.)			

Heavy lifting machines	e.g. Jib crane: 60 tons
	Mobile crane: 35 tons×1, 27 tons×1
	Hydraulic backhoe: SH400, ZX330, SK220, ZX200 With Shear, Magnet
	Hydraulic shear: 600 tons×1
	Weight bridge: 50 tons
Boat	e.g. Gross tonnage: 5 tons, Power: 240 PS
Shear	e.g. Capacity: 600 tons
O ₂ supply	e.g. Liquid O ₂ supply system: 10 m ³
Gas supply	e.g. LPG bottles
Compressed air	
Fire extinguisher	e.g. Portable fire extinguisher
Waste oil treatment	e.g. Oil water separation tank Tank capacity: abt. 20 tons
Wastes storage	e.g. Container for asbestos: 2
Incinerator	e.g. none
Electric power supply	e.g. Substation

Location	
Division and classification of the location	e.g. urbanization control area
Peripheral environment	e.g. factories: former quarry, two marinas in the vicinity
	Housing: private houses at the entrance and 200 m from entrance

Facility certificate and licence (if applicable specify: certifying authority; date of expiry; number of certificate; etc.)²	

Workers' certificates/licences	
Certificate/licence	Name
1) Manager of asbestos handling	Mr. Yxxxx ***** 1 person
2) Manager of PCB handling	Mr. Yxxxx ***** 1 person
3) Designated chemicals handling	None
4) Asbestos handling class	Mr. *****
	Mr. *****
	Mr. ***** 3 persons
5) Gas cutting	Mr. *****
	Mr. *****
	Mr. ***** 3 persons
6) Welding	Mr. ***** 1 person

² List here any applicable certificates, for example relevant to waste treatment, waste transportation, or other, such as certificates relevant to management systems of environmental performance, and/or occupational health and safety.

7) Zinc handling	Mr. ***** 1 person
8) Lifting	Mr. *****
	Mr. *****
	Mr. ***** 3 persons
9) Heavy lift machines	Mr. *****
	Mr. ***** 2 persons
10) Seafarer	Mr. ***** 1 person
11) Diver	None
12) Removal of Hazardous Materials (Material A)	Mr. ***** 2 persons
(Material B)	Mr. ***** 2 persons

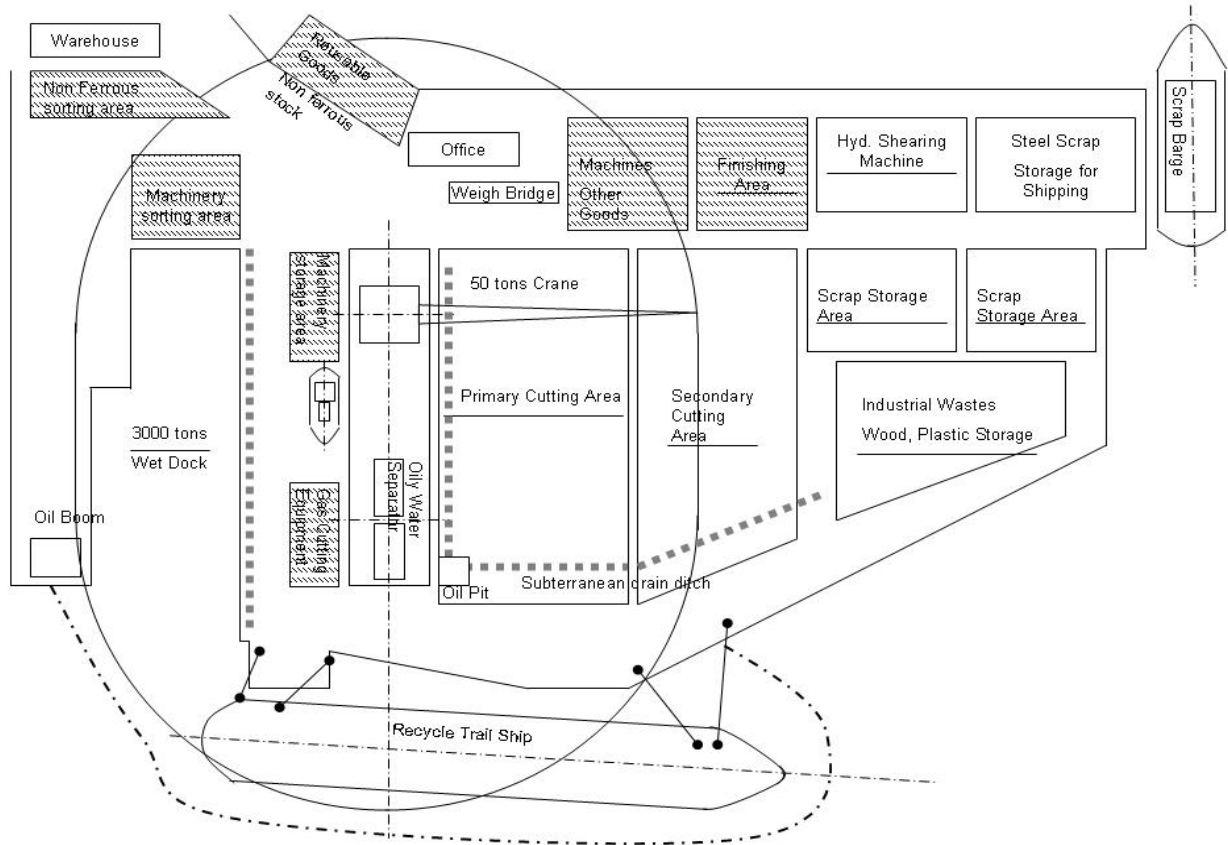
Subcontractor information³			
Subcontractor name			
Registered address			
Representative and communication address			
Field of services			
Licences for services			
Number of employees			
Tel. No.		Fax No.	
E-mail address		URL	

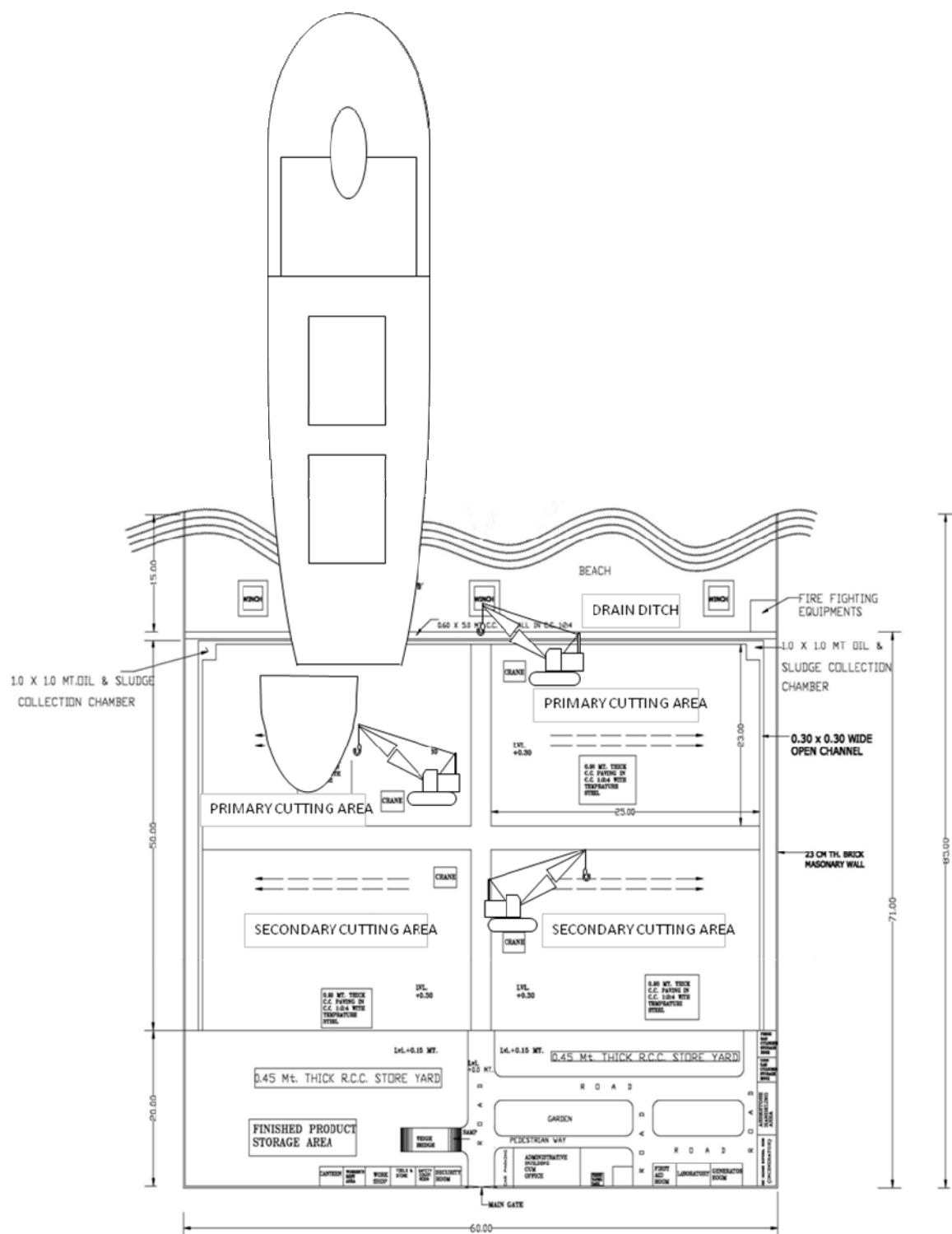
³ Supply all pertinent information relevant to the services of the subcontractor to the ship recycling facility.

Location Map

Yard plan (examples)

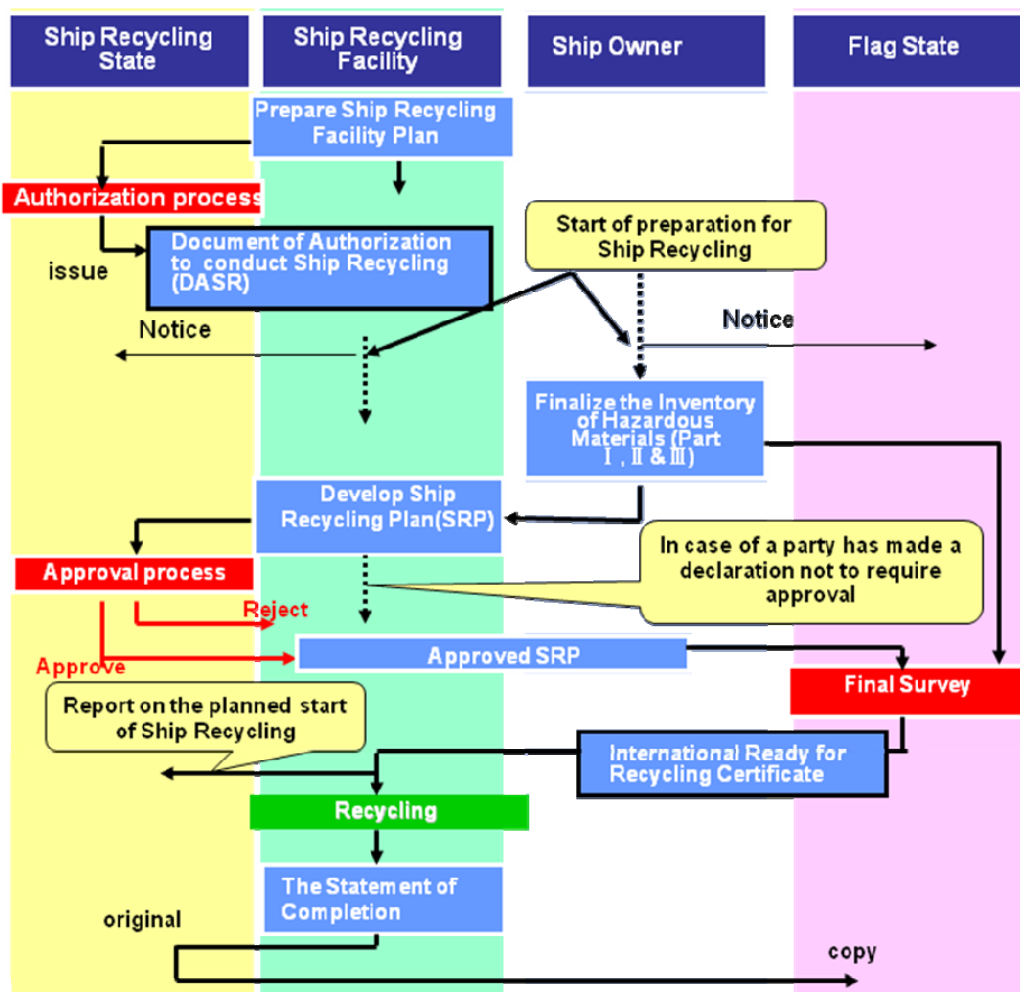
Yard plan should be included in Facility information.





APPENDIX 3

SHIP RECYCLING PROCESS FROM PREPARATION TO COMPLETION



Responsibility of Stakeholders			
Regulation 16 -Authorize the Ship Recycling Facilities Regulation 9 -Approve SRP Regulation 25 -Send a copy of the Statement to the flag State	Regulation 18 -Prepare an SRF Regulation 9 -Develop a ship-specific SRP Regulation 24 -Notify its Competent Authority of the intent -Report to its Competent Authority the planned start of Ship Recycling Regulation 25 - Issue a statement of Completion and report to its Competent Authority	Regulation 5 -Have on board an Inventory of Hazardous Materials -Finalize Inventory of Hazardous Materials including Parts II & III Regulation 8 -Provide the information with the SRF	Regulation 10 -Verify Inventory of Hazardous Materials, SRP and DASR

APPENDIX 4

RELEVANT INSTRUMENTS OF THE INTERNATIONAL LABOUR ORGANIZATION (ILO)

Fundamental ILO Conventions

Worst Forms of Child Labour Convention, 1999 (No. 182)
Minimum Age Convention, 1973 (No. 138)
Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
Abolition of Forced Labour Convention, 1957 (No. 105)
Equal Remuneration Convention, 1951 (No. 100)
Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
Forced Labour Convention, 1930 (No. 29)

Conventions on occupational safety and health and working conditions

Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)
Prevention of Major Industrial Accidents Convention, 1993 (No. 174)
Night Work Convention, 1990 (No. 171)
Chemicals Convention, 1990 (No. 170)
Asbestos Convention, 1986 (No. 162)
Occupational Health Services Convention, 1985 (No. 161)
Protocol of 2002 to the Occupational Safety and Health Convention, 1981 (No. 155)
Occupational Safety and Health Convention, 1981 (No. 155)
Collective Bargaining Convention, 1981 (No. 154)
Occupational Safety and Health (Dock Work) Convention, 1979 (No. 152)
Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148)
Occupational Cancer Convention, 1974 (No. 139)
Benzene Convention, 1971 (No. 136)
Workers' Representatives Convention, 1971 (No. 135)
Maximum Weight Convention, 1967 (No. 127)
Employment Injury Benefits Convention, 1964 (No. 121)
Guarding of Machinery Convention, 1963 (No. 119)
Radiation Protection Convention, 1960 (No. 115)

ILO codes of practice

Safety and health in ports, 2005. ISBN 92-2-115287-1.

Contents overview: management of safety and health; safe systems of work; port infrastructure, plant and equipment; lifting appliances and loose gear; safe use of lifting appliances and loose gear; operations afloat; health; personal welfare facilities; emergency arrangements; testing of lifting appliances and loose gear.

Safety and health in shipbreaking: Guidelines for Asian countries and Turkey, 2004. ISBN 92-2-115289-8 (print version), ISBN 92-2-115671-0 (web version).

Contents overview: general responsibilities, duties and rights, and framework; Occupational safety and health management; occupational health services; operational planning; preventive and protective measures; management of hazardous substances; measures against physical, biological, ergonomic and psychosocial hazards; safety requirements for tools, machines and equipment; competence and training; personal protective equipment and protective clothing; contingency and emergency preparedness; special protection; welfare.

Safety and health in the non-ferrous metal industries, 2003. ISBN 92-2-111640-9.

Contents overview: general principles of prevention and protection; prevention and protection specific to non-ferrous metals production processes; recycling non-ferrous metals; occupational exposure limits for hazardous substances, electric and magnetic fields, optical radiation, heat noise and vibration.

Ambient factors in the workplace, 2001. ISBN 92-2-111628-X

Contents overview: general obligations, responsibilities, duties and rights; general principles of prevention and control; hazardous substances; ionising radiation; electric and magnetic fields; optical radiation; heat and cold; noise; vibration; occupational exposure limits.

Management of alcohol- and drug-related issues in the workplace, 1996. ISBN 92-2-109455-3.

Contents overview: development of an alcohol and drug policy for the work place; measures to reduce alcohol- and drug-related problems through good employment practices; restrictions on alcohol, legal and illegal drugs in the workplace; prevention through information, education and training programmes.

Accident prevention on board ship at sea and in port, 1996. ISBN 92-2-109450-2

Contents overview: shipboard emergencies and emergency equipment; safe access to ship; safe movement about the ship; entering and working in enclosed or confined spaces; manual lifting and carrying; tools and materials; welding, flame-cutting and other hot work; working aloft and over side; working with dangerous and irritating substances and radiations; upkeep of wire and fibre ropes; working in machinery spaces.

Recording and notification of occupational accidents and diseases, 1996. ISBN 92-2-109451-0.

Contents overview: recording, notification and investigation of occupational accidents, occupational diseases and dangerous occurrences, and related statistics.

Safety in the use of chemicals at work, 1993. ISBN 92-2-108006-4.

Contents overview: classification systems; labelling and marking; chemical safety data sheets; operational control measures; work systems and practices; personal protection; monitoring in the workplace; medical and health surveillance; investigation and reporting of accidents, occupational diseases and other incidents.

Safety, health and working conditions in the transfer of technology to developing countries, 1988. ISBN 92-2-106122-1

Contents overview: appendix A: Occupational safety and health check-list for hazard control in the design and operation of a plant or process.

Safety in the use of asbestos, 1984. ISBN 92-2-103872-6.

Contents overview: exposure limits; monitoring in the workplace; general preventive methods; personal protection; cleaning of premises and plant; packaging, transport and storage; disposal of asbestos waste; supervision of the health of workers; handling of asbestos fibre in ports and container terminals; construction, demolition and alteration work; exposure limits in various countries.

Occupational safety and health in the iron and steel industry, 1983. ISBN 92-2-103471-2

Contents overview: basic requirements for work stations, workplaces, traffic lanes and installations; maintenance, repair and demolition; electricity, tools, machine guarding and gas systems; transport and handling; substances and agents harmful to health; working clothes and personal protective equipment; medical services and supervision, safety and health organization, hygiene and welfare.

Safety and health in shipbuilding and ship repair, 1974. ISBN 92-2-101199-2.

Contents overview: workplaces, their approaches and equipment; scaffolding and staging; ladders, stairs, gangways and ramps; lifting appliances; ropes chains and accessories; hand tools, portable power-driven tools; work with dangerous and irritating substances and radiations; welding, flame cutting and other hot work; work in confined spaces and dangerous atmospheres; transport of workers by water; working clothes and personal protective equipment; medical services and supervision, safety and health organization, hygiene and welfare.

Other guidelines

Guidelines on occupational safety and health management systems, ILO-OSH 2001. ISBN 92-2-111634-4.

Contents overview: the occupational safety and health management system in the organisation; policy; organizing; planning and implementation; evaluation; action for improvement.

APPENDIX 5

RELEVANT INSTRUMENTS AND REFERENCE MATERIALS OF THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) AND OTHERS

Instruments

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989

Stockholm Convention on Persistent Organic Pollutants (POPs), 2001

Montreal Protocol on Substances that Deplete the Ozone Layer, 1987

Reference Materials⁴

Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships

<http://www.basel.int/Portals/4/Basel%20Convention/docs/meetings/sbc/workdoc/techgships-e.pdf>

Training Resource Pack for Hazardous Waste Management in Developing Countries

<http://www.basel.int/pub/pub.html>

Updated General Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants (POPs)

<http://www.basel.int/Portals/4/Basel%20Convention/docs/pub/techguid/tg-POPs.pdf>

Updated Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Polychlorinated Biphenyls (PCBs), Polychlorinated Terphenyls (PCTs) or Polybrominated Biphenyls (PBBs)

<http://www.basel.int/Portals/4/Basel%20Convention/docs/pub/techguid/tg-PCBs.pdf>

Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of Elemental Mercury and Wastes Containing or Contaminated with Mercury

<http://www.basel.int/Implementation/TechnicalMatters/DevelopmentofTechnicalGuidelines/AdoptedTechnicalGuidelines/tabid/2376/Default.aspx>

Basel Convention Technical Guidelines on Waste Oils from Petroleum Origins and Sources

<http://www.basel.int/Portals/4/Basel%20Convention/docs/meetings/sbc/workdoc/old%20docs/tech-y8.pdf>

Technical Guidelines for the Environmentally Sound Management of Waste Lead-acid Batteries

<http://www.basel.int/Portals/4/Basel%20Convention/docs/pub/techguid/tech-wasteacid.pdf>

Basel Convention Technical Guidelines on Used Oil Re-refining or Other Re-uses of Previously Used Oil

<http://www.basel.int/Portals/4/Basel%20Convention/docs/meetings/sbc/workdoc/old%20docs/tech-r9.pdf>

⁴ A full set of the Basel Convention Technical Guidelines can be accessed at: <http://www.basel.int/Implementation/TechnicalMatters/DevelopmentofTechnicalGuidelines/AdoptedTechnicalGuidelines/tabid/2376/Default.aspx>.

Technical Guidelines on the Environmentally Sound Recycling/Reclamation of Metals and Metal Compounds

<http://www.basel.int/Portals/4/Basel%20Convention/docs/pub/techguid/r4-e.pdf>

Technical Guidelines on the Environmentally Sound Management of Biomedical and Healthcare Wastes

<http://www.basel.int/Portals/4/Basel%20Convention/docs/pub/techguid/tech-biomedical.pdf>

Basel Convention Technical Guidelines on Specially Engineered Landfill

<http://www.basel.int/Portals/4/Basel%20Convention/docs/meetings/sbc/workdoc/old%20docs/tech-d5.pdf>

Basel Convention Technical Guidelines on Incineration on Land

<http://www.basel.int/Portals/4/Basel%20Convention/docs/meetings/sbc/workdoc/old%20docs/tech-d10.pdf>

Basel Convention Technical Guidelines on Hazardous Waste – Physico-Chemical Treatment — Biological Treatment

<http://www.basel.int/Portals/4/Basel%20Convention/docs/meetings/sbc/workdoc/old%20docs/tech-d8d9.pdf>

United Nations Recommendations on the Transport of Dangerous Goods

<http://www.unece.org/trans/danger/publi/unrec/English/Recommend.pdf>

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

http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html

APPENDIX 6

MATERIALS FOUND ON BOARD SHIPS THAT THE SHIP RECYCLING FACILITY SHOULD BE PREPARED TO HANDLE (INCLUDED IN PART III OF THE INVENTORY OF HAZARDOUS MATERIALS)

Kerosene
White spirit
Lubricating oil
Hydraulic oil
Anti-seize compounds
Fuel additive
Engine coolant additives
Antifreeze fluids
Boiler and feed water treatment and test reagents
Deionizer-regenerating chemicals
Evaporator dosing and descaling acids
Paint stabilizers/rust stabilizers
Solvents/thinners
Paints
Chemical refrigerants
Battery electrolyte
Alcohol/methylated spirits
Acetylene
Propane
Butane
Oxygen
Carbon dioxide
Perfluorocarbons (PFCs)
Methane
Hydrofluorocarbons (HFCs)
Nitrous oxide (N₂O)
Sulfur hexafluoride (SF₆)
Bunkers, e.g. fuel oil
Grease
Fuel gas
Batteries (including lead-acid batteries)
Pesticides/insecticide sprays
Extinguishers
Chemical cleaner (including electrical equipment cleaner, carbon remover)
Detergent/bleacher (potentially a liquid)
Miscellaneous medicines
Fire-fighting clothing and personal protective equipment
Spare parts containing Hazardous Materials
