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RECYCLING OF SHIPS

Addendum to Report of Intersessional Correspondence Group on Ship Recycling Guidelines

Submitted by Japan

SUMMARY

Executive summary:	This document compiles the comments made during the correspondence group's discussion on the Guidelines for Safe and Environmentally Friendly Recycling of Ships and the Guidelines for the Development of the Ship Recycling Plan (SRP)
Strategic direction:	7.1
High-level action:	7.1.2
Planned output:	7.1.2.1
Action to be taken:	Paragraph 4
Related document:	MEPC 61/3

Introduction

1 This document compiles those comments by the members of the correspondence group which are considered helpful for the discussion in the working group of MEPC 61 on the Guidelines on Safe and Environmentally Sound Recycling of Ships ("Facility Guidelines", hereafter) and the Guidelines for the Development of the Ship Recycling Plan (SRP) ("SRP Guidelines", hereafter).

2 These comments are mainly those sent by group members in the 2nd round of the correspondence group, which were not considered by the members due to the shortage of time. This comment compilation would provide useful material for discussion at MEPC 61, as explaining complicated ideas orally at the meeting can be difficult, and reference to this document may be helpful. It should also be noted that supporting comments to the views in the 1st Round may not have been included in this document. General comments whose essence is considered to have been captured in the summary part of the report of the correspondence group are not included in this INF document, either.

3 Therefore, only looking at the compilation of comments in this document, might give a different impression from the direction reflected in the draft text of the guidelines. This document should not be used for purposes such as judging the "balance" among group members' views. It is intended that group members, when they make an intervention at the working group meeting, refer to their own comments in this document to assist the other members' understanding.

Action requested of the Committee

4 The Committee is invited to note the information contained in this document and to take action as appropriate.

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ANNEX

COMMENTS TO THE 2ND ROUND OF THE CORRESPONDENCE GROUP (CG) ON SHIP RECYCLING GUIDELINES

PART 1 DRAFT GUIDELINES FOR SAFE AND ENVIRONMENTALLY SOUND SHIP RECYCLING

Structure of the Guidelines and the issue of multiple Ship Recycling Facilities

(China)
To increase the practicability and make it easier for the industry to follow the guidelines, it is suggested to add an extra paragraph in the beginning of the guideline, which clearly distinguishes the content of guideline into two parts: one is the mandatory part, the other is the recommended part. A good example for this is the IMDG code under the SOLAS Convention.
Appendix A--D and appendix X need to be provided in the future developments to improve the readability of the guidelines.

(Germany)
Germany still favorites the simplified structure of the facility guideline. It should be distinguished between the principle part and a more detailed guidance. The owner of ship recycling facilities should have an "easy to use" guideline.

(United States)
With regard to the EC comment on the need for separate sections within the Facility Guideline dealing with the use of multiple facilities, the US concurs with the coordinator's comment that this is adequately covered and additional text is not needed.

> *<EC comment on the need for separate sections within the Facility Guideline >*
> *The EC would like to recall to the specific situation where several facilities are involved in the recycling of one ship. The EC feels that this issue should be addressed in the guidelines either in a separate dedicated part, or by addressing it specifically in the relevant parts of the guidelines.*
>
> *<Coordinator's comment on EC comment>*
> *The situation where more than one SRF are to be used is stipulated by Regulation 9.6 of SRP, and the draft SRP guidelines include some provisions on those cases where multiple SRFs are used,e.g., 5.3.2 (2) of the SRP guidelines.*
> *When more than one SRF are used, it is clear that each of SRF would have to develop an SRFP, get the authorization from each relevant CA, and be issued DASR. From the view point of each SRF, no matter it works alone or together with other SRFs, there is no difference in what they should do to demonstrate the compliance by developing the SRFP.*
> *Therefore, it seems to me that this issue of multiple SRFs can be dealt with in relevant parts of SRP guidelines. Or, any suggested text would be welcome if dedicated wording inside the Facility Guidelines is necessary.*

2.3

(Bangladesh)
Bangladesh proposes that the square brackets and the texts therein should be deleted.

2.6

(Bangladesh)
We prefer the alternative definition of "Space" with modification as follows as crawl space is not limited to tunnels and shaft alleys etc.
~~[~~"*Space*" means a space on a ship, including the accommodation spaces (SOLAS II-2/3.10), public spaces (SOLAS II-2/3.11), service spaces (SOLAS II-2/3.12), cargo spaces (SOLAS II-2/3.13), machinery spaces (SOLAS II-2/3.20), and void spaces (IBC Code, definition 1.3.36). These spaces include, but are 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.~~]~~

(China)
The alternative of definition 2.6 is too hard for the industry to read and understand. We prefer the first definition.

2.6 ["Space" means an area 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 area within its bounds.]

Alternative to the above paragraph:
["Space" means a space on a ship, including the accommodation spaces (SOLAS II-2/3.10), public spaces (SOLAS II-2/3.11), service spaces (SOLAS II-2/3.12), cargo spaces (SOLAS II-2/3.13), machinery spaces (SOLAS II-2/3.20), and void spaces (IBC Code, definition 1.3.36). These spaces include, but are 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.]

2.7

(Bangladesh)
Should be modified to:
"*Permissible Exposure Limit (PEL)*" means the exposure, inhalation, or dermal permissible exposure limit specified in ~~Appendix B.~~ the national law. In the absence of such national law, limit specified in apendex ... shall be regarded as permissible exposure limit (PEL)

(ILO)
Agree with the use of PEL in place of TVL on the basis that PEL allows countries to exercise their options to use their own levels of exposure or those established by another country. The issue is that exposure limits must be established by the SRF.

3.1.1 Company information

(Denmark)
We find that the issues of subcontractors should be emphasized in this section on the company (supporting the text in 3.2.3 Permits, licenses, certifications). We propose to add as a final paragraph in 3.1.1:
The use of subcontractors for any part of the work or management of hazardous materials do not relieve the Company of the responsibilities outlined here. In all matters covered by these guidelines the Company should ensure safe and environmentally sound management of subcontractors and maintain records to document this.

(ILO)
Final paragraph should read

The facility's environmental, occupational safety~~,~~ and health~~,~~ management programme~~,~~ policies and objectives should be communicated to and understood by all personnel working at the Ship Recycling Facility.
Reason: It is not sufficient to ensure only the management programme is understood but that workers should understand the facility's policies and objectives for safety and health, the environment and the commitment to improvements.

3.1.1 .4

(ILO)
After health manager insert the text
'and a senior person trained in first aid or medical care'
Reason: No account has been taken of the necessity for any person in the facility to be able to immediately attend to injured or sick workers.

3.1.1 .5

(ILO)
Text should read
a description of the facility's environmental, occupational safety~~,~~ and health management programme, including Environmental Management System certifications (e.g., ISO, OHSAS), as applicable;
Reason: The established expression is occupational safety and health and is consistent with the use of OHSAS.

3.1.1 .6

(ILO)
Text should be amended to read
a policy statement on the commitment of the facility to the protection of the environment~~al~~ and occupational~~,~~ safety~~,~~ and health including the objectives set by the facility that lead to the minimization and ultimate elimination of adverse effects on human health and the environment caused by ship recycling~~commitment of the facility~~;
Reason: Incorrect syntax of current text and omission of one fundamental requirements of the Convention.

3.1.1 .8

(Bangladesh)
This paragraph should be deleted as it is a repetition of the regulation 18.2 and provides no additional clarification/explanation to the regulation.

3.1.2 Training programme

(ILO)
To be deleted as replacing text is provided later in 3.3.3

3.1.2 .1

(Bangladesh)
This paragraph should be replaced by:
"Hazardous materials awareness, communication, handling and management";

(United States)
The US believes that "hazardous material awareness and communication" is meant to be a basic training for all employees, not just workers performing tasks that present job hazards. This is necessary so that employees at the SRF generally understand what materials would be encountered at the facility and what precautions are to be followed when a material is found.

We believe the second phrase in square brackets "hazardous materials handling and management" is a different matter, and is already covered in items .2 through .6, and therefore an additional category is not required.

3.1.3 Worker management

(ILO)
Amend title to read 'Management of human resources'.

Delete the existing text and insert
'The SRFP should include in the organisational structure, the relationships between top management, managers, supervisors and recycling facility workers and the authorities and responsibilities they have been assigned. The responsibilities should be accompanied by details of the qualifications, experience required and/or other requirements necessary to safely and competently carry out the functions of each position. Deputies or alternates should be identified in the event of key personnel being absent. Positions that encompass the duties of a competent person for the purposes of conducting safe-for-hot-work or safe-for-entry or any other task that may be considered critical should be clearly indicated in the organisational structure.

The SRFP should explain how each manager, supervisor and worker is made aware of the respective responsibilities, in particular, those responsibilities for their safety and health and the safety and health of others. Such responsibilities also include not allocating workers to work, and workers not undertaking work, for which they have not received the appropriate training.

The organisational structure should identify those persons who have been assigned, in whole or in part, specific responsibility for safety and health and environmental protection matters including the responsibilities for determining and documenting safe work procedures and carrying out inspections, as well as those trained in first aid or trained to provide medical care.'

Reason: Revisions based on the basis that a fuller description is required of the managing of human resources

3.1.4 Records management

(ILO)
Text in 4th line should be changed to read
receipts, waste shipment records, worker accidents~~, and~~ injuries~~,~~ and medical or health records such as occupational health examinations carried out and diseases contracted, and
Reason: Employers are required to ensure that workers are medically fit to carry out the work for which they are being employed. Occupational safety and health is concerned with worker accidents and injuries, medical health including diseases that are contracted while in employment.

3.2.1 Facility information

(Bangladesh)
As the dimensions and slop of Inter-tidal zone and influences the size and number of ships that can be safely beached on the beaching area of a recycling facility, this information will ensure safety during beaching of a vessel. So we suggest following modification to this section:
The SRFP should provide a clear and concise description of the physical location of the facility, including acreage and facility access routes. A detailed facility drawing or map should be included with information regarding the recycling area, including beaching area (dimension of inter-tidal zone and slope), slip, pier, dry dock or other area at the facility where recycling will occur.
Paragraph 2 and 3 should be deleted as the map and the suggested additional information will provide all information required.

(ILO)
Text in third paragraph should be amended to read
Temporary and permanent buildings such as office, workers complex, drinking water, sanitary and medical and first aid facilities, gas storage, hazardous material storage ~~[~~and processing facilities~~]~~, as well as floor construction and other structures ~~[~~and roadways~~]~~and emergency access routes~~,~~ should be identified.
Reason: The Convention calls for SRFP to be approved by the competent authority and all the added features and facilities are essential for assessing the SRF's provisions for the protection of human health and preparedness for emergencies. Regulation 19

3.2.2 Equipment

(ILO)
Amend text to read
The SRFP should include a clear and concise description of the pertinent details of the principle ~~major~~ operational equipment in use at the facility. It is recommended that this include the quantity, capacity and types of such~~large~~ equipment and other pertinent information such as test certificates, safe working loads and qualifications of operators~~that could be~~ relevant to worker safety and protection of the environment.
Reason: 'major' and 'large' are subjective, capacity, test certificates, safe working loads and qualifications of operators are all important considerations that need to be taken into account in determining whether or not the SRF has the ability to safely recycle.

3.2.7 Ship recycling methodology

(Bangladesh)
Following modification to this section is suggested as it is enough to describe what is required:
"The SRFP should include a comprehensive description of the facility's ship recycling methodology. This should include the entire process of recycling a vessel.~~, the integration of hazardous material and waste management with the ship recycling, and a description of the methodology and procedures for identifying and segregating material. The SRFP should include a detailed description of how recycled materials and salvageable items handled or disposed~~."
~~The SRFP should include procedures for conducting assessments of vessels for safe and environmentally sound recycling.~~
~~Regulation 25 contains requirements for reporting upon completion. The SRFP should describe the procedures in place for notification, and how it will document and report on incidents and accidents.~~

3.3.1 Key safety and health personnel

(ILO)
Delete existing text in 3.3.1 and replace with
3.3.1 '**Workers health and safety**
In this section of the SRFP the facility should provide a comprehensive description of the recycling facility's plans and procedures for protecting worker health and safety that should reflect the applicable requirements of the Convention (in particular Regulations 18,19, 20, 21, 22 and 23) and national legislation. The SRFP should identify and demonstrate the ship recycling facility's knowledge and understanding of the appropriate and applicable occupational health and safety laws, regulations, policies, procedures, processes and national and international guidelines and for the need to provide and maintain a safe and healthy work environment. Further, the SRFP should clearly demonstrate that health and safety provisions, provided for in the procedures at the recycling facility, are appropriate to and according to the facility's size and nature of the activities to be carried out.'
Reason: Existing text does not fully and concisely address the requirements of the Convention.

<Note by the Coordinator>
The present text of 3.3.1 has a specific meaning in identifying the key safety and health personnel. The text proposed by ILO for 3.3.1 does not seem to be replacing the original 3.3.1; it is almost the same as chapeau of 3.3, with slight wording changes.

<Clarification by ILO>
The chapeau of 3.3 is to be deleted as the replacement text in 3.3.1 and other renumbered sections is intended to expand and clarify what was contained in the chapeau and the original 3.3.1, 3.3.2 and 3.3.3. These changes were made on the basis that the whole of 3.3 was to be reorganised and improved upon. The replacement text was also intended to follow the order of subjects as they appear in the Convention.

3.3.2 Job Hazard Assessment

(ILO)
Delete existing text in 3.3.2 and replace with:
'3.3.2 Protection of human health
The SRFP must contain the facility's policy in respect of workers safety and the protection of human health and include the objectives that lead to the minimisation and ultimately elimination of the adverse effects on human health, the goals of the recycling facility and the continuous improvement of the procedures and standards used in recycling operations (Regulation 18). The policy should state the recycling facility's objectives – stated improvements in performance – and indicate the system by which they and the facility's goals are to be accomplished. The system adopted may include measuring and monitoring of existing activities; regular reviews of policies, procedures, standards, accidents, incidents and medical reports by senior management; and reviews of the objectives and goals themselves. The Convention places on the recycling facility not only to protect human health but to improve the procedures and standards that impact on workers' health.

The use of occupational safety and health management systems as a framework to fulfil the requirements of Regulation 18 paragraph 1 and the requirements for continuous improvement in Regulation 18 paragraph 2 should be considered. Alternatively, occupational safety and health provisions and objectives and goals, may be incorporated into a single management system that encompasses all activities at the recycling facility. It is important that any management system adopted should include safety and health committees and occupational health screenings, including detection of workplace contractible diseases, as

these are fundamental issues that directly affect human health. The reporting link between persons with direct responsibility for safety, health and the environment and top management should be clearly documented.'

Reason: Reorganisation of text under 3.3

<Note by the Coordinator>
The present text of 3.3.2 has a specific meaning of including Job Hazard Assessment in SRFP. The text proposed by ILO for 3.3.2 does not seem to be replacing the original 3.3.2; it seems to be the narrative of general nature. It should be also noted that the "facility's policy" described in the proposed text has been stipulated in different section. It is not necessary either to repeat the Convention's philosophy here.

< Clarification by ILO >
Job hazard assessment has been moved and is now addressed in the proposed new 3.3.7 since it is considered more appropriate to the prevention of accidents. The header of 'Protection of human health' is a key requirement of the Convention and places an obligation on the SRF to address this issue. The replacement text gives an indication of the tools available to the SRF which it may use to protect workers health and safety and improve standards and procedures. It is narrative in the sense that it puts into context the Convention's requirements and provides guidance in terms of tools that can be used. It is considered unnecessary to give detailed guidance on how the tools may be employed due to the potential variables involved.

3.3.3 Prevention of adverse effects to human health

(ILO)
Delete existing text in 3.3.3 and replace with:
'3.3.3 Training and training programmes
The SRFP should indicate the recycling facility's policy with respect to training of workers to ensure they are sufficiently trained to be competent to undertaken the work they are assigned as required under Regulations 18 (paragraph 4), 20 (paragraph 2), 21 (paragraph 5) and 22 (paragraphs 1.2 and 3). The SRFP should also describe, in brief terms, the mechanisms that ensure workers receive training in advance of any changes to work procedures and how workers are informed of any new safety precautions, such as that which might be associated with the introduction of new technology, before being instructed to carry out the work.
The SRFP should address any remaining provisions of Regulation 22 including, *inter alia*, the provision of and training in the use of personal protective equipment and clothing including its limitations, storage, maintenance and repair.'
Reason: Reorganisation of text under 3.3 and expansion of text in line with sequence of issues in the Convention.

<Note by the Coordinator>
The present text of 3.3.3 is the biggest and critical block of guidance in the Facility Guidelines, covering the prevention of adverse effects to human health. The text proposed by ILO for 3.3.3 does not seem to be replacing the whole original 3.3.3; the training is described in a different section 3.1.2.

< Clarification by ILO >
The replacement text was intended to replace the existing text on the basis that the existing text would be moved to a new section 3.3.7 under which 3.3.3.1 would appear as a sub heading. We omitted to include the revision of the numbering of 3.3.3.1 to 3.3.7.1, and subsequent paragraphs covering safe for entry and safe for hot work. The existing 3.3.3.1 and subsequent related paragraphs should be re-aligned under 3.3.7.

Concerning the issue of training, the Convention raises this issue on a number of occasions in different contexts. The proposed text on training addresses training as it relates to 3.3 and draws the attention of the SRF to other requirements on training contained in the Convention. These proposals were considered appropriate on the basis of addressing the requirements as they appear in the Convention rather than trying to consolidate them with the risk of changing their context.

In conclusion, we redrafted and rearranged the whole 3.3 EXCEPT the paras on safe for entry and safe for hot work, as we were waiting for the text by OCIMF. On the safe for entry and safe for hot work we suggest you to number the titles under the existing 3.3.3.1 and 3.3.3.2 to facilitate the discussion in MEPC 61.

3.3.3.1
Safe for Entry criteria

(China)
The original paragraphs read as:

.1 *The oxygen content of the atmosphere is neither deficient ([below 19.5% oxygen]) nor enriched ([22.0% oxygen or above]);*

.2 *The concentration of flammable vapours is below [10] per cent of the Lower [Explosive][Flammable] Limit;*

The specific parameters, which appeared in the blanket, should be recommended rather than compulsory. For those countries adopt different (even slightly) parameters, these compulsory standards could be an excessive legislative burden.

3.3.3.1 .2

(Bangladesh)
As lower explosive limit (LEL) is internationally accepted and ensures higher safety standard, we prefer deletion of "[Flammable]" and deletion of the other square brackets keeping the texts therein.

3.3.3.1 .3

(Bangladesh)
We suggest following modification to the first paragraph as follows:
"Any toxic materials in the atmosphere are within permissible concentration. Chemicals in the atmosphere, or which may be released in the atmosphere as a result of work in the space, are within Permissible Exposure Limits (PELs). The PEL ~~table is included in Appendix B.~~ <u>should be as per the national law.</u>"
We suggest deletion of paragraph 2 and 3 of this section.

3.3.3.1
Competent Person – for Safe for Entry and Safe for Hot Work determinations

(Bangladesh)
Section dealing with "Competent Person – for Safe for Entry and Safe for Hot Work determinations" is unnecessary as the definition of Competent Person in the regulation 1.1 of the convention clearly mentioned that the competent person should have adequate knowledge, experience for the particular job. Guideline should not impose any additional requirements to the provisions of convention. Therefore we suggest deletion of this section.

3.3.3.1
Toxic, corrosive, irritant or fumigated atmospheres and residues

(Bangladesh)
Following amendment to the second paragraph of the section regarding "Toxic, corrosive, irritant or fumigated atmospheres and residues" is suggested:
"If a space contains an air concentration of a material which exceeds the PEL as noted in the national law. In the absence of such national law, as noted in Appendix B, then workers may not enter the space and it should be labelled "Not Safe for Entry". Ventilation should be provided at volumes and flow rates which will ensure that air concentrations are maintained within the PEL. The warning label may be removed when the concentration of contaminants is maintained within the PEL and it has been tested and inspected by the competent person."

3.3.3.1
Safe for Entry operational measures

(Bangladesh)
Text under the second bullet in the section regarding "Safe for Entry operational measures" should be modified as follows:

- A permit for entry has been issued by the same individual(s) who is/are responsible for maintaining the certificate, on behalf of the Ship Recycling Facility for those intended to enter the space. ~~A sample permit is enclosed in Appendix D; the permit~~ Fulfillment of a pre entry check list will verify that all certifications and operational measures for safe entry have been completed and are in effect.

3.3.3.2
Competent Person

(Bangladesh)
Section related to "Competent Person" should be deleted as Regulation 1.1 of the Convention has already defined "Competent Person". Guideline should not impose any additional requirements to the provisions of convention.
"~~**Competent Person**~~
~~A "competent person" for matters related to Safe for Hot Work should meet the criteria identified in 3.4.2.1.2 above."~~

3.3.3.2
Safe For Hot Work inspection, testing and determination

(China)
"(not to exceed 24 hours)" The same suggestion as above. We prefer a recommended standard here.

3.3.3.3 to 3.3.3.9

(ILO)
Delete the text in these paragraphs. Reason: the subjects have been briefly raised in earlier guidance. The existing text requires revision and in any event they would be more appropriately placed in Appendix 4 under Operation Approach.

3.3.3.10 Personal Protective Equipment

(Bangladesh)
As hazard analysis varies from ship to ship, requirement of personal protective equipment should be addressed in the SRP rather than in SRFP. So we suggest following amendment to is section;
"The SRFP should include information on procedures and equipment used for the protection of employees from various risks associated with ship recycling ~~(to include a job hazard analysis to determine the required personal protective equipment; respiratory protective equipment; personal protective clothing; and a hearing conservation programme)~~".

(ILO)
Delete existing text.
Reason: existing text requires revision as it is extremely limited. Text concerning the use of PPE already exists in Appendix 4 therefore additional possible contradictory detailed text should be avoided. It is sufficient to ensure that the recycling facility are obligated to provide appropriate PPE, how its use is determined and that workers must be trained in its use, maintenance, storage and repair. The SRFP should address these issues and not provide details about specific elements of PPE or isolated instances where it can or should be used. – See revised text in new 3.3.3 and new text in 3.3.7.

3.3.3.11 to 3.3.3.12

(Bangladesh)
We accept the deletion of these section as this will be moved to the "Emergency preparedness and response plan" and spill prevention, control and countermeasures"

(ILO)
Delete existing text as all issues relate to emergency response that should be developed in concert with local emergency service providers. The new paragraph 3.3.4 provides for responses to accidents involving workers.

3.3.4 Emergency Preparedness and Response Plan

(ILO)
Delete existing 3.3.4 and replace with
'3.3.4 Emergency preparedness and response plan
In accordance with Regulations 18 and 21 the recycling facility must indicate in its SRFP that an emergency preparedness and response plan has been developed and give details of the scope and the drills that are regularly carried out so as to ensure that in the event of an accident or incident the recycling facility is well prepared and capable of implementing the plans in an efficient and timely manner. The plans should, at a minimum, include the facility's response to:

- an outbreak of fire on the ship being recycled or waiting to be recycled, within the perimeter of the facility or in an adjacent facility;
- the occurrence of an explosion on the ship being recycled or waiting to be recycled, within the confined of the facility or in an adjacent facility;
- accidents to workers on board ships, in the water and within the facility;
- the unauthorised or accidental spillage of hazardous materials; and
- acts of nature such as earth quakes or tsunamis.

The response plan should include the location of all emergency response 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 recycling facility. The response

plan should also include the roles and responsibilities of those charged with specific duties in the event of an emergency, internal communications and the means by which external emergency services may be summoned.

The Emergency Preparedness and Response Plan (EPRP) may be a stand-alone, self-contained document or an integral part of the facility's management system and should be developed in consultation with national laws and local emergency service providers. The SFRP should include the frequency and extent of drills carried out. The recycling facility should be prepared, if a separate document has been developed containing all the emergency preparedness provisions, to provide a copy to the competent authority.'

Reason: Reorganisation of section 3.3 and a refinement of the existing text since it is considered that there is sufficient information already available from other sources that would enable a recycling facility to develop a suitable emergency response plan. The existing text provides some detailed guidance but guidance given should be comprehensive and it is considered these guidelines are not intended to be prescriptive.

3.3.5 Fire prevention and response

(France)
It's proposed to add after suitable trainings: "(<u>its frequency and sequency should be defined</u>")

(ILO)
Delete 3.3.5 on the basis that this is detailed information that should appear in the emergency response plan. If it is to be retained then it should appear in Appendix 4.
Replace with new paragraph:
'3.3.5 **Monitoring of performance**
The SRFP should indicate how the performance of the ship recycling facility is monitored to ensure that the recycling facility's objectives are being achieved, operations are being conducted and a safe and sound manner and that the work environment remains healthy and that national and international standards are being complied with. Monitoring of the performance may include regular reviews by senior management of work carried out and comparisons with previous work, accident records, the use of productivity statistics, internal audits, reviews of procedures and standards and the results of periodic reviews of hazard evaluations and risk assessments. Regular should be taken to mean at intervals not exceeding 12 months.'
Reason: New paragraph added to address, in logical order, the requirements of Regulation 18.

3.3.6 New paragraph

(ILO)
Add new paragraph.
3.3.6 'Reporting on performance
The recycling facility should describe in the SRFP the system for maintaining records of its activities and reporting requirements in respect of the following:

- progress with the recycling operation;
- discharges or emissions arising from any of the facility's activities and operations;
- accidents or incidents causing damage or that possess the potential to cause damage to workers or the environment.

The system should address how these records are maintained and reviewed and the mechanisms for assimilating lessons learned into the improvement of existing policies and procedures'

Reason: New paragraph added to address, in logical order, the requirements of Regulation 19.

3.3.7 New paragraph

(ILO)
Introduce new paragraph 3.3.7:

3.3.7 'Prevention of accidents

Regulation 19 requires the establishment and utilisation of procedures to prevent accidents including: ensuring gas-free-for-hot-work conditions during the whole recycling process; the prevention of other accidents causing or having the potential to cause damage to human health; and the prevention of spills of residues or other materials that cause of have the potential to cause harm to humans and/or the environment.

The SRFP should describe the procedures that have been developed to ensure conformance to this Regulation. In respect of gas-free-for-hot-work to prevent explosions, the procedures must include, *inter alia*: descriptions of the sampling process; the determination of criteria and standards and how they apply to safe and unsafe conditions; the evaluation of results; the issue and validity of gas-free-for-hot-work certificates; the training, qualifications and competence of the persons carrying out the sampling and issuance of the certificate; the posting of warning signs for spaces not gas-freed and the maintenance of records of samples and certificates issued. See details below.

Concerning accident prevention procedures designed to prevent other accidents or having the potential to cause damage to human health, the SRFP should describe: the methodology used to determine the possibility of accidents arising in the workplace and the corresponding identification of measures to prevent possible occurrences. Such methodologies may include the conducting of hazard evaluations or the development of safe systems of work and the use and provision of personal protective equipment and clothing. Whatever methodology is employed the outcome should ensure that any risks identified are minimised or eliminated, workers are made aware of any residual risks, workers are advised of any risks in advance to prevent an accident from occurring, and in the event of an accident, the measures that are to be taken to prevent a recurrence. At a minimum, the SRFP should address the following:

- Safe for entry procedures.
- Safe for hot-work procedures, where they are not already specified.
- Materials handling gear and equipment.
- The use and maintenance of tools.
- Working at heights and over water.
- Housekeeping and illumination.
- The use and maintenance of Personal Protective Equipment.
- Sanitation and hygiene including decontamination.

The SRFP should also contain details of the procedures and provisions adopted by the recycling facility to prevent spills of cargo residues or other materials that cause harm to human health and/or the environment. In this regard, the recycling facility should provide details of how cargo residues are identified in terms of their toxicity or other characteristics associated with their harmful effect on human health, quantified in terms of their volume, captured in terms of how they are to be safely contained and transported in terms of their movement to the disposal facility. The procedures describing the processes should identify the risks posed by the residues and the measures to be taken to avoid a spill together with the action that should ensue in the event of a spillage. In respect of spillages, these may form part or be addressed in procedures relating to emergency preparedness or the procedures concerning safe and environmentally sound removal and management of hazardous materials or indeed stand-alone procedures.

Reason: Revised text takes into account the 4 provisions of Regulation 19 under a single heading.

3.4 ENVIRONMENTAL COMPLIANCE APPROACH

(Bangladesh)
Bangladesh believe that Appendix 4 to the Facility Guide Lines should be removed from the SRFP and framed a separate "Technical Guide Line". So we suggest following modification to this section:
"… applicable requirements of the Convention (particularly regulations 20 to 22). ~~Technical guidance in Appendix 4 should be taken into account, as necessary."~~

3.4.1 Environmental monitoring

(Bangladesh)
This section should be deleted as it is not within the scope of the Convention text.

3.4.2 Hazardous Materials management

(Bangladesh)
It is more appropriate and practical that while preparing IHM onboard ship, the surveyor/owner should identify/mark/label/quantify the hazardous materials and also prepares a ship specific hazardous material plan which should be delivered to the ship recycling facility prior to development of SRP. Moreover, as per the Regulation 20.2, of the HKC Ship Recycling Facilities authorized by a party shall only ensure that all Hazardous Materials detailed in the Inventory are identified and labeled. So we suggest the following modifications to the 3rd paragraph of this section:

"~~The facility's approach of marking/labelling, removal, storage, etc., for each of these Hazardous Materials on board should be described in its SRFP. The Inventory of Hazardous Materials should be utilized for the identification of all locations of all Hazardous Materials, followed by the process such as marking/labelling on board that should be done by the Ship Recycling Facility after the acceptance of the ship.~~ The ship recycling facility should ensure the compliance of 'Inventory of Hazardous Material' in matters relating to location and volume of the asbestos and material containing asbestos."

The next two paragraphs should be deleted as the above paragraph covers their contents.

(China)
As regards a possible sub-section on the management of non-hazardous wastes;
As the Hong Kong Convention doesn't cover the management of non-hazardous materials, we think it is not necessary to include this part in the guidelines.

(France)
3rd bullet: it is suggested to add, after PCBs "PCBS (and other persistent organic pollutants (POPs))
Sub section on management of non-hazardous wastes? It could be coherent to have one sub section about the HW, another about the non HW, but the later should be brieve and aim to demonstrate that the SRF can manage the treatment of the non-HW in an ESM (especillay if sub constractors or another facilty of treatment)

(Germany)
Tar is a commonly used hazardous material that should be added.

(United States)
Regarding the possible "[Sub-section on management of non-hazardous wastes]", we believe that this is an important environmental issue. For example, what does a facility do with

plastic garbage? Does the facility discharge the materials into the ocean? Or instead, does it place plastics in appropriate receptacles where they cannot be blown uncontrolled into the environment? This section could be succinctly covered with the following proposed text:
"*Non-Hazardous Wastes. The facility's approach for the safe and environmentally sound removal and treatment of any non-hazardous wastes on board should be described in its SRFP. The SRFP should describe the facility's processes, control procedures, and capabilities for the removal and treatment of all such non-hazardous waste, which should take into account applicable and appropriate IMO Guidance, including but not limited to, Annex V guidelines and IMO Comprehensive Manual on Port Reception Facilities.*"

3.4.2.1 Identification/marking/labelling and potential onboard locations

(Bangladesh)
As mentioned above, while preparing IHM onboard ship, the surveyor/owner should identify/mark/label/quantify the hazardous materials so this section is redundant to the procedures for development of Inventory of Hazardous Material by the ship owner. We, therefore propose deletion of this section.

Whole section of 3.4.2.1 to be deleted

(Denmark)
In 3.4.2.1 Identification/marking/labelling and potential onboard locations the explanation on proposed labelling codes should be expanded and moved to Appendix 4. It may be beneficial to promote the use of a system of simple labelling codes or symbols. If so decided, the final paragraph should read:
It is recommended that the Ship Recycling Facility becomes fully aware of all the potential locations for Hazardous Materials on board ships. Examples of typical locations for many of the Hazardous Materials are provided in Appendix 4 of these guidelines and a set of codes/symbols for easy identification of hazards are provided. More detailed information can be found in the Indicative List, Appendix 5 Typical Example for the Development Process of Part I of the Inventory for Existing Ships, of the Guidelines for the Development of the Inventory of Hazardous Materials (hereafter "the Inventory Guidelines").

(France)
First §: after "If the Ship Recycling Facility finds that some parts of the Inventory of Hazardous Materials do not provide sufficient information, after a visual check of the ship, the Ship Recycling Facility may decide to carry out sampling tests" add: It has to be remembered that the identification, location and volume of the Hazardous Material is the aim of the IHM. The accuracy of the IHM is under the responsabilities of the shipowner and its Administration. As a consequence, the cost of sampling and analysis should be charged on the shipowner.

3.4.2.2 Additional sampling and analysis

(Bangladesh)
This will encourage surveyor/owners to prepare an inventory of hazardous material that is not accurate and will not be helpful to prepare the SRP. Further, if this section remains than the responsibility of identifying HazMat is transferred to the ship recycling facilities, which logically should be the responsibility of the ship owner and should be carried out during the preparation of Inventory of Hazardous Material. So, we propose deletion of this section.

Whole section of 3.4.2.2 to be deleted

(France)
First §, after "If the Ship Recycling Facilities find it necessary to conduct sampling and analysis on certain materials on board, for example when the Inventory of Hazardous Materials is in question and/or when the Inventory does not clearly identify the location and volume of Hazardous Materials, sampling analysis and/or visual inspection should be carried out, possibly with the cooperation of shipowner to enable the identification of the 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" add:
When sampling analysis and/or visual inspection have to be carried out, this has to to be identify in a contract between the shipowner and the SRF's operator. An amended IHM may be needed.

3.4.2.3 Removal, handling and remediation

(Bangladesh)
As the authorized personnel responsible for carrying out removal of a hazardous material will change time to time, SRFP is not the appropriate place to provide information regarding responsible personnel authorized to carry out removal of HazMat. So we suggest deletion of this paragraph.
The third Paragraph of 3.4.2.3 to be deleted

3.4.2.5 Treatment, transportation, disposal

(Bangladesh)
As the SRFP is to provide guidance to comply Hong Kong Convention, we suggests the following amendment to the first paragraph of this section:

"... and in compliance with ~~applicable international~~ Hongkong Convention, national …"

The lalst paragraph of this section should be deleted as it is not within the scope of Hong Kong Convneton according to Articale 2.10

The last paragraph of 3.4.2.5 to be deleted

(Denmark)
In 3.4.2.5 (if section "Recycling approach" is deleted) "Treatment, transportation, disposal" it should be emphasized that the requirements to ensure environmentally sound management extends in to the supply chain and therefore includes activities/services performed by subcontractors. Final sentence should read:
… the documentation, including that of subcontractors.

3.4.3.1 Asbestos and materials containing asbestos

(Bangladesh)
By the reason given in relation to section 3.4.2 the first paragraph of this section should be modified and the second paragraph should be deleted as follows:

~~"The Ship Recycling Facility should identify the location and volume of the Asbestos and materials containing asbestos by actively utilizing the Inventory. Identification, marking and labelling should be done by the Ship Recycling Facility prior to the removal of Asbestos and materials containing asbestos.~~ The ship recycling facility should ensure the compliance of IHM in matters relating to location and volume of the asbestos and material containing asbestos.

~~Indicative lists of shipboard locations for asbestos are provided in Appendix 4 of these guidelines and in the Inventory Guidelines, and can be the supporting material to implement an additional assessment and sampling if required."~~

The third paragraph of this section should be modified as follows by the reason given above and as "competent person" is already defined in Regulation 1.1 of the Convention. And the foot note should be deleted.

"In order to safely remove asbestos and materials containing asbestos, the following procedures should be taken. The SRFP should describe how the facility implements these protective measures:

.1 ... accordance with ~~applicable international~~ Hong Kong Convention and national requirements;

.2 … management of the competent person[1] ~~for the asbestos and materials containing asbestos~~;

(France)
After point 6, it's suggested to add "properly labeled leak tight containers with lids should be required for the transport of asbestos from the site to the disposal aera."
It's proposed to keep "the practice for dealing with materials containing asbestos under partial pressure chamber system should be encouraged as far as possible", and add "It is also essential to keep the asbestos wet before and during the removal operation, in order to avoid the dispersion on the fin fibres in the air".

(Germany)
Transportable decontamination units that can be installed beside the contaminated areas.

3.4.3.2 PCB and materials containing PCBs

(Bangladesh)
By the reason given in relation to section 3.4.2 we suggest following modification of this section:

~~The Ship Recycling Facility should identify the location and volume of the Hazardous Material and wastes contained PCBs by actively utilizing the Inventory. Identification, marking and labelling should be done by the Ship Recycling Facility prior to the removal of Hazardous Material and wastes contained PCBs.~~

~~Indicative lists of shipboard locations for PCBs are provided in Appendix 4 of these guidelines and in the Inventory Guidelines for PCBs, and can be the supporting material to implement an additional assessment and sampling if required. PCBs may be contained in the equipment and materials in both solid and liquid forms as shown on the Inventory of Hazardous Materials. PCB sampling and analytical procedures can be expensive and time consuming, therefore it may be more economical to assume possible materials containing PCBs to be PCBs wastes and simply remove and dispose of them as accordingly.~~ The ship recycling facility should ensure the compliance of IHM in matters relating to location and volume of the PCBs and material containing PCBs.

~~1~~

(France)
Point 2 after PPE for worker, a footnote could be included to refer to the UNEP guide about PCB "UNEP PCB transformers and capacitors from management to reclassification and disposal May 2002"
Bullet 1 add, after "liners": "all leakproof retention equipments"
Point 4 and 5: agree with comments from DK

3.4.3.2 .4

(Denmark)
We note that in 3.4.3.2 PCB and materials containing PCBs, it is mentioned in bullet 4 that a rinse with organic solvent will decontaminate equipment. This information is in our opinion too unspecific since common organic solvents such as turpentine or methanol are not effective solvents for PCBs. The bullet should read:

.4 equipment used to remove PCB-containing materials should be decontaminated appropriately after use (A common decontamination process for equipment would be a rinse with ~~a~~n non-polar organic solvent such as kerosene or diesel~~rinse~~ followed by washing with soap and water and a clean water rinse.);

(Germany)
In case a material is burned, cutted, bored or grinded it mostely dosen`t matter if a material contains friable asbestos or heavily bound asbestos, by the working process the fibres are set free anytime.

Only when it is confirmed by personal monitoring that the exposion is low the level of the safety precautions can be reduced.

A closed space without venting is contraproductive.
Every mask let's pass a certain amount of fibres, especially those masks that are commonly used in the yards. The masks and protective cloth are not able to safeguard the risks in unvented casings.

In case you have to choose between venting or negative pressure, venting is the more usefull aim.

Protective clothing is assembling dust underneath by the pumping effect. Protective clothing can't be sealed tight to the body, explicitly around the face. In hot atmosphere the dust is trapped by the sweat.

Out of this reason the possibility to change cloth and to shower in a lock when leaving the closed area is a much worth full effort to protect the exposed workers and their non- exposed workers than protective clothing that doesn't work under the conditions of ship recycling.

3.4.3.2 .5

(Denmark)
Again, in bullet 5 it is mentioned that materials containing PCB or suspected to contain PCB should not be burned. While this is correct it is in our opinion too limited. New text proposal:

.5 thermal or "hot" methods of removal or recycling should not be used if the presence of PCB is known or suspected (e.g., electric cable insulation, hydraulic oil or transformed oil containing PCBs should not be burned);

3.4.3.2 and Appendix 2

(UNEP)

- On-site handling of PCB should be reduced as much as possible and follow general guidelines for handling toxic materials.
- Polychlorinated biphenyls is not capitalized (except when at the beginning of a phrase). PCB is the acronym for the polychlorinated biphenyls and does not need the "s" for the plural (to be consistent with the Stockholm Convention nomenclature).
- The primary route of exposure to PCB is chronic exposure to low concentrations of PCB through normal diet (of predominantly food of animal origin). Accidental exposures are scarce; occupational exposures may occur in certain areas and skin contact is almost negligible.
- Identification and onboard locations: please revert the sequence and start with PCB-containing equipment; priority should be given to equipment containing PCB; these would have the highest concentrations: transformers, capacitors, hydraulic engines.
- Differentiation into liquid and solid PCB makes sense since in the solid matrix, the PCB were added in liquid form.
- The analytical method does not have to differentiate between the physical state of the PCB. The extraction that is applied to remove the PCB from the matrix depends on the type of the matrix: most commonly are used Soxhlet extraction for liquids, liquid-liquid extraction can be used. The automatic methods (such as pressurized fluid, supercritical fluid) are just a variant of these and not useful for small numbers of samples or different matrices. Between the extraction and the determination needs to be added the clean-up step; this must consist of a multi-column clean up.
- Analysis can be done in two different ways:

1. screening with test kits to identify high concentrations such as in transformer or hydraulic equipment fluids (I do not expect that a ship recycler will open a capacitor).
2. quantitative (confirmatory) analysis with capillary gas chromatography (HRGC) connected to either an electron capture detector (ECD) or a mass-selective detector (MS).

- The SBC general POPs guidelines should be referenced in terms of analysis: 7 indicator congeners should be analyzed. Aroclor patterns as included in EPA 8082A are no longer acceptable. Instead, congener-specific analysis using internal standards (not PCB 209) should be applied. In the context of ship recycling and waste, there is no need to analyze more than these 7 congeners and no need to analyze dioxin-like PCB at ultra-trace levels.
- On a technical note: PCB never form polychlorinated dibenzodioxins but can form polychlorinated dibenzofurans (which will already be present in commercial PCB mixtures); PCDD would occur from chlorinated benzenes, which may also be present in electrical equipment and elsewhere.
- Once identified as PCB or PCB-containing the materials should be packaged, labeled and stored according to international standards, especially as defined by the Basel Convention guidelines and not be manipulated by non-authorized "dealers". Long-term storage or destruction of PCB certainly goes beyond these guidelines and are not subject to the ship recyclers.
- The latest version if the general technical guidelines on POPs waste can be downloaded from http://www.basel.int/pub/techguid/tg-POPs.doc

3.4.3.3 Hazardous liquids, residues and sediments (oils, bilge, ballast water)

(Bangladesh)

By the reason given in relation to section 3.4.2 we suggest following modification of this section:

~~The Ship Recycling Facility should identify the location and volume of the Hazardous liquids remaining on board by actively utilizing the Inventory. Identification, marking and labelling on the tanks and the places should be done by the Ship Recycling Facility prior to the removal of those liquids.~~ The ship recycling facility should ensure the compliance of IHM in matters relating to location and volume of the hazardous liquids remaining onboard.

3.4.3.5 Paints and coatings

(Bangladesh)
Should be modified as follows:
"The Ship Recycling Facility should ~~confirm~~ get confirmation from the owner whether the ship applied anti-fouling paints on its hull and other toxic paints elsewhere on the ship."

(Germany)
As a result of the first inventories, the main amount of lead is found in the paintings. It is the same with hexavalent chromium. The adequate safety precautions are not defined at time.

3.4.3.5.1 Anti-Fouling compounds and systems (Organotin compounds including Tributyl tins (TBT))

(Bangladesh)
Ships are dry docked and re painted every 2/3 years. As TBT containing paints are banned since 2000, therefore presence of Anti Fouling system containing (TBT), (TPT) and (TBTO) on ship's hull should not be a matter concern. We therefore, suggest deletion of this section
1st to 3rd paragraph of 3.4.3.5.1 to be deleted

(Denmark)
It is possible this belongs in appendix 4/Technical Manual but some additional information may be warranted regarding:

- How to remove TBT paints from inaccessible flat-bottoms before vessel or cut sections are dragged

How to collect TBT containing wasted paint chips in areas without impermeable primary cutting areas

(Germany)
During the burning process TBT is transformed to inert Tin Oxide (Tinstone). For that reason I would estimate that the burning process is not the main source for TBT in the environment. Therefore it would be better to avoid blasting the paint, a process with many risks to spoil the material by dust.

3.4.3.6 Ozone-Depleting Substances (ODS)

(Bangladesh)
By the reason given in relation to section 3.4.2, we suggest following modification of this section: ~~The Ship Recycling Facility should identify the location and volume of the Ozone Depleting Substances (ODS) by actively utilizing the Inventory. Identification, marking and labelling should be done by the Ship Recycling Facility prior to the removal of ODS.~~ The ship recycling facility should ensure the compliance of IHM in matters relating to location and volume of the Ozone Depleting Substances(ODS).

~~Indicative lists in the Inventory Guidelines for ODS can be the supporting material to implement an additional survey and sampling if required.~~

(Denmark)
The section appear to address only liquid ODS in refrigerant systems. No guidance appears on management of ODS in insulation foams, neither regarding minor refrigerated equipment nor from large insulated cargo areas as in reefers/LNG carriers. An elaboration would be a matter for Appendix 4, but at least the following bullet should be added here as number 4:

- ODS used as blowing agents and trapped in insulation foam in refrigerated areas should not be released to the atmosphere and environmental sound management should be observed while dismantling and disposing of the foam waste.

3.4.3.7 Other Hazardous Materials

(Denmark)
We note that the Indian proposal for this section includes the word "international" that was proposed to be deleted by the coordinator. We support the Indian proposal and offer a slightly different wording:
"… according to the provisions of **international agreements,** national laws, regulations **and recommendations**."

<Indian proposal>
"… according to the provisions of international and national laws, regulations."

In the new text please add after "… regulations".
Also, when removed later from equipment or cut sections safe and environmentally sound methods should be used, e.g., electric cable insulation containing chlorinated compounds should not be burned.

3.4.4.1 Spill prevention, control, and countermeasures

(Bangladesh)
The square brackets and the text therein should be deleted as it is implied that the containment and diversionary structure etc are meant to prevent discharged hazardous materials to reaching any surface water, ground water, soil etc.

3.4.4.4 Incident and spills reporting procedures

(Bangladesh)
This section should be removed as it is already covered in HKC Regulation 21.4

Appendices

(United States)
To date, discussion has been limited on each of the Appendices – whether the appendix is needed, and if so, what should the content be. Although some observations have been presented to the CG, additional discussion is clearly needed at MEPC 61 before any agreement can be reached.

Appendix 1 RECOMMENDED FORMAT SHIP RECYCLING FACILITY PLAN

(ILO)
In the event Appendix 1 is retained, section 3.4 should be updated and aligned with the SRFP index. Currently, 3.3 of Appendix 1 are entitled 'Operational Approach' whereas 3.3 of the SRFP are entitled 'Worker safety and health compliance approach'.
3.4.1.3 Should read 'Safety and health training'
3.4.2 should read 'Prevention of accidents and protection of health'.

The coordinator made a comment on appendix 1, the format for SRFP, mentioning that it may be superfluous, as the facility guidelines now have a table of contents. In our opinion these two issues, a format for SRFP and the table of contents of the facility guidelines are two totally different things. The SRFP does not have to be identical to the structure of the guidelines. An example: appendix 1 now has 1.1. as "Objectives of the Guidelines" and 1.2. as "Approach of the Guidelines". The SRFP of course should not include these.

Appendix 2 EXAMPLE FORMAT OF THE FACILITY INFORMATION UNDER SRFP

(Denmark)
Appendix 2 should also ask for information on the facility's access to final disposal capacity, i.e. in the table add "disposal" for all hazardous wastes listed (Asbestos, PCBs, ODS, Anti-fouling compounds and system/paints, Heavy Metals, Radioactive substances, Fuel oil, Oily water/Slop/Bilge, Other oils, Other hazardous materials), e.g.,:

Asbestos	removal storage disposal

It is noted that in the Yard Plan shown as attachment to Appendix 2 to the SRFP (and also in the SRP) depict as a standard a pier breaking (afloat) facility. It may be considered to include other arrangements relative to the used methodology to enhance the applicability of the guidance in beaching. In particular, mooring arrangements and drainage during cutting of hull should be addressed.

Appendix 4 POSSIBLE ELEMENTS FOR "TECHNICAL GUIDANCE"

(ILO)
During the development of the guidelines the discussion has gone back and forth on the issue of compliance with the convention vs. good ship dismantling practices. As we have understood, the facility guidelines body text is meant to deal with facilities' compliance with the convention, whereas appendix 4 serves more as a technical guidance to the process of breaking ships. Furthermore, there have been calls for having the appendix 4 as a standalone document, rather than appended to the guidelines. We tend to agree with this view, as this could give not only more time but also more opportunities to look at the ship recycling process itself. We have noted that the body text of the draft still includes a lot of prescriptive text and have made suggestions to reduce this. At this point we do not want to go into the details of the appendix 4 for the reasons mentioned above. I'd just like to mention that we have developed short text on tanks and cargo holds and are ready to share that at a later stage. The same applies to training programmes and several other issues.

Appendix 4 or 5

(UNEP)
Also included in this document is a non-exhaustive list of UNEP (and other) instruments/ references requested by MEPC 60. Would these references be listed along with ILO references in Appendix 5 or inserted in the relevant sections of the guidelines/Appendix 4?

Relevant Instruments and Reference materials

Instruments

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

Stockholm Convention on Persistent Organic Pollutants (POPs)

Montreal Protocol on Substances that Deplete the Ozone Layer

Reference Materials

Technical guidelines for the environmentally sound management of the full and partial dismantling of ships
http://www.basel.int/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/pub/techguid/tg-POPs.pdf

Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Mercury (DRAFT)
http://www.basel.int/meetings/oewg/oewg7/docs/i10e.pdf

Basel Convention Technical Guidelines on Waste Oils from Petroleum Origins and Sources
http://www.basel.int/meetings/sbc/workdoc/old%20docs/tech-y8.pdf

Basel Convention Technical Guidelines on Specially Engineered Landfill
http://www.basel.int/meetings/sbc/workdoc/old%20docs/tech-d5.pdf

Basel Convention Technical Guidelines on Incineration on Land
http://www.basel.int/meetings/sbc/workdoc/old%20docs/tech-d10.pdf

Basel Convention Technical Guidelines on Used Oil Re-Refining or Other Re-Uses of Previously Used Oil
http://www.basel.int/meetings/sbc/workdoc/old%20docs/tech-r9.pdf

Technical Guidelines on the Environmentally Sound Recycling/Reclamation of Metals and Metal Compounds
http://www.basel.int/meetings/cop/cop7/docs/08a3e.pdf

UN Recommendations on the Transport of Dangerous Goods
http://www.unece.org/trans/danger/publi/unrec/English/Recommend.pdf

UN Globally Harmonised System for the Classification and Labeling of Chemicals
http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html

Appendix 5

(ILO)
Provided the text for the appendix 5 of the facility guidelines.

UNITED STATES TEXT AMENDMENT PROPOSALS

Note: Below is the text amendment proposals regarding: 1) Section 3.4.2 Hazardous Materials Management, and 2) SFE/SFHW submitted by US.

1 to 2.5: No Change

2.6 ~~[~~"*Space*" ~~means an area 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 area within its bounds.]~~

~~*Alternative to the above paragraph:*~~
~~[~~"*Space*" means a space on a ship, including the accommodation spaces (SOLAS II-2/3.10), public spaces (SOLAS II-2/3.11), service spaces (SOLAS II-2/3.12), cargo spaces (SOLAS II-2/3.13), machinery spaces (SOLAS II-2/3.20), and void spaces (IBC Code, definition 1.3.36). These spaces include, but are 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.~~]~~

2.7 to 3.3: No Change

3.3.1 Key safety and health personnel

The SRFP should identify one or more key personnel who possess the appropriate level of training and experience to effectively ensure that operations at the Ship Recycling Facility maintain safe conditions. This should include the designation of one or more Competent persons for the performance of specific work. As indicated in Regulation 1, competency is relative to the specific work being performed; for example, a competent person for the purpose of evaluating asbestos hazards is not a competent person for the purpose of a safe for entry determination unless that person meets the criteria of 3.3.1. Depending upon the size of the Ship Recycling Facility and number of workers, the SRFP could include a hierarchy of safety and health management staff to include an overall manager, supervisory staff, and general workers.

3.3.2 to 3.3.3: No Change

3.3.3.1 Safe for Entry ~~procedures~~

Throughout the entire recycling process, the Ship Recycling Facility should ensure that prior to entry and during work, spaces and other dangerous atmospheres are Safe for Entry. The Ship Recycling Facility should ensure that shipboard spaces are not entered until a Safe for Entry Certification 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 prior to issuance of a Certificate and commencing recycling activities.

Safe for Entry certification, inspection, and testing applies to all spaces which 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 to enclosed spaces, and those spaces and spaces adjacent to spaces where hot work has been or will be performed during the course of daily work during the recycling.

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.

Safe for Entry criteria

Safe for Entry denotes a space that meets all of the following criteria:

.1 The oxygen content of the atmosphere is neither deficient ([below 19.5% oxygen]) nor enriched ([22.0% oxygen or above]);

.2 The concentration of flammable vapours is below [10] per cent of the Lower [Explosive][Flammable] Limit; and

.3 Any toxic ~~materials~~ chemicals in the atmosphere are within permissible concentration. Chemicals in the atmosphere, or residues present and capable of generating toxic chemical concentrations ~~which may be released in the atmosphere~~ as a result of work in the space, are within Permissible Exposure Limits (PELs). The PEL table is included in Appendix B.

For "Ceiling Value" PELs (where the PEL in Appendix B is preceded by a "C"): an employee's exposure to any Ceiling Value PEL substance shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceilings be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time over a working day.

For "8-hour Time Weighted Average" PELs (where the PEL in Appendix B is NOT preceded by a "C"): An employee's exposure to any 8-hour Time Weighted Average substance shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week.

Competent Person – for Safe for Entry ~~and Safe for Hot Work~~ determinations

~~Regulation 1 of the Convention defines *Competent Person*.~~ For purposes of making determinations for Safe For Entry ~~and Safe For Hot Work,~~ a ~~high level of knowledge, experience, and specialization is required [;~~ competent person must possess the requisite knowledge and practical experience to make an informed assessment of the likelihood of a dangerous atmosphere being present or subsequently arising in a space or adjacent spaces~~]. The competent person needs to have [a sufficient knowledge on chemistry, petroleum and its derivatives,]~~ to include: knowledge of industrial hygiene and industrial hygiene sampling and analysis, the knowledge of the structure, location, and designation of spaces where work is done; the ability to calibrate, use, and interpret the appropriate testing equipment, ~~such as oxygen indicators and combustible gas indicators,~~ and knowledge of the limitations of such equipment; the ability to perform all required tests and inspections; and the ability to inspect, test, and evaluate spaces to determine the need for further testing. The competent person should be able to determine: oxygen content, concentrations of flammable vapours and gases, and the presence of toxic, corrosive, irritant or fumigated atmospheres and residues. The competent person should be able to maintain appropriate conditions in spaces. The competent person should possess the knowledge, training and experience to properly attest to all conditions ~~noted~~ recorded on the appropriate ~~permit/checklist [and accurately record his or her findings].~~ Documents.

~~The competent person should be licensed or certified in accordance with the laws of the recycling state.~~ The Competent Authority should define appropriate criteria for the designations of such persons and the duties assigned to them~~; in developing criteria or in the absence of developed criteria, competent authorities should ensure the competent person's knowledge, experience, and training related to the following subjects:~~

~~enclosed space entry and testing; control of ignition sources; the construction of all common types of vessels; fire and explosion theory (including concepts of flashpoint, explosive range, the role of oxygen, classification of fuels, and solvent vapour pressure); fire prevention and emergency rescue; industrial hygiene and industrial hygiene sampling and analysis; marine and shipyard safety; organic and inorganic chemistry; skills and knowledge to perform atmospheric testing in a shipyard environment; properties of flammable, combustible, and hazardous materials; properties of toxic gases, vapours, and fumes; petroleum chemistry and testing; tank cleaning; and ventilation theory and application.~~

Safe for Entry inspection and testing procedures

~~Throughout the entire recycling process, the Ship Recycling Facility should ensure that prior to entry and during work, enclosed spaces and other dangerous atmospheres are Safe for Entry. 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.~~ The Ship Recycling Facility should ensure that atmospheric testing is performed to ensure that the oxygen content, flammability, toxicity of an atmosphere is safe for worker entry. Testing should be carried out by a competent person using the appropriate, properly calibrated equipment, including, but not limited to, an oxygen content meter, combustible gas indicator, and toxic chemical~~gas or vapour~~ detection equipment at a frequency which ensures the safety of workers.

~~**Atmospheric testing**~~

~~The Ship Recycling Facility should ensure that atmospheric testing is performed to ensure that the oxygen content, flammability, toxicity of an atmosphere is safe for worker entry.~~

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. Spaces that warrant particular consideration ~~are listed in~~ include: spaces that have been sealed; spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases; spaces and adjacent spaces that contain or have 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.

~~Appendix C.~~

A worker should not enter a space where the oxygen content, by volume, is outside of the range noted in 3.4.2.1.1, the space should be labelled "Not 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 within the range noted in 3.4.2.1.1. The warning label may be removed when the oxygen content returns to the values within the range noted in 3.4.2.1.1, and it has been tested and inspected by the competent person.

Flammable atmospheres

The Ship Recycling Facility should ensure that spaces and adjacent spaces are visually inspected and tested by the competent person prior to entry by workers, especially those 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~~.

If the concentration of flammable vapours or gases in the space to be entered is equal to or greater than [10] per cent of the lower explosive limit, then workers may not enter the space and it should be labelled "Not Safe for Entry". Ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapours is maintained below [10] per cent of the lower explosive limit. The warning label may be removed when the concentration of flammable vapours is below [10] per cent of the lower explosive limit and it has been tested and inspected by the competent person.

Toxic, corrosive, irritant or fumigated atmospheres and residues

The Ship Recycling Facility should ensure that spaces or adjacent spaces are visually inspected and tested by a competent person prior to initial entry by workers, especially those 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 the PEL noted in Appendix B, then workers may not enter the space and it should be labelled "Not Safe for Entry". Ventilation should be provided at volumes and flow rates which will ensure that air concentrations are maintained within the PEL. The warning label may be removed when the concentration of contaminants is maintained within the PEL and it has been tested and inspected by the competent person.

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 a 24-hour period.

When a change that could alter conditions within a tested ~~enclosed~~ space or other dangerous atmosphere occurs, 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 a minimum of 24 hours of ventilation be performed after a space has been found to exceed limits.

After the competent person has determined initially that a space is safe for an employee to enter and he or she finds subsequently 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. If it is safe to do so, the competent person may be recommended to investigate the reason for the space's non-compliance.

Safe for Entry certificate, Warning signs and labels

Safe for Entry certificates, as noted in regulation 8, are an important part of ensuring that spaces are safe for entry. A sample certificate, illustrating the appropriate information ~~for~~, is attached as ~~a~~Appendix # [to be provided].

~~Safe for Entry [and Safe for Hot Work] determinations 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);~~
- ~~[location of the vessel][name of vessel and location] (*e.g.*, berth/pier number);~~
- ~~the areas of the ship that are Safe for Hot Work and Safe for Entry;~~
- ~~date and time of the inspection;~~
- ~~location of inspected spaces;~~

- ~~tests performed;~~
- ~~type of equipment used in testing;~~
- ~~test results;~~
- ~~conditions when the competent person should be recalled or conditions that void the certificate;~~
- ~~safety designation(s) (Safe for Entry, Safe for Hot Work, Not Safe for Entry, Not Safe for Hot Work);~~
- ~~validity period and expiration date for Certificate; and~~
- ~~any additional relevant information or instructions.~~

Safe for Entry ~~(and Safe-For-Hot-Work)~~ Certificates should be posted at every ship access point. The Certificate should be appended by a record of inspection for recording atmospheric tests.

If information is available, it is recommended that the products loaded in the subject space(s) are documented on the certificate.

The Certificate and/or the areas themselves should be clearly marked and presented in a manner that can be perceived and understood by all workers in the working language of the yard, and if possible, by pictorial representation.

If an entire work area has been tested and labelled with the proper signage (e.g., Safe for Entry or Not Safe for ~~Hot Work~~Entry) at all means of access to the work area, then 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 an appropriate period of time; a recommended period is ~~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 criteria of Safe for Entry, it should be labelled "Not Safe for Entry", or "Not Safe for Hot Work", respectively.

Safe for Entry operational measures for Enclosed Spaces

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

- No person should 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 by the same individual(s) who is/are responsible for maintaining the certificate, on behalf of the Ship Recycling Facility for those intended to enter the space. A sample permit is enclosed in Appendix D; the permit will verify that all certifications and operational measures for safe entry have been completed and are in effect.

- The enclosed space is properly illuminated.

- A suitable system of communication between all parties for use during entry is agreed upon, tested and is used.

- A fully-trained supervisory person, who may be in charge of one or more work teams, has oversight of the area and frequently monitors the conditions that the workers are exposed to.

- In the event of ventilation system failure, any persons in the enclosed space should leave immediately.

- Appropriate rescue and fire control plans are in place.

- Appropriate protective clothing and safety equipment (including harnesses and lifelines) should be provided to the workers; the clothing should be used during entry.

- Adequate, functioning rescue and resuscitation equipment has been provided and is positioned ready for use at the entrance of the enclosed space.

3.3.3.2 Safe For Hot Work procedures

The Ship Recycling Facility should ensure that no hot work commences on a ship unless the area is ~~until~~ Safe for Hot Work.

Safe for Hot Work certification, inspection, and testing applies to all:

- enclosed spaces, all other spaces enclosed by bulkheads and overhead (including cargo holds, tanks, quarters, and machinery and boiler spaces), and other 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; or, 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 mentioned in the point above.

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 recorded on the record of inspection and testing and posted in a conspicuous place onboard. ~~.~~ A competent person should visually inspect and test each space on the ship to determine the areas which are safe for hot work prior to issuance of a Certificate and commencing recycling activities.

Safe For Hot Work criteria

Safe for Hot Work denotes a space that meets all of the following criteria:

- The oxygen content of the atmosphere is neither deficient ([below 19.5% oxygen]) nor enriched ([22.0% oxygen or above]);

- The concentration of flammable vapours is below [10] per cent of the Lower Explosive Limit;

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

- All adjacent spaces have been cleaned, inerted, or sufficiently treated to prevent the spread of fire.

Competent Person for Safe for Hot Work Determinations

A competent person for the purposes of safe for hot work determinations should have all of the skills and knowledge associated with the Competent Person for Safe for Entry Designations.

For Safe for Hot Work certification of the spaces noted in bullet point 1 of 3.4.2.2 a competent person should possess additional knowledge of the following subjects: control of ignition sources; the construction of all common types of vessels; fire and explosion theory (including concepts of flash point, explosive range, the role of oxygen, classification of fuels, and solvent vapour pressure); fire prevention; marine and shipyard safety; organic and inorganic chemistry; properties of flammable, combustible, and hazardous materials; properties of toxic gases, vapours, and fumes; petroleum chemistry and testing; tank cleaning; and ventilation theory and application.

The Competent Authority should define appropriate criteria for the designations of such persons and the duties assigned to them.
~~A "competent person" for matters related to Safe for Hot Work should meet the criteria identified in 3.4.2.1.2 above.~~

Safe For Hot Work inspection, testing and determination

Each space ~~on the ship~~ should be ~~certified~~ determined 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 appropriate documentation ~~Certificate after the Certificate has been issued~~. The frequency with which a space is monitored to determine if conditions are being maintained is a function of the following:

- Temperature – any changes to temperature in the spaces could result in a change in atmospheric conditions. 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 could change the atmospheric conditions in that space. Gas leaks from a hose or torch or manual tank cleaning with 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 Certification has been issued, the condition of the space should be retested prior to entry and starting work.

- Unattended ~~tanks or~~ 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 starting 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. The condition of the tank or space should be retested prior to entry and resuming work.

- 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 resuming work.

Safe For Hot Work certificate, warning signs and labels

Safe For Hot Work ~~determinations should be accompanied by a~~ Certificates should ~~which, at a minimum,~~ include~~s~~ the information identified in 3.4.2.1.5. Warning signs and labels should be posted in the same manner as described in 3.4.2.1.5 for Safe for Entry, clearly indicating that the space is "Safe for Hot Work" or "Not Safe for Hot Work.".

Safe for Hot Work operational measures

~~In addition to ensuring certification as Safe for Hot Work, t~~The following operational measures should also be observed:

- Each area where hot work is to be performed should be carefully prepared and isolated before hot work commences. A sample checklist is provided in Appendix x [*to be provided*].

- 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 which could result in a risk of flammable or explosive conditions.

- Drums and similar small containers which have contained flammable substances should, before cutting is undertaken on them, either be filled with water or thoroughly cleaned of such substances.

- Tanks – [*to be provided*].

- Cargo Holds – [*to be provided*].

- Ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapours is maintained below the lower explosive limit.

- General mechanical ventilation should be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits.

- The Ship Recycling Facility's fire safety procedure should be followed.

3.3.3.3 to 3.4.1: No Change

3.4.2 Hazardous Materials management

The ship's hazardous materials that should be addressed in the SRFP, among others, are the following hazardous materials that are prohibited and/or restricted to be used as listed in Appendix I of the Convention.

- Asbestos
- Ozone-Depleting Substances
- PCBs
- Anti-fouling compounds and systems

The other hazardous materials, which should also be addressed in the SRFP, are as follows.

- Fuels and oils
- Bilge/Ballast Water
- Heavy Metals (Appendix II list of the Convention)
- Paints and Coatings
- Waste Water/Sludge
- Other Materials, including Appendix II materials other than heavy metals

The facility's approach for properly managing each of the ~~of marking/labelling, removal, storage, etc., for each of these~~ Hazardous Materials on board should be described in its SRFP. The Inventory of Hazardous Materials should be utilized for the identification of all locations of ~~all~~ the Hazardous Materials~~, followed by the process such as marking/labelling on board that should be done by the Ship Recycling Facility after the acceptance of the ship~~.

The SRFP should describe the 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 take into account the Technical Guidance, Appendix 4 of these guidelines. Key elements that should be addressed in the SRFP are outlined below.

It is important to describe the sequence and the interface of hazardous materials removal as part of the ship recycling activities.

[Sub-section on management of non-hazardous wastes?]

It is recommended that the following aspects of hazardous materials management be clearly addressed for each of the potentially hazardous materials identified above:

- Identification/Marking/Labelling and potential on-board locations
- Recycling approach
- Removal, handling, remediation
- Storage and labelling
- Treatment, transportation, disposal

3.4.2.1 Identification/marking/labelling and potential onboard locations

The Ship Recycling Facility should utilize the information contained in the Inventory of Hazardous Materials for the identification, of the type, location, and~~its kind, place,~~ quantity~~, marking and/or labelling~~ of the Hazardous Materials. ~~Asbestos, PCBs, other~~ Hazardous Materials should be clearly marked in a manner that is easily identifiable. Marking and labelling should also include ship tanks such as Crude Oil Tank (COT), Fuel Oil Tank (FOT), Lubricating Oil Tank (LOT), Fresh Water Tank (FWT), Water Ballast Tank (WBT)~~ should be clearly marked in a manner that is easily identifiable~~. If the Ship Recycling Facility finds that some parts of the Inventory of Hazardous Materials do not provide sufficient information, after a visual check of the ship, the Ship Recycling Facility may decide to carry out sampling tests.

After the sampling and analysis results are known, the facility should then manage the materials appropriately, depending on whether they are hazardous or not. Alternatively, the Ship Recycling Facility may choose to regard unknown materials or PCHM (Potentially Containing Hazardous Materials) in the Inventory as Hazardous Materials and remove, store and manage them in accordance with the requirements of the Convention. It is recommended that, in conducting additional sampling, the Ship Recycling Facility follows the relevant part of sampling and analysis of the Guideline for the Development of the Inventory of Hazardous Materials.

It is recommended that the Ship Recycling Facility becomes fully aware of all the potential locations for Hazardous Materials on board ships. Examples of typical locations for many of the Hazardous Materials are provided in Appendix 4 of these guidelines, and more detailed information can be found in the Indicative List, Appendix 5 Typical Example for the Development Process of Part I of the Inventory for Existing Ships, of the Guidelines for the Development of the Inventory of Hazardous Materials (hereafter "the Inventory Guidelines").

3.4.2.2 Additional sampling and analysis

If the Ship Recycling Facility~~ies~~ finds it necessary to conduct sampling and analysis on certain materials on board, for example when the Inventory of Hazardous Materials is in question and/or when the Inventory does not clearly identify the location and quantity~~volume~~ of Hazardous Materials, sampling analysis and/or visual inspection should be carried out, possibly with the cooperation of shipowner to enable the identification of the 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.

~~The Ship Recycling Facility should choose whether they would regard PCHM (Potentially Containing Hazardous Materials) in the Inventory as Hazardous Materials and remove, store and treat them in accordance with the requirements of the Convention, or conduct sampling and analysis by itself and treat them accordingly, based on the findings of sampling and analysis.~~

~~When conducting the sampling of any possible Hazardous Materials, the samplers should be protected from exposure by the~~ Sampling of possible Hazardous Materials should only be conducted by appropriately trained personnel following the required worker safety measures for the Hazardous Materials in question. Analysis of the samples should be performed by an accredited laboratory.

3.4.2.3 Removal, handling and remediation

The SRFP should describe how to safely remove, handle and/or clean the identified Hazardous Materials from the ship, recognizing ~~with scrupulous care to~~ the characteristics of the Hazardous Materials that may have adverse effects on human health and/or the environment.

~~The workers who engage in the removal of the Hazardous Materials which are highly toxic and/or harmful to the human health and to the environment should be trained personnel and be protected appropriately.~~Removal of Hazardous Materials should only be conducted by appropriately trained personnel following the required worker safety measures for the Hazardous Materials in question.
[In pursuant to Section 2.2 of Supplement to the DASR (Appendix 5 to the Convention), the SRFP should indicate the responsible personnel authorised to carry out removal, with the certificate number or other relevant information for each of identified Hazardous Materials.]

<*Where to put this guidance should be further considered.*>

Whenever required, the space where the removal work is occurring should be isolated from other work spaces and ~~it~~ should be ~~notified~~ clearly ~~to the workers working in those other work areas that the removal work is occurring~~marked to inform all persons of the hazards in the area.

After removal of ~~If the Ship Recycling Facility should remove~~ highly toxic, explosive or reactive Hazardous Materials, decontamination or remediation of the space should be performed ~~done~~ by the trained personnel.

These methods and procedures to remove, handle and remediate the Hazardous Materials should be well established to ensure ~~in~~ safe and environmentally sound operations ~~manner~~ in accordance with the applicable national requirements.

3.4.2.4: No Change

3.4.2.5 Treatment, transportation, disposal

The SRFP should demonstrate how the facility will ensure environmentally sound management of all Hazardous Materials and wastes removed from a ship recycled at the facility. If treatment or disposal is occurring 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 ~~international,~~ national ~~and local environmental~~ requirements.

In situations where the Hazardous Materials and wastes are sent off site, the SRFP should describe its procedures that ensure that the materials and wastes are only transferred to a ~~waste management~~ facility authorized to deal with their proper treatment and disposal.

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

3.4.3 Environmental Sound Management of Hazardous Materials

3.4.3.1 Asbestos and materials containing asbestos

The Ship Recycling Facility should identify the location and ~~volume~~ quantity of the Asbestos and materials containing asbestos by actively utilizing the Inventory. Identification, marking and labelling should be done by the Ship Recycling Facility prior to the removal of Asbestos and materials containing asbestos.

Indicative lists of shipboard locations for asbestos are provided in Appendix 4 of these guidelines and in the Inventory Guidelines, and can be the supporting material to implement an additional assessment and sampling if required.

In order to safely remove asbestos and materials containing asbestos, the following procedures should be taken. The SRFP should describe how the facility implements these protective measures:

.1 there should be workers who are trained and authorized for the removal of asbestos and materials containing asbestos in accordance with applicable ~~international and~~ national requirements;

.2 the removal work of ~~the~~ asbestos and materials containing asbestos should be conducted under the monitoring and management of the competent person[2] for the asbestos and materials containing asbestos;

[2] The comptent person in this context should have knowledge, experience, and training relating to the following subjects:
- Harmful characteristics of asbestos
- Utilization and location of asbestos
- Measures to prevent scattering of the asbestos in the air
- Appropriate use of personal protective equipment specially for asbestos removal
- Measure to avoid being exposed to the asbestos
- National requirements related to asbestos

.3 the area and/or place for removal of asbestos and materials containing asbestos should be isolated from the other work areas, and entry should be allowed only to appropriately trained personal. The area and/or place should be clearly posted with the caution that asbestos removal work is occurring;

.4 if the removal work includes cutting, boring~~. or~~ grinding or otherwise disturbing~~of~~ friable asbestos and materials containing asbestos which may scatter into the environment, appropriate protections ~~such as follows~~ should be provided so as not to release the asbestos in the air by creating an applicable isolated area in the room or space where the removal occurs~~:~~. A common approach is as follows:

- ~~A common approach is to s~~Seal the room or space~~work place~~ with plastic sheets;
- The plastic sheets should be of sufficient strength;
- Whenever possible, the isolated area should be kept under negative pressure; and
- Where the machines, equipment, pipes, or spaces which cannot be isolated or sealed (i.e. complex and narrow area under floor plate, etc., in engine-room), partial protection with plastic sheets may be applied;

.5 ~~walls and ceilings~~materials containing ~~sprayed~~ friable asbestos should be carefully ~~torn off with~~removed while spraying water or appropriate wetting agent to restrain the scattering of asbestos in the atmosphere;

.6 personal protection equipment (PPE) for workers, including ~~as~~respiratory protection and special protective clothing for asbestos, should be provided;

.7 after removal of asbestos, the area and/or place should be cleaned up in the following manner:

- Equipment and tools ~~utilized~~ should be washed/cleaned and then removed from the area and/or space.
- Removed asbestos and materials containing asbestos should be packed and sealed in~~to the~~ plastic containers ~~and~~prior to being removed from the area and/or space. ~~Containers used for the packing of the removed asbestos materials should be of the appropriate strength and resiliency so as to minimize the possibility of accidental damage or breaking during transport that could result in an uncontained release of asbestos fibres into the atmosphere.~~
- Plastic sheets used for the isolation should be ~~wetted~~ moistened with water and carefully handled to restrict the asbestos from scattering.
- ~~Use~~ A vacuum cleaner equipped with HEPA filter should be used for cleaning the area and/or space.
- ~~Check t~~The airborne contents of the asbestos in the air and/or space should be checked before removing the isolation plastic sheets and allowing other work to continue in the area;

.8 workers removing asbestos should properly prepare to enter a contaminated area, and be decontaminated before going out from the contaminated area:

- Workers should not be allowed to wear street clothes in the ~~removal enclosure~~ isolation area or under their PPE;

- After completing work in the isolation 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;

.9 Container used for packing and transportation of the removed asbestos ~~and~~ materials ~~containing asbestos~~ should be ~~stored in~~ properly labelled ~~leak-proof containers made for~~ and of the appropriate strength and resiliency so as to minimize the possibility of accidental damage or breaking during transport that could result in an uncontained release of asbestos fibres into the atmosphere; and

.10 asbestos should not be re-used or recycled; management and final disposal should be in accordance with national requirements.

3.4.3.2 PCB and materials containing PCBs

The Ship Recycling Facility should identify the location and ~~volume~~ quantity of the Hazardous Material and wastes containinged PCBs by actively utilizing the Inventory. ~~Identification, marking and labelling should be done by the Ship Recycling Facility prior to the removal of Hazardous Material and wastes contained PCBs.~~

Indicative lists of shipboard locations for PCBs are provided in Appendix 4 of these guidelines and in the Inventory Guidelines for PCBs, and can be the supporting material to implement an additional assessment and sampling if required. PCBs may be contained in the equipment and materials in both solid and liquid forms as shown on the Inventory of Hazardous Materials. PCB sampling and analytical procedures can be expensive and time consuming, therefore it may be more economical to presume the~~assume possible~~ materials contain~~ing~~ PCBs ~~to be PCBs wastes~~ and ~~simply~~ remove and manage~~dispose of~~ them ~~as~~ accordingly.

In order to safely remove PCBs and materials containing PCBs, the following procedures should be followed. The SRFP should describe how the facility implements these protective measures:

.1 workers should be specifically trained and authorized for 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;

- Spill prevention measures should be put in place when draining or removing liquid-filled equipment. These measures could include booms, drip pans, liners, and/or absorbent materials placed around the system or piece of equipment.
- Most of the solid materials containing PCBs can be removed by using manual, chemical or mechanical means such as blasting, scraping, cutting, stripping or gouging;

~~.4 equipment used to remove PCB-containing materials should be decontaminated appropriately after use (A common decontamination process for equipment would be an organic solvent rinse followed by washing with soap and water and a clean water rinse.);~~

.5 thermal or "hot" methods of removal or recycling should not be used if the presence of PCB is known or suspected (e.g., electric cable insulation containing PCBs should not be burned);

.5*bis* Equipment used to remove materials containing PCBs should be decontaminated appropriately after use. (A common decontamination process for equipment would be an organic solvent rinse followed by washing with soap and water and a clean water rinse.); any water or other liquid used should be appropriately managed as waste;

.6 removed PCB and materials containing PCBs should be appropriately stored in properly labelled, leak-proof containers ~~exclusively~~ made for transport that are sealed (liquids) or covered (solid);

.7 a separate storage area should be set up for PCBs wastes:

- Hazardous Materials and wastes~~d~~ containing PCBs should not be stored and kept with other Hazardous Materials and wastes.
- The storage area should be clearly marked on the exterior with warnings of the PCBs storage.
- The storage area should provide protection from rain.
- Containers should be regularly inspected for leaks and damage.

~~Caution: Hazardous Materials and wastes containing PCBs may corrode, be transformed or broken due to the long-time use of it. Therefore, special attention should be given to the leak of PCBs during the removal, storage and transport.~~

.8 Containers or vehicles used for packing and transportation of the removed PCB materials should be properly labelled and should minimize the possibility of accidental release during transport; and

.9 PCBs should not be re-used or recycled; management and final disposal should be in accordance with national requirements.

3.4.3.3 to 3.4.3.4: No Change

3.4.3.5 Paints and coatings

The Ship Recycling Facility should be informed of the paints and coatings that are highly flammable or that may release toxins during cutting, through the Inventory ~~of Hazardous Materials provided~~ and by the shipowner.

The ~~Ship Recycling Facility~~SRFP should ~~confirm whether the ship applied anti-fouling paints on its hull and other toxic paints elsewhere on the ship~~ describe procedures for properly managing these materials.

3.4.3.5.1: No Change

3.4.3.5.2 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 if the paint is not 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 the paint is mechanically or chemically removed (e.g., blasting, scraping, stripping, etc.) along the cut line with enough width prior to hot cutting. 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 the PPEs exclusively for inhalation and eye protection.

3.4.3.6 Ozone-Depleting Substances (ODS)

The Ship Recycling Facility should identify the location and ~~volume~~ quantity of the Ozone Depleting Substances (ODS) prior to removal by actively utilizing the Inventory. ~~Identification, marking and labelling should be done by the Ship Recycling Facility prior to the removal of ODS.~~

Indicative lists in the Inventory Guidelines for ODS can be the supporting material to implement an additional survey and sampling if required.

~~In order to safely remove ODS, the following procedures should be taken.~~

The SRFP should describe how the facility implements the~~se~~ following protective measures to safely remove and manage ODS:

.1 extraction of ODS from the system should be done by ~~subcontractors~~ persons who are trained and authorized for handling these materials;.

.2 ODS on board in containers, equipment, and piping system should not be released to the atmosphere; and

.3 management or destruction of ODS should be done in accordance with national requirements.

3.4.3.7 to 3.4.4.4: No Change

* * *

PART 2 DRAFT GUIDELINES FOR THE DEVELOPMENT OF THE SHIP RECYCLING PLAN (SRP)

3.4

(EC)
Proposal: 2nd sentence: replace "ultimate" by "main":
The SRP should make clear whether and to what extent preparatory work, such as pre-treatment, identification of potential hazards, removal of stores, etc., will take place at a location other than at the mainultimate recycling facility.
Comment: Some recycling facilities might not be authorized to accept all types of hazardous materials (see point 2.2. in the supplement to DASR). In this case, several "recycling" facilities might be involved in the treatment of one ship. It is probably not really common practice (for economical reasons) that more than two facilities might be included in the recycling process. However, this can not be excluded (e.g., one specialised enterprise removing asbestos, and then another removing CFC's). The term "ultimate" therefore seems strange, as it could give the impression that all hazardous waste will be managed in this one facility. It will certainly not be the case for a lot of recycling facilities.

Proposal: 3rd sentence:
The extent to which such preparatory work will be incorporated into the SRP will depend upon the authorisation and limitationscapability of the authorized Ship Recycling Facility for specific hazardous materials (see point 2.2 of the supplement to DASR), and the scope of the agreement with the shipowner.
Comment: When several facilities are involved in the recycling process (pre-treatment, prior removal of hazardous substances and finally dismantling), should there be only one SRP or several?
As the SRP will have to be reviewed by the Flag State and compared with the IHM, it seems more reasonable to have only one single SRP. Otherwise, Flag State inspectors might face a case were only parts of the hazardous materials contained on board of the ships and listed in the IHM would be addressed in the SRP of the "main" recycling facility.

5.1.1 BASIC INFORMATION OF THE FACILITY

(EC)
Proposal: The SRP should provide general information of the Ship Recycling Facility concisely, including, name of the management person, competent person in charge of the recycling works and relevant information on the Document of Authorization to undertake Ship Recycling (DASR) such as the issuer, date of issuance, and date of expiry and list of hazardous materials for which the facility is authorized to handle with or without limitations.

5.1.3 SHIP RECYCLING FACILITY ARRANGEMENT

(ICS)
Proposal: This sentence restricts itself by attempting to cover all possible scenarios. Given the SRFP will provide "a detailed facility drawing or map" this section can be simplified as follows:
The SRP should provide a detailed plan of the locationthe facility arrangement with clear indication of the dock/slip/berth or other appropriate place where the particular ship is to be recycledmoored or fixed for recycling.

5.2 INFORMATION ON THE SHIP TO BE RECYCLED

(EC)
Proposal: The SRP should provide ship's name, type of ship, ship owner, principal particulars of the ship including its inventory of Hazardous Materials, the IMO number, flag, port of registry, and shipyard at which the ship was built.

5.3.1.1 Pre-arrival Management of the Ship

(China)
The development of the SPR could be in a relative earlier stage when the pilot/tug boat has not been determined. Should these detailed information be provided?

(ICS)
Proposal: The first paragraph should be simplified to read "The SRP should confirm the delivery conditions of the ship including …" and the subsequent points should be revised into bullet points.
Comment: In the interests of clarity and practicality the text should be simplified to a single recommendation accompanied by identifiable actions in the form of bullet points.

5.3.1.1 (1)

(EC)
Comment: should the word "agreement" in the following sentence be defined? Should it be a contract?
"Based on the terms and condition of the ship recycling agreement, the following delivery conditions of the ship should be confirmed."

5.3.1.1 (2)

(ICS)
Comment: This information is either unnecessary or in the wrong place in the SRP guidance. This information will form the basis for the development of the plan and will inform many of the actions described within it. If this information is to be included at all it should therefore appear early in the document since it will form an initial step from which the development of the SRP commences.

5.3.1.2 (1)

(ICS)
This section is very confusing and a distinction needs to be made between the Convention's requirements for pre-cleaning to enable gas freeing, and the extremely unlikely scenario in which a facility will accept ships which it is not wholly competent to handle, therefore requiring pre-cleaning at other sites. It is also recommended that the third paragraph should be amended to simply state "The SRP should describe the pre-cleaning work required as agreed with the shipowner" as it currently only includes one interested party in the process. ICS would once again stress that instances where ships are sold to yards that require pre-cleaning as described here are unlikely to occur frequently, and the guidance should not get bogged down in describing the detail of such rare outcomes.

5.3.2

(ICS)
Comment: It is felt that this section needs to be simplified significantly in order to ensure holistic coverage of all possible recycling scenarios.

5.3.2.1 (2)

(United States)
With regard to comment 55, our question is whether a reference to a non-IMO guidance document is necessary here, and in particular, is it appropriate to have a reference in the main body of the guidelines to the work of a private organization? Is this common IMO practice? Further, if we were to consider the work of other organizations, those documents should be provided for the CG's consideration; we cannot agree to the inclusion of a reference to a document which we have not yet seen.

> *< Comment 55>*
> *There are many references to non-IMO guidance from IMO instruments. Precedents are seen in wider IMO instruments as well as in ship recycling related guidelines. The Facility Guidelines would have a reference list of ILO instruments in its Appendix 5.*

5.3.2.2 (2)

(EC)
1. Comment: 2nd paragraph
Without copying and pasting the whole content of the guidelines on safe and environmentally sound ship recycling, it might be useful to include a summary here, as it would be useful, e.g., to introduce the notion and definition of PCHM which is used later on.
2. Comment: 4th paragraph
This sentence could be developed more (notably on how to handle PCHM) taking into account the "Guidelines for Safe and Environmentally Sound Ship Recycling".

(ICS)
Comment: This section needs significant revision if it is not to contradict the terms and spirit of the Convention. The work described should take place well before arrival on the basis of the IHM provided, otherwise it will create reluctance amongst flag States to approve IHMs at the final survey from fear that they will be disputed on delivery. In the context of a ship being delivered with an IIRC, the checks described here can only be cursory since the final survey will have already confirmed the detail of the IHM and its correlation with the detail of the State approved SRP. As such this section should be deleted, and relevant parts relating to the SRP's description of the location of hazardous materials on the basis of the IHM should be moved to earlier in the document and not relate to the ship's arrival.

5.3.3 STEP-3

(ICS)
Comment: This detail would seem most relevant to the SRFP and can be deleted except for a cross reference to those sections in that document.

5.3.4 STEP-4

(ICS)
Comment: This will be covered in the SRFP and therefore a reference to the relevant sections will suffice here.

5.3.4.1 Preparatory works before cutting

(China)
5.3.1.1 (3) can be merged into this part.

<5.3.1.1 (3)>

(1) Preparation for receiving the ship

For receiving the ship, the Ship Recycling Facility should designate the place for docking/berthing/mooring/grounding where the ship is to be anchored for the recycling works.

SRP should also prove that such the anchoring place will be ready to accept the ship in terms of its capacity for mooring and availability of utilities such as electricity, water, gas supply.

5.3.4.1 (1) Preparation for oil spill incident

(EC)
Comment: "impermeable floor"
It should be mentioned that the EC considers steel plates put on a beach not as constituting an "impermeable" floor.

5.3.4.3 Hazardous materials removal

(ICS)
Comment: This section embodies a number of the pitfalls described in the general comments above. Basic tenets relevant to the development of SRPs are mixed with practical advice on pre-cleaning prior to cutting. It would be much clearer if the guidance simply addressed what the SRP should include with respect to pre-cleaning, and how it covers cutting procedures specific to the ship in question (i.e. where they are distinct from the overall model provided by the SRFP). A simplification of the section to a clear recommendation of "SRP should cover" followed by short descriptions of relevant actions will add clarity.

5.3.5.3 (1) Workforce and equipment plan

(China)
We still object to the inclusion of the workforce deployment plan into the SRP. If the plan is used to identify injured person or investigation of the cause when accident happens, this would not be feasible in that number and level of workforce would be highly uncertain at this stage. Therefore, it is recommended that more general statement would be used where high level of uncertainty exists. For an example:
The SRP should prove that information of the work place, number of workers and their leader, etc., would be checked and recorded on daily basis.

Appendix 1
1.2 SUB-CONTRACTORS' INFORMATION

(EC)
Comment: "Final disposal of HMs"
There might be an overlap with *2 of point 2.2 in the supplement to the DASR

Step-1 PRE-CLEANING OF HMs/Cargo or Oil Residues

(EC)
1. SRP part
Comment: "subcontractors"
If the subcontractor is doing pre-cleaning work because the main recycling facility is not authorized to handle all hazardous materials, this "subcontractor" is in fact a "recycling facility" by itself and is therefore subject to the requirements set out in the Convention (such as identifying where the hazardous materials and waste resulting from its activities are going to be treated).
2. Note part
Proposal: add new bullet "*IHM should be finalized before the facility starts developing its SRP*"

Step-4 HAZARDOUS MATERIALS REMOVAL

(EC)
1. Comment: point 2, PCB's
It might be useful to add a reference to the SRFP in case PCB is discovered when the ship finally arrives.
2. Proposal: point 4, Wasted plastics
As the materials listed here mix plastics with other materials (insulation materials, tires, paint and glue), better used the subtitle "*Waste synthetic material.*"
3. Comment: 3rd paragraph ("Wasted plastics mixed with others except plastic will be delivered to the final processor as an industrial waste of controlled type and controlled by the manifesto.")
Reference is made to a "manifesto": this should be clarified. In addition, the wording of this paragraph has to be aligned with the Convention (in particular with Appendix 5).

Step-5 WORKFORCE AND EQUIPMENT PLAN (2) Equipment plan

(China)
The example in the Appendix-1 step 5 seems misleading. Does the listing of equipments contribute to the safety and environment management? In our views, only mention the operation, check and maintenance of the equipments would be suffice for the SPR.

UNITED STATES TEXT AMENDMENT PROPOSALS

(United States Comments)
The text below shows how the guidance could be modified to better exist within the scope of regulation 9. This is provided as an example to show that one way to cover the items which the coordinator considers necessary in the SRP guidance by ensuring the plan provides the required information, rather than introducing new substantive requirements for facilities in the SRP. **Note that this example is not meant to convey that the US supports the current general approach in the SRP draft.**

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

1 to 5.3.1.1: No Change

5.3.1.2 Pre-cleaning of hazardous materials and oil residues

(1) Pre-cleaning of oils, dirty water, bilge, etc.

The Ship Recycling Facility should state in the plan its ability to receive, in volumetric measurements, ~~check the relevant information on the~~ residual quantities ~~volume~~ of oils, dirty water and bilgewater ~~in tank, cargo space, engine room, etc., to be contained in the Inventory of Hazardous Materials and judge, based on such information, whether the Ship Recycling Facility will be able to manage those materials safely after the arrival of ship.~~ The Plan should also contain an estimate of expected residual volumes from the particular vessel.

The Plan should state the means by which pre-cleaning will be obtained in the event that the expected residual volume exceeds the facility's capacity.

The Plan should detail contingency arrangements for the pre-cleaning of vessels, so that if a vessel's expected residual does not exceed the facility's capacity but the actual volume does exceed that capacity, the materials might be adequately managed.~~If the Ship Recycling Facility makes a judgement that it will not be able to manage those materials such as oil at the facility, method for pre-cleaning of those materials before arrival should be established including clear indication on which tank and/or space will be cleaned.~~

Places where specific work should be carried out, their authorization information, and the name of sub-contractors for the pre-cleaning work should be described in the SRP.

In the case of tanker with cargo tanks and pump room(s), it should be confirmed that the ship 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 by the competent person after the pre-cleaning is finished.

(2) No Change

5.3.2 STEP-2

.1 Berthing/Mooring/Grounding of the ship

(1) Berthing

If pilot is needed for the safe berthing or grounding to the Ship Recycling Facility, the plan should explain the responsibilities and authorities delegated to the pilot by~~should be appropriately delegated with the responsibility and authority from~~ the shipowner or the Ship Recycling Facility.

~~Final draft and trim (air draft as necessary) of the ship should be confirmed just before the berthing and make sure that safe berthing/grounding could be kept.~~

If the ship must pass~~es~~ through a narrow channel for berthing~~, berthing/grounding scenario, including the assessment of~~, the plan should indicate any obstacles for passage within the channel ~~such as existence of other ships should be checked with tug operators.~~.

The plan should describe 1) the relevant entry permits required in the jurisdiction and 2) how will be obtained from the responsible/ administrative agency prior to the arrival of the ship.~~Entry permit for the port or berth or beaching area should be obtained as necessary from the responsible/ administrative agency prior to the arrival of the ship.~~

(2) No Change

5.3.2.2: No Change

5.3.3 STEP-3

.1 Necessary Precautions in the planning of recycling work

(1) Safe for Entry and Safe for Hot Work

Regulation 9 of the Convention regulates that the SRP shall include information concerning inter alia, the establishment, maintenance, and monitoring of Safe-for-entry and Safe-for-hot work conditions.

The SRP should identify the spaces inside the ship where the risk of suffocation, toxic and explosive gases exists, taking into account the information contained in the Inventory of Hazardous Materials and in the relevant documents and plans obtained prior to arrival of the ship, such as general arrangement and capacity plan.

O_2 Concentration

- The SRP should indicate the spaces where the O_2 concentration should be checked.
- The SRP should state the allowable oxygen-content range for worker entry and the measures to be taken if spaces do not meet that requirement. [Information on appropriate facility operation standards is provided in the Guidelines for Safe and Environmentally Sound Ship Recycling]. ~~It should be ensured that O_2 concentration in such spaces is not less than 19.5%.~~
- ~~In the case that the ventilation measure is needed to ensure that the O_2 concentration is not less than 19.5%, appropriate ventilation measure to be taken should be described in the SRP.~~

Toxic and Explosive Gases, Solids, and Liquids

- The SRP should indicate the spaces where the gas concentrations, solids, and liquids should be checked.
- The SRP should describe the method by which spaces are to be maintained as safe for entry and safe for hot work
- The SRP should describe the name ,organization and contact information of the competent person who the Ship Recycling Facility designates for the assessment of the spaces for entry.
- ~~Oil residues shall be checked taking into account the information contained in the Inventory of Hazardous Materials and recorded in the Tank Condition Note of which sample format is attached in these guidelines.~~
- The SRP should describe the method by which spaces are to be maintained as safe for entry and safe for hot work and the measures to be taken if spaces do not meet those requirements. [Information on appropriate facility operation standards is provided in the
- ~~Explosive gas level and toxic gas level should be kept in the range as provided in the~~ "Guidelines for Safe and Environmentally Sound Ship Recycling"
- ~~In the case that the ventilation measure is needed to ensure that the gas level is beyond the safe for entry criteria, appropriate ventilation measure to be taken should be described in the SRP.~~

[NOTE: the alignment with the Facility Guidelines is necessary.]

(2) No Change

.2 Special Safety Trainings necessary for the recycling of the ship

The SRP should describe the s~~S~~afety t~~T~~raining undertaken by the facility. [Information on appropriate facility operation standards is provided in the Guidelines for Safe and Environmentally Sound Ship Recycling].
~~should be exercised in accordance with the requirements of the Convention and taking into account the "Guidelines for Safe and Environmentally Sound Ship Recycling"~~

~~However, the~~ The SRP should describe the special training program which the Ship Recycling Facility considers necessary from the safety point of view for the recycling of the ship.

Special training programme, which may include ~~individual training, would be necessary in the cases that:~~

- ~~volume of work for removing Asbestos or other hazardous materials will be extensive;~~training related to situations where:
- chemical residues, which have not been handled before, have to be handled during the recycling work of the ship;
- tools and equipment, which have not been handled before, are introduced for the recycling work of the ship;
- recycling method, which has not been handled before, is introduced from the recycling work of the ship; and
- the Ship Recycling Facility has never experienced the recycling before.

5.3.4 STEP-4

.1 Preparatory works before cutting

(1) Preparation for oil spill incident

The SRP should describe protective measures from oil spills to soil/ground and to the sea. Information on appropriate facility operation standards is provided in the Guidelines for Safe and Environmentally Sound Ship Recycling

Temporary oil spill protective measures that are exclusively provided for the ship should also be described in the SRP with their purpose, specifications and place to be located.

~~These protective measures include, but not limited to, temporary impermeable floor by laying steel plates, oil collecting equipment, and solvent.~~

(2) Preparation of Utilities

The SRP should provide information of the available utilities such as compressed air, gas, oxygen, fresh water, electricity, lighting, etc., with their location at the facility and the ship.

The SRP should provide information on the facility's handling of g~~G~~as cylinders containing inflammable gasses such as Acetylene (C_2H_2), Propane gas (C_3H_8) and O_2 for welding, heating and cutting works ~~should be provided in a safe manner in accordance with the national regulations as applicable.~~.

The SRP should describe how these gas cylinders both on shore and onboard are safely installed, including protective measures from external force, heat or other risks.

(3) Preparation for Prevention of Fire and Explosion

~~Fire extinguisher, water bucket and/or fire pump system should be provided appropriately nearby the place where the hot work is to be done and the workplace where the gases or oils are to be handled.~~ The SRP should describe the facility's fire suppression plans and sample arrangements of the fire fighting equipment. Information on appropriate facility operation standards is provided in the Guidelines for Safe and Environmentally Sound Ship Recycling
~~extinguishers and fire hydrant available for the ship to be recycled~~.

The SRP should identify the spaces where close attention is necessary to prevent possible fire and describe protective measures as necessary.

(4) Preparation of Personal Protective Equipment

The Ship Recycling Facility should ~~provide enough number of appropriate~~describe the Personal Protective Equipment (PPE) necessary for the recycling and affirm the facilities commitment to the use of that PPE during recycling. Information on appropriate facility operation standards is provided in the Guidelines for Safe and Environmentally Sound Ship Recycling ~~in accordance with the "Guidelines for the safe and environmentally sound ship recycling".~~

(5) No Change

5.3.4.2: No Change

5.3.4.3 Hazardous materials removal

The plan should describe the Facility's anticipated removal of Hazardous materials p~~P~~rior to the commencement of the cutting works at the Ship Recycling Facility~~, Hazardous Materials should be removed to the maximum extent possible.~~

~~After confirmation of Step-2,~~The plan should describe the means by which Hazardous Materials will~~should~~ be properly removed in an environmentally sound and safe manner~~. taking into account "the Guidelines for Safe and Environmentally Sound Ship Recycling"~~Information on appropriate facility operation standards is provided in the Guidelines for Safe and Environmentally Sound Ship Recycling.

~~However, t~~he Ship Recycling Facility should provide ship specific plan for the removal of hazardous materials in detail, taking into account ship-specific conditions such as the spaces and location of the materials and removal capability (equipment).

The SRP should be developed with reference to the Inventory of Hazardous Materials. Therefore its number and name of equipment or location used in the removal plan should be the same as the Inventory of Hazardous Materials.

An example of the removal plan of hazardous materials is shown in Attachment-4 of Appendix-1 of these guidelines.

5.3.5.1: No Change

5.3.5.2 Cutting work

(1) Primary Cutting Work

~~Primary cutting works should be done with special consideration taking into account the worker safety and health.~~

The SRP should describe the primary cutting process which puts emphasis on the points of concern throughout the process of primary cutting which include but not limited to;

- removal of Hazardous Materials (Step-4);
- measures for worker safety and health.
- removal of goods such as furniture, electrics, stationery and inflammables (wooden made);
- arrangement of heavy equipment;
- countermeasures taken against possible oil pollution;
- countermeasures taken against vibration and noise; and
- management of bilge, drain and sludge during the recycling work.

(2) No Change

5.3.5.3 Workforce and equipment plan

(1) No Change

(2) Equipment plan

~~The Ship Recycling Facility should develop operational guidance/manuals, periodical check program and maintenance program taking into account the manufacturers' manuals and relevant national and regional regulations. Routine check will be done in accordance with the programs, and result of check will be recorded.~~

The SRP should describe the arrangement of equipment and their place to be deployed, as a equipment plan.

5.3.6: No Change