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Draft

**Code on Regulations for Safe and
Environmentally Sound Ship
Recycling**

**Ministry of Steel
Government of India**

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CHAPTER-1

INTRODUCTION

The Hon'ble Supreme Court of India in Writ Petition (Civil) No.657 of 1995 in the matter of Research Foundation for Science, Technology and Natural Resource Policy. The petitioner versus the Union of India and other Respondents, had issued directions on 6-09-2007, for various stakeholders to undertake safe and environmentally sound ship recycling in India. With this, directions were also made for the Government of India to formulate a comprehensive Code for ship recycling, incorporating the recommendations of the Technical Experts Committee (TEC) appointed by it. The ship breaking matters presently falls under the jurisdiction of the Ministry of Steel; hence the Ministry of Steel has taken upon the responsibility of preparing the Code.

1.1 Requirement of a Code

It has been realized that there is a need to have a Code to take care of the need to promote safe and environmentally sound ship breaking activity to ensure appropriate safety levels for the workers involved in the ship breaking industry. Accordingly, this code has been framed by incorporating the procedures and steps involved in the activities and inter alia taking into account the need for adequate provisions for safety of the labour involved in ship breaking activities and at the same time promoting environment friendly ship recycling industry.

1.2 Stakeholder consultation

The text of the Code is based on the inputs given by the stakeholders like the Gujarat Maritime Board; the Gujarat State Pollution Control Board; the Directorate General of Shipping, Government of India; Directorate General, Factory Advice & Labor Institute, Ministry of Labour, Government of India; Department of Industrial Policy & Promotion(Explosives Section), Ministry of Commerce & Industry; the Ministry of Environment & Forests; Central Pollution Control Board, Iron Steel Scrap and Ship Breakers Association of India, Ship Recycling Industries Association(India) and a number of other concerned agencies.

1.3 Short title, meaning, extent and commencement

1.3.1 The Code on Ship Recycling Regulations herein after referred to as 'Code' has been formulated in pursuance of the Hon'ble Supreme Court Order dated 6th September 2007 **taking into consideration** the directions contained in the Order and also the recommendations of the Technical Experts Committee (TEC) on the desirable regulations on Ship Recycling.

1.3.2 Unless the context otherwise requires, the other terms used in the Code shall have the meaning assigned to them under the Acts such as Petroleum Act, 1934; Petroleum Rules, 2002; Factories Act, 1948 and the respective State Factories Rules;

Water Pollution (Prevention and Control) Act, 1974; Gas Cylinder Rules, 2004; Air (Prevention and Control of Pollution) Act, 1981; **MS Act, 1958**, Pressure Vessels Rules, 1981; Static and Mobile pressure Vessels (unfired) Rules, 1981; Explosive Act, 1884 and Explosive Rules, 2008; Hazardous Wastes (Management, Handling and Trans-boundary Movement)) Rules, 2008; the Environment (Protection) Act, 1986; the various Regulations and Rules framed under these Acts and Rules including Gujarat Maritime Board Ship Recycling Regulations-2003 and also other notified applicable Acts and Rules of the State Governments for ship recycling from time to time.

1.3.3 Import of ships destined for recycling under this Code shall be subject to the Import and Export Policy of the Government of India as well as various provisions laid down under various Acts/Rules as amended from time to time. At present such import is permitted under Open General License vide tariff item 89.08. Department of Revenue of the Ministry of Finance in consultation with World Customs Organization vide circular No.37/96 dated 3rd July, 1996 has clarified that, apart from the ship, what all contained in the ship such as spares etc. are also covered under tariff item 89.08

1.3.4 The Code shall be applicable to all ship recycling activities in India. The concerned Port Authority/State Maritime Board or the concerned Department of the State Government, shall be the authority for granting permissions under this Code for the Ship Recycling yard/plots under the control of the concerned Port Authority/State Maritime Board or the concerned Department of the State Government and the authorization for carrying out the ship recycling activities; provided that any permission granted under this Code shall not be exempt from any provisions of the Factories Act, 1948 and other applicable Laws and Acts.

1.3.5 However, the Ministry of Shipping, Government of India and the respective Port Authorities/State Maritime Boards or the concerned Department of the State Government reserve the right to give specific exemptions for undertaking recycling/breaking of ships grounded at any other sea front other than a recognized ship recycling plot or yard. These regulations do not apply to the ships, which are grounded and defined as wreck. For removal of the wreck, rules under the Merchant Shipping Act, 1958 shall apply.

1.3.6 A ship delivered **physically** for recycling shall not be subject to any claims **or maritime lien** arising against any former owner or ship.

1.3.7 Since the subject matter of ship breaking at present remains with the Ministry of Steel as per the list of subjects allocated to the Ministry of Steel, under the Government of India (Allocation of Business) Rules, 1961, the Ministry of Steel will oversee implementation of the Code on Ship Recycling Regulations and be responsible for its amendments and updating.

1.3.8 The applicability of the Code will be mandatory for all the implementing authorities involved.

1.3.9 The Code shall come in to force from the date of publication in the official Gazette. However, nothing in this Code shall affect any jurisdiction, functions, powers or duties required to be exercised, performed or discharged by:

- (a) The conservator of any major port or by any officer or authority under the Indian Ports Act-1908 or ;
- (b) The Board of Trustees for any major port or by any officer or authority under the Indian Ports Act-1963.
- (c) **State Maritime Board**

1.4 Definitions

- i. "Code" means the Code on Regulations for Safe and environmentally sound Ship Recycling in India.
- ii. "Factory Inspector" would mean an inspector appointed under sub-Section (1) of Section 8 of Factories Act, 1948.
- iii. "Port Authority" means a Port officer or any other person appointed and authorized by the State Maritime Board (SMB) or any officer appointed under the Major Port Trusts Act, 1963 to act as Port Authority.
- iv. "Owner of a ship Recycling plot/yard/facility" means any person or body permitted by the State Maritime Board (SMB) or Port Trust for use of the ship recycling plot/yard.
- v. Ship Recycling Plot or Yard: A piece of land of suitable dimension as decided by SMB or Port Trust in which ship recycling activities are carried out.
- vi. "Safety Supervisor/Officer" would mean any person employed by the occupier under Factories Act, 1948 as a safety supervisor.
- vii. "Ship" as used in this Code means vessels and floating structures of any type operated in the marine environment and shall include submersibles, floating crafts, floating platforms, self elevating platforms, Floating Storage Unit, Floating Production Storage Units and Offloading Units, a vessel stripped of equipment or being towed; destined for breaking purpose.
- viii. "Ship Recycler" mean ship recyclers and include the persons or parties who carry out ship-recycling activities in the authorized ship recycling yard.
- ix. "Authorized Ship Recycling Yard" means a ship recycling plot or plots in cluster developed to cater to safe and environmentally sound ship recycling allotted officially by the SMB or Port Trust/Authority and the State Pollution Control Board (SPCB) and a 'No Objection Certificate (NOC)/Authorization' has been issued for the purpose by the concerned SPCB.
- x. "Ship recycling activities" would mean and include all activities such as beaching, cutting, dismantling of the ship and disposal of all dismantled materials from the ship-recycling yard in safe and environmentally sound manner.
- xi. "SMB" means State Maritime Board as constituted by the State Government under official Gazettes as per the role and functions stipulated under Indian Port Act.-1908

- xii. "SPCB" means State Pollution Control Board and is the Board or Committee constituted under sub-section (1) of section 4 of the Water (Prevention and Control of Pollution)Act, 1974 (6 of 1974).
- xiii. "Worker" means the Worker defined under sub-clause (1) of Section 2 of the Factories Act, 1948.
- xiv. " Cash Buyer" means the person or company who owns the **ships for less than six months**
- xv. "SRFMP" means Ship Recycling Facility Management Plan. Ship Recycling Facility Management Plan includes the plot for ship recycling as per approved lay out and equipped with various facilities as prescribed by competent authority.
- xvi. "SRP" means Ship Recycling Plan. It is the Plan Document developed by the ship recycler to recycle a ship in safe and environmentally sound manner.
- xvii. "DG Shipping" means Directorate General of Shipping, the authority constituted under the provisions of Merchant Shipping Act (44 of 1958), 1958.
- xviii. "International Certificate on Inventory of Hazardous Materials" means a certificate, which encompasses the Hazardous materials **on board the ship** in the format as prescribed by the DG Shipping in accordance with the Merchant Shipping Act of 1958.
- xix. "International Ready for Recycling Certificate" means the certificate issued by the DG Shipping or organization authorized by the DG Shipping, which authenticates that the vessel is complying with the present Code and applicable international regulations.
- xx. Ships of Special Concern and Ships of General Concern: War Ships, Nuclear Powered Vessels, Naval Ships, Passenger or Passenger cum **Roll-on/Roll-off (RORO)** Vessel having 400 passengers or more with air conditioned cabin accommodations or having 20,000 Light Displacement Tonnage or more, Floating Platforms for Off-Shore Production (FPSO), and the vessels having mean draft more than **8 meters** shall be treated as Ships of special concern. The ships other than special concern would be treated as ships of general concern.

CHAPTER -II

CATEGORIES OF SHIPS AND SHIPS OF SPECIAL CONCERN

2.1 Classification of ships

War Ships, Nuclear Powered Vessels, Naval Ships, Passenger or Passenger cum Roll-on/Roll-off (RORO) Vessels having 400 or more passengers with air conditioned cabin accommodation or more than 20,000 Light Displacement Tonnage, Oil and chemical carrying tankers, Floating Platforms for Off-Shore Production (FPSO), and the vessels having mean draft more **than 8 meters** and requiring beaching at 1.5 **kilometers** or more from the shore base line and International Maritime Dangerous Goods (IMDG) carrying vessels shall be treated as Ships of Special Concern. The ships other than special concern would be treated as ships of general concern.

2.2 Characteristics of ships of special concern

These ships as in the table given below are treated as of Special Concern due to the following different characteristics related to quantity of hazardous waste-Asbestos Containing Materials(ACMs), Polychlorinated Biphenyls (PCBs), radioactive waste, difficulty in beaching as well as complex nature of steel structure due to which it is difficult to cut and also involves safety hazards.

Category	Nature of Concern	Essential Infrastructure and Precautions Necessary
Warships	Large quantities of PCBs, ACMs and radioactive waste	Adequate infrastructure at the yard to handle the identified quantities of radio-active materials and other hazardous wastes with adequate approved infrastructure of disposal facilities nearby, adequately trained staff, strict monitoring by Atomic Energy Regulatory Board (AERB)/State Maritime Board (SMB)/State Pollution Control Board (SPCB).
Large passenger liners (greater than or equal to 20,000 LDT or having 400 or more passengers' with Air Conditioned Cabin accommodation)	Large quantities of PCBs, ACMs	Adequate infrastructure at the yard to handle the identified quantities, adequate approved infrastructure of disposal facilities nearby adequately trained staff, strict monitoring by the SPCB/SMB.
Nuclear Powered Ships	Residual Radiation Level	Monitoring by AERB of residual radiation level and if found higher than the permissible limits, to recommend measures for decontamination. Reactors, cores and all radioactive wastes to be removed by owner before last voyage for breaking.

Deep Draft Ships having mean Draft more than 8 metres requiring beaching at 1.5 kilometers or more from the shore base line.	Distance from the beach during beaching and difficult to drag up to the plots.	Extra precautions in transferring hazardous materials or materials containing hazardous substances to avoid spillage into the sea.
International Maritime Dangerous Goods	Hazardous Residues in Cargo Tanks	Adequate infrastructure at the yard to handle the identified quantities, adequate approved infrastructure of disposal facilities nearby adequately trained staff, strict monitoring by the SPCB/SMB.
Floating Platforms for Offshore Production	Beaching difficulties and hazardous wastes in platforms	Extra precautions in transferring hazardous materials or materials containing hazardous Substances to avoid spillage into the sea.

Chapter-III

ANCHORING PROCESS

3.1 Processes for Anchoring:

3.1.1 Upon entry into the Port area, a ship is allowed to be anchored by dropping one or more anchors to the seabed. This prevents drifting of the ship, tethers it to one spot, and enables boarding from boats. A ship at anchor may lift its anchors, and sail away. Anchoring of ships is thus fully reversible. Beaching refers to running a ground of a ship on the beach meant for breaking by the beaching method. The ship is sailed into the beach either under its own power or is towed **by tugs**. A beached ship is rendered immobile, and cannot usually be refloated. Beaching is thus irreversible.

3.1.2 "Ship Recycling" is the process of dismantling a vessel's structure or disposal whether conducted at a beach, pier, dry dock or dismantling ship. It includes a wide range of activities, from removing all gear and equipment to cutting down and recycling the ship's infrastructure.

3.1.3 It may be mentioned that a ship at anchor, or while otherwise afloat, requires to be fully manned, with at least generators running. These involve significant costs. There is less possibility of hazardous materials embedded in the ship's equipment or structure being released to the environment, till the stage of ship recycling.

3.2 Prior Information

3.2.1 All ships prior to entering Indian Maritime Zones are to inform Maritime Rescue Coordination Centre (MRCC).

3.2.2 The prior information to Port should also include that the ship, as it enters Indian Search and Rescue Region (ISRR) should pass its information to MRCC/Indian Coast Guard stating that it is bound for Recycling Yards for ship recycling. This will provide necessary help to the vessel in case of any machinery breakdown and thereby avoiding any mishap to Ocean Data Acquisition Systems (ODA's) and ships at outer anchorages.

3.3 Recommended Process for Anchoring:

3.3.1 The Ship Owner shall submit to the State Maritime Board /Port Authority, his intention to send the ship to the Ship Recycling Yard as per format given in **Annexure-I and Annexure V before arrival** of his ship(s) at recycling yard.

3.3.2 After intimating ETA as per **Annexure-I**, the ship owner or recycler should submit the following information/ documents **before arrival** of the ship for recycling for a desk review by the State Maritime Board/Port Authority in

consultation with the State Pollution Control Board and the Customs Department and pay port charges for obtaining permission for the ship to enter the port:

- i) Details of ship, which would be-
 - (a) Name of the Ship
 - (b) IMO Identification No.
 - (c) IMO registered owner identification number
 - (d) Flag
 - (e) Call Sign
 - (f) Name of the Master of the Ship and his nationality
 - (g) List of the crew
 - (h) Gross Registered Tonnage (GRT)/Net Registered Tonnage (NRT)/Light Displacement Tonnage(LDT) of the ship with supporting documents
 - (i) Port clearance from the last port of call
- ii) Copy of IMO registered owner identification number
- iii) Copy of IMO Registration of Ship
- iv) Proof of ownership details like name, address, contact number, e-mail address of the owner of the vessel and master of vessel
- vii) Certified true copy of **Certificate of Registry** in his favour certifying that the ship has no registered mortgage and is free from maritime lien and encumbrances from the **Registrar of Ships** only and not from any agent, with e-mail identity of the **Registrar of Ships**. **Such certified true copy of the certificate of registry should not be older than 7 days**
- viii) Copy of Memorandum of Agreement with Ship Recycler.
- ix) details as specified in the format as per Annexure VI

3.4 Permission for anchorage

3.4.1 After desk review by the Port Authority/State Maritime Board (SMB)/State Pollution Control Board(SPCB)/Customs, a decision will be taken regarding permission for anchorage of the ships by the Port Authority/ the State Maritime Board. In case, permission is refused by any one of these three agencies, the ship owner would be entitled for appeal in the designated appellate authorities.

3.4.2 The permission for safe anchorage would be issued by the State Maritime Authority/Port Authority in such a way that during physical verifications of the ship by the SPCB, Atomic Energy Regulatory Board (AERB), the Petroleum and Explosives Safety Organisation (PESO), Customs Department, Directorate of Industrial Safety and Health or other concerned agencies (whenever their inspections are necessary) and in case of Warships, Nuclear Power Vessels and Naval ships by AERB, Customs Department and Navy, in case the ship does not comply, according to the submitted documents, as per inspection by any or all of the agencies, the ship can be sent back. In case of

3.5 Documents to be provided at the time of boarding the ship by concerned authorities

3.5.1 Boarding is to be done after anchorage permission has been given. At the time of boarding, the following documents will be submitted-

- (i) Master's certificate-original with IMO No. and showing
 - a. **Inventory of** hazardous materials including radio active material on board,
 - b. Inventory of gases,
 - c. Inventory of radio active material on board,
 - d. CO₂ declaration,
 - e. Confirmation of Ballast water exchange at high seas,
 - f. Confirmation of the Bunker oil / lube oil or other oil substances that are remaining on board
- (ii) Cargo declaration form;
- (iii) Safe Manning Certificate;
- (iv) Competency certificates of crew;
- (v) Hazardous Waste Inventory Certificate from DG Shipping approved Classification; Society validity of which will be 3 months from the date of issue. **In case of second boarding by SPCB and SMB, inventory by Master of ship would be allowed;**
- (vi) Seller/agent pays applicable port dues to the port at the prevailing rate.
- (vii) The name of the State whose flag the ship is entitled to fly;
- (viii) Hull number on building delivery;
- (ix) The name and type of the ship alongwith the date of such registration;
- (xi) The port at which the ship is registered;
- (xii) The name and the address of the ship owner;
- (xiii) The name of classification society (ies) with which the ship is classed;
- (xiv) The ships main particulars such as (length overall (LOA), Breadth (Moulded), Depth (Moulded) Lightweight Cargo carrying capacity, Gross and Net tonnage, and engine type)

3.5.2 In case of Cash Buyers selling the ships, following additional documents are to be provided to the Port Authorities/State Maritime Board authorities.

(i) **Proof** of ownership the details like name, address, contact number, email address of the owner of the vessel and master of vessel.

(ii) Cash Buyer shall have to provide following documents **for obtaining beaching permission from concerned authorities:**

- a. Notarized certified copy of Bill of Sale in his favour
- b. Copy of notarized certified Physical Delivery in his favour

- c. Certified true copy of **Certificate of Registry** in his favour certifying that the ship has no registered mortgage and is free from maritime lien and encumbrances from the **Register of Registrar of Ships** only and not from any agent with e-mail ID of **Registrar of Ships**.
- d. Certificate showing no hazardous wastes on board which includes oils etc.

3.5.3 In case of seller other than cash buyer, notarised copy of Port of Registration Certificate with e-mail Identity of Port of Registration should be produced

3.6 Information/documents to be submitted to Customs

3.6.1 The details/documents as listed below are to be filed with Customs by the Seller or his agent:-

- a. Name of Ship
- b. International Maritime Organization (IMO) Identification No.
- c. Flag
- d. Call Sign
- e. **Radio equipment list**
- f. Transshipment list
- g. Name of the Master of the ship and his nationality
- h. List of crew, personal property list and ship currency list
- i. All crew passports/ Continuous Discharge Certificate book
- j. Gross Registered Tonnage /Net Registered Tonnage/Light Displacement Tonnage of the ship with supporting documents

3.6.2 In the case of floating structures other than ships, only proof of ownership is to be provided to Customs.

3.6.3 Customs Officers board the vessel within 24 hours of ship's arrival (as per Customs regulation).

3.6.4 Customs officers verify all the documents, collect the PC (port clearance) of the last port from the Master of the ship, check all documents of the Master and check the **Certificate of Registry**

3.6.5 The Rummaging Officer from Customs check and verify **fully** that there are no contraband goods on board the ship. Customs also collect information about the personal effects of the crew, all stores and inventory of movable hazardous wastes.

3.6.6 After the above procedure, Inward General Manifesto is filed duly signed by the Master of the ship. Seller pays to the Customs applicable dues at the prevailing rate. Seller/agent submits arrival report (location of anchorage, time of arrival etc.) to Customs.

3.6.7 Buyer/importer files bill of entry for home consumption with following necessary documents for assessment of duty:

- i. Survey Report
- ii. Memorandum of Agreement (MOA) having address and e-mail id of seller and buyer along with signatories of both.
- iii. Copy of Letter of Credit (LC) or other documentary proof of mode of payment
- iv. Set of bill of entry for home consumption
- v. Physical Delivery Certificate

3.6.8 On the basis of the above documents, Customs assess the duty and recycler pays the duty. Any sweepings (left over of last cargo) will be cleared by Customs by collecting legitimate customs duty, if any. Customs would then give the beaching permission **within the next two working days.**

3.6.9 Buyer importer to submit following documents to Customs for obtaining **Out of Charge after breaking of radio equipments. On presentation of following documents final assessment of bill of entry would be made:**

(i) Commercial Invoice

(ii) Bill of Sale

3.6.10 Customs to destroy the restricted Radio/Navigational equipment in the ship after beaching of the ship and issue necessary certificate **within the next two working days..** Customs would then clear the ship for recycling.

3.7 Assessment of hazardous wastes / hazardous substances

3.7.1 In the structure of the ship, and on board as far as practicable by reference to the ship's, drawings, technical specifications, ship's stores, manifest, in consultation with the ship builder, equipment manufacturers and others as appropriate, identification and marking of all areas containing hazardous wastes/hazardous substances, would be provided at the time of Boarding.

3.7.2 In the case of ships of special concern as listed in Chapter-II, identification and marking of all areas containing hazardous wastes/hazardous substances, quantification of such wastes/substances would also be necessary and would be provided at the time of Boarding.

CHAPTER- IV

BEACHING PROCESS OF SHIPS

4.1 Process for beaching of ships

4.1.1 For obtaining beaching permission for beaching a ship, the recycler has to submit documents as per **Annexure – II** to the Port Authority/State Maritime Board along with relevant documents specified. At anchorage, the ship would be boarded and physically inspected by-

(i) representatives of Customs Department, the State Pollution Control Board(SPCB) and the State Maritime Board/Port Authority in all cases of ships of special concerns;

(ii) For ships other than Cargo Vessels and **tankers**, Directorate of Industrial Safety and Health (DISH) shall conduct the inspection for issuing ‘gas-free-for-hot-work certificate’.

(iii) for petroleum oil cargo tanks and petroleum slope tanks, representatives of the Explosives Department (PESO) will inspect for ensuring Gas Free and Fit for Hot Work conditions in Cargo tanks of oil tankers in addition to representatives of Customs Department, the State Pollution Control Board(SPCB) and the State Maritime Board/Port Authority;

(iv) for War Ships, Naval Ships, Nuclear Powered Vessels and large passenger ships representatives of the Atomic Energy Regulatory Board to verify the submissions/data provided at the time of desk review, during physical verification. If considered necessary, an adequate representative sample may be taken and used for the verification. The Atomic Energy Regulatory Board (AERB) shall examine such ships and accord their clearances or otherwise for beaching.

4.1.2 Other general ships would be required to get physical verification by the Customs, the State Pollution Control Board officials and the State Maritime Board/Port Authority officials. The Central Government may also appoint an Independent Body/Committee for carrying out the physical inspection and make an assessment of the ship. For all ships other than War Ships, Naval Ships, and Nuclear Powered Vessels, personnel of the State Maritime Board(SMB) /Port Authority trained by the Atomic Energy Regulatory Board will examine the ships from radiological survey point of view and accord their clearances or otherwise in this regard.

4.1.3 After verification, beaching permission will be given by the SMB/Port Authority **within next two working days** after receipt of clearances granted by all the concerned

departments/ agencies. Again in the event of refusal to grant permission for beaching, the ship owner shall be entitled to a review and appeal on the lines of provisions governing anchorage. **If the seller obtains the physical clearance, the recycler pays customs duty and takes charge of the ship. The beaching permission would be given by the concerned authorities within the next two working days.**

4.2 Beaching permission by Port Authority/State Maritime Board

4.2.1. Beaching permission shall be granted by Port Authority/State Maritime Board only to:

- (a) the plot-holders to whom plots are allotted by the port authorities or to those who are otherwise permitted by the Port Authority/SMB;
- (b) those plot-holders whose SRFMP has been approved.

4.2.2 Beaching permission shall be granted to ships subject to observing specific requirements in respect of the following cases:

- (a) In the case of petroleum oil cargo tanks and petroleum slop tanks, on production of gas-free for hot work certificate for cargo tanks given by the Petroleum and Explosives Safety Organization(PESO);
- (b) For ships other than Cargo Vessels and **tankers**, Directorate of Industrial Safety and Health (DISH) shall conduct the inspection for issuing gas-free-for-hot-work certificate.
- (c) In the case of ships of special concern and large passenger vessels, on production of no objection certificate (NOC) from Atomic Energy Regulatory Board; and
- (d) In the case of war ships and naval vessels on production of NOC from the Naval Department and AERB and Custom Department

4.2.3 Ship or ships shall be allowed to beach at a time provided the breadth of the ship or ships is less than 5 meters of the width of the plot or as per direction of the Port Authority/State Maritime Board.

4.2.4 On beaching of ship, ship recycler has to:

- (i) Secure the vessel properly; and
- (ii) remove left over in bunker with proper precautions including sufficient ventilation in engine room.

4.2.5 Bunker will be disposed of to a registered dealer.

4.2.6 Used oil and **sludge** will be disposed of to registered recyclers/ refinery only.

4.2.7 Details of arrival and departure of the crew, in particular the foreign crew members are to be reported to the concerned Naval Authority, **by the Shipping Agent prior to the actual arrival and departure.**

4.2.8 The ship recyclers will be liable to penalty and fines, including cancellation of license for ship recycling in the event they are found to have not complied with the provisions in paras 4.2.4 to 4.2.7 above, during examination of their records or during inspections of their plots/yards by concerned agencies.

4.3 Permission from the State Pollution Control Board(SPCB)

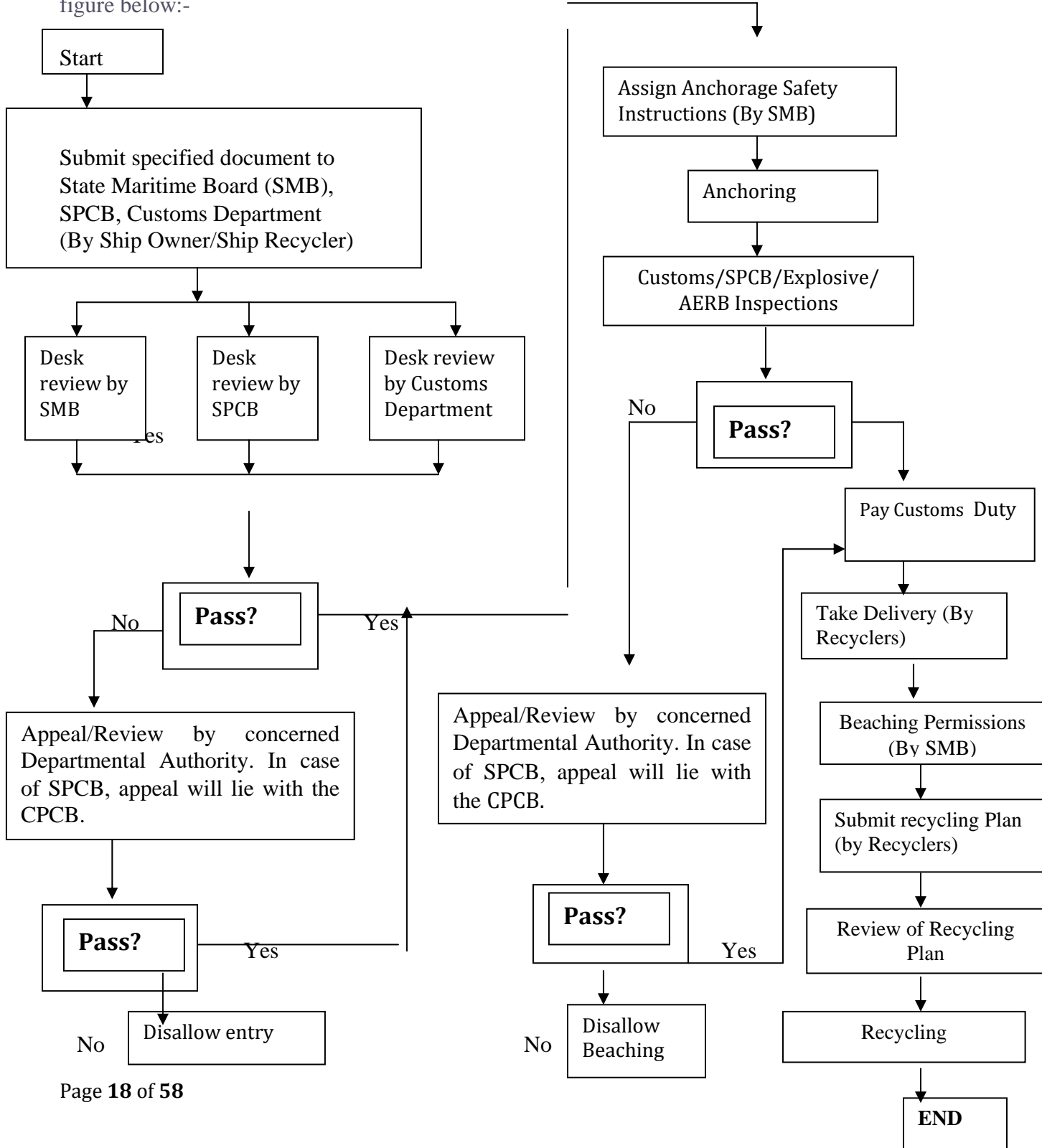
4.3.1 On beaching of the ship, the Recycler shall submit to the SPCB –

- (i) inventory of hazardous **materials**;
- (ii) survey report;
- (iii) manifest for disposal of used oil and **sludge** i.e. sold to registered re-**refiners**;
- (iv) details of waste generated, stock and disposal of last ships;
- (v) remove and surrender the smoke detectors to State Maritime Board/Port Authority for safe disposal to AERB.
- (vi) plan for asbestos removal and its disposal also should be submitted.
- (vii) the beaching permission granted by the State Maritime Board/Port Authority

4.3.2 On compliance with the above, the SPCB will issue the No Objection Certificate **within the next two working days** of furnishing the requisite documents.

4.4 Flow Diagram for the complete process.

Sequence of steps/process for Grant of Clearances by the SMB/SPCB/Customs Department for Ships Destined for Dismantling at Ship Breaking Yards, covering all the three stages, namely, anchorage, beaching and breaking is shown schematically in the figure below:-



CHAPTER V
SHIP RECYCLING PROCESS

5.1 Recommended Process for Ship Recycling

The ship recycling plan is an important document. It should have two components i.e. Ship' Specific Recycling Plan, and Recycling Facility's Management Plan. The size of the plots should be such that while cutting the ship, both the sides of the beached ship should have space for free circulation of labour, with sufficient width of at least 5 metres freely available on each side.

5.2 Recycling Facility Management Plan

5.2.1 The State Maritime Board (SMB)/Port Authority allot the plots to the ship recyclers for the purpose of ship recycling, The concerned SMB/Port Authority shall approve the Recycling Facility Management Plan if the plan satisfy the following requirement:

- (i) Availability of requisite and valid documents
 - a. Authorization for handling Hazardous waste generated from ship recycling activities issued by the SPCB.
 - b. Registration as a Member of the Hazardous Waste Treatment, Storage and Disposal Facility(TDSF) from TSDf operator.
 - c. License of storage of LPG Cylinders
 - d. required under the Gas Cylinders Rules, 2004 from Explosive Department.
 - e. License of the plot under Factory Rules.
 - f. Map showing the yard layout and other components of the facilities.
 - g. Any other document(s) or No Objection Certificate/Permission letter required from the concerned authority (ies).
 - h. Obtained License and SRFMP plan approval under the provisions of the Factories Act, 1948 and rules made there-under.
- (ii) Availability/existence of the following minimum facilities in the plot/yard as per Recycling Facility Management Plan described above:
 - (a) Storage Godown for Temporary Storage for Hazardous/Non Hazardous Waste Materials.
 - (b) Asbestos Handling & Removing and storage facility
 - (c) Storage Godown for Liquefied Petroleum Gas (LPG) Cylinders as per Explosive Act.

- (d) Sanitation and Rest Room facilities for minimum 50 workers, as per Factories Act.
- (e) Facility of adequate and clean drinking water.
- (f) Workers Change Room.
- (g) First Aid Facility
- (h) Fire fighting facility and Emergency Response System including oil spill Combat system.
- (i) **Certified** Material Handling Equipments and Personal Protection Equipment(PPE) of BIS Standard or equivalent.
- (j) List of the trained Labours of all disciplines(lightening, gas cutting, waste handling, working in confine spaces, using various gadgets like oxygen and other gas detectors, crane and material handling systems etc).
- (k) Other necessary facilities, if any required.

5.2.2 The SMB/Port Authority concerned after ensuring the above aspects shall issue permission in respect of the Ship Recycling Facility Management Plan (SRFMP) after the plots are allotted to ship recyclers, within one month's times. This approval would be a one time activity during each cycle of five years subject to review at every six months time. Requisite corrective measures if required arising out of such six monthly reviews should be carried out promptly by the ship recycler.

5.2.3 If any of the components of the Recycling Facility Management Plan of the Plot are not operative and not in place during the inspection by any of the concerned authorities, the SMB/Port Authority shall cancel the permission of the Recycling Facility Management Plan and the ship recycler would not be permitted to beach any ship till the concerned components under the Recycling Facility Management Plan are made operative as per the requirements.

5.2.4 Therefore, before ships are permitted in the plot for recycling, the SMB/ Port Authority shall ensure the above aspects rigorously, by way of ready for recycling certifications document as per **Annexure-IV**. For obtaining Cutting Permission, the Ship Recyclers shall apply to the Port Authority in **Annexure-III** along with **Annexure-IV** duly filled in.

5.2.5 In addition to above, the Ship Recycler shall have to a submit an undertaking to the SMB/ Port Authority to the effect that they shall comply with the Safety, Health and Environment Management (SHE) aspects as per the SHE Policy as enumerated below before approval of the Recycling Facility Management Plan.

- (i) A policy with focus on adequate worker safety and the protection of human health and environment, including the establishment of goals leading to the minimization, and ultimately elimination of the adverse effects on human health and environment caused by ship recycling.
- (ii) A system for ensuring the implementation of the requirements set out in national regulations, the achievement of goals set out in the policy

of the company, and a commitment to continuous improvement of the procedures used in ship recycling operations.

- (iii) Identification of roles and responsibilities of supervisors, contractors, and workers.
- (iv) A programme for appropriate training of workers and availability of adequate PPEs and material handling equipment.
- (v) An emergency preparedness and response plan for the plot
- (vi) A system for monitoring the performance of the ship recycling operations.
- (vii) A system for reporting how the ship recycling operations would be performed, including system for reporting discharges, emissions, and accidents causing damage or potential to cause damage to workers' safety, human health and the environment, due to handling of hazardous wastes, and materials containing hazardous Substances.

5.2.6 The ship recycler shall ensure that

(i) A board displaying important precautions to be followed during ship recycling activity is installed at a prominent place on the plot and that such display is made in English or vernacular language as understood by the workers employed on such plot.

(ii) All the equipments on the plot such as crane, winch, chain rope and shackles, generator set and any other safety equipments as may be prescribed from time to time, shall be installed and maintained in accordance with the provisions of the Factories Act, 1948 and Rules made there-under and any other relevant Acts and Rules.

(iii) An explosive gas detector and an oxygen percentage analyzer are available in the plot in working condition.

(iii) Proper lighting arrangement is made on the yard.

5.2.7 No permission for ship-recycling activities under this Code shall be given to any ship-recycler by the Port Authorities unless the ship recycler has complied with the requirements under the SRFMP.

5.3 Ship Specific Recycling Plan:

5.3.1 Once the Ship Recycling Facility Management Plan is approved by the SMB/Port Authority for the plot once in five years, the ship recycler would be required to submit application to the SMB/ Port Authority along with the Ship Specific Recycling Plan and details as per **Annexure-III**, along with details of Ready for Recycling Document duly filled in **Annexure-IV**. Removal of oil from the vessel may be permitted prior to submission of Ship Specific Recycling Plan (SSRP).

5.3.2 Requirements of Ship Specific Recycling Plan(SSRP) shall be as under:

- (i) Details about the ship, and in particular, a fair assessment of hazardous wastes and hazardous materials.
- (ii) Ship breaking schedule with sequence of work.
- (iii) Operational work procedures.
- (iv) Availability of material handling equipment and Personal Protection Equipment.
- (v) Certification from the State Pollution Control Board(SPCB) that all kinds of oils and other loose hazardous wastes are completely removed and decontamination certificate issued by SPCB be attached in the SSRP.
- (vi) "Gas-free and fit for hot work" certificate issued by the Petroleum Explosives and Safety Organization (PESO) for **oil tankers and for** non-oil tankers, any competent agency authorized by the Department of Explosives under Factory Act since the purpose is to avoid accidents due to fire, explosion and deficiency of oxygen and concentration of toxic gas in the confine spaces, This certificate is to be attached with plan document.
- (vii) Hazardous waste handling and disposal plan. Identification and marking of all non-breathable spaces by the Recycler in the ships and same be documented in the plans with drawings. Identification and marking of all places containing/likely to contain hazardous substances/hazardous wastes in the ships and the same be documented in the plans with drawings.
- (viii) Confirmation to the effect that ballast water has been exchanged in the high seas. The requirements should address all the three phases of recycling, i.e.
 - (a) Preparation phase.
 - (b) Dismantling phase.
 - (c) Waste stream management.
- (xi) Ballast Sediments also to be discharged along with the ballast water with proper churning which should be ensured by Master of the ship. Otherwise, the same sediments are to be handed over to authorized agency of the SMB/Port Authority on chargeable basis for suitable disposal.
- (xii) Asbestos being a major area of concern, the scheme for removing asbestos, and asbestos containing materials (ACMs) on board, and on shore, should be specifically provided. The plan should include arrangements for handling, treatment and disposal. Locations having asbestos/ACMs should be marked before commencing dismantling operations and confirm to Bureau of Indian Standards for Cleaning of Premises and Plants using Asbestos Fibres (IS 11767:1986). This consists of wetting of asbestos fibres, use of vacuum cleaners and PPEs. Those ships having asbestos quantification more than 100 metric tonnes should go for negative pressure chamber technique.
- (xiii) Systems and procedures to be followed to document and keep track of all hazardous wastes generated during recycling, as well as hazardous substances found onboard the ship, and their transport to the disposal facility or registered recycling facility should be provided in the SSRP.

Chapter-VI

General Instructions for Safety Health and Environmental Compliance for stakeholders involved in Ship Recycling.

6.1 Safety Compliance

6.1.1 Steps suggested to comply with the Safety Instructions while undertaking Ship Recycling Activities in the Plots/Yards are as follows :

- (i) Adequate open space on the plot for safe passage and easy movement of fire fighting units and equipments, maintenance of passage ways so as to permit unobstructed access for fire fighting units and equipment.
- (ii) Identification and marking of all non-breathable spaces by the Recycler
- (iii) Identification and marking of all places containing/likely to contain hazardous substances/hazardous wastes.
- (iv) Systems and procedure to be followed to document and keep track of all hazardous waste generated during recycling, as well as hazardous substances found on board the ship, and their transport to the disposal facility or registered recycling facility in safe and sound manner.
- (v) Sufficient area for office building, storage of non-ferrous metals and open space to store segregated finished scrap for delivery (just like re-rollables of 6 millimetre (mm), 8mm, 12 mm and melting, etc.).
- (vi) Sufficient area for installation of 2 winches and operation of 2 cranes.
- (vii) Sufficient area for processing of cut pieces from the ships.
- (viii) Obtain Gas free certificate for man entry into confined spaces likely to contain dangerous fumes & insufficient oxygen, as per the Rules 68-H made under Sections 36,41 & 112 of the Factories Act, 1948 issued by the Competent Person as defined in Clause (ca) of section 2 of the Factories Act. This must be ensured before ship recycling operations start.
- (ix) Maintain safety distance for storage of petroleum products or any combustible material as specified under the relevant Acts/Rules.
- (x) Provide facilities of water storage and pumping facility and fire fighting devices such as portable fire extinguishers, fire-fighting suits, liquid foam, oxygen mask, sand boxes /buckets, fire hose with complete attachment as required in accordance with the provisions of Factories Act and other relevant Acts/Rules.
- (xi) Constructed facility for removal and handling of asbestos on the yard and necessary provision for showering of asbestos handling workers. **Alternatively to avail the Common Asbestos Handling System facility as duly approved by DG, FASLI and SPCBs.**
- (xii) Construct temporary storage facility for storing hazardous waste as per the SPCB guidelines and also disposal of hazardous waste as per Hazardous Waste Rules.
- (xiii) There is no overlapping of activities to ensure safety of workers.

- (xiv) Ship Recyclers shall provide and ensure the use of personal protective equipment for operations requiring such use, including for :
- head protection;
 - face and eye protection;
 - hand and foot protection;
 - respiratory protective equipment;
 - hearing protection;
 - protectors against radioactive contamination;
 - protection from falls; and
 - appropriate clothing.

6.1.2 Every ship-recycler shall appoint qualified "Safety Officer"/"Safety Supervisor" in accordance with the provisions under section 40-B of the Factories Act, 1948 and under the appropriate Factories Rules, of the State Government, respectively. Cutting operations shall be carried out under supervision of the Safety Officer/Safety Supervisor.

6.1.3 The Safety Officer/Safety Supervisor shall ensure availability of material handling equipments, and availability of PPEs to workmen .

6.1.4 The Safety Officer/Safety Supervisor shall ensure that:

(i) cutting operation is undertaken at a distance beyond **a radius prescribed in the Explosive Act,** from the LPG storage area.

(ii) explosive and oxygen meters are readily available in working condition throughout the cutting operations.

(iii) parameters with respect to permissible limits of hydrocarbon vapours and oxygen are strictly complied with before commencing actual cutting operations and also during such operations. Provided that if the level of oxygen content reduces or that of Hydrocarbon vapor increases beyond the permissible limit in particular space/area, cutting operations carried out in that space/area shall be immediately suspended. Thereafter steps shall be taken to ventilate such area with the help of mechanical blowers or any other effective means to restore the oxygen content so as to bring it within the permissible limits.

(iv) number of LPG and other Gas Cylinders stocked on the deck of the ship or near cutting area are as per the provisions of relevant Act/ Rules.

(v) cylinders and other articles are lowered down to the ground in safe manner instead of throwing them from the ship.

(vi) all pipelines are dismantled by cold opening. Provided that in case of fuel dripping from the pipelines, it shall be dismantled only after collecting such dripping fuel in a container.

(vii) area where cutting operation is carried out in last two hours of the working day shall be quenched by pouring sufficient amount of water or by any other effective means to avoid any incident of smoldering/fire.

6.1.5 Working of the shift of the workers on the ship may be adjusted not before the sunrise and after sunset, so that the cutting operation can be undertaken in the natural light as far as possible. The maximum working hours for cutting operations shall be as under.

During the months from March to October - 7 AM to 7 PM.

(ii) During the months from November to February - 7 AM to 6PM.

(iii) There shall be a compulsory weekly holiday for the workers in the Ship-recycling yard as provided under section 52 of the Factories Act, 1948 and the workers shall be paid for weekly holiday also, by calculating the wages as per the as per the relevant /rules.

(iv) Ship Recyclers must obtained Naked Light Certificate (Hot Work Permit) as per the Rules 68-H made under sections 41 & 112 of the Factories Act, 1948, issued by the Competent Person as defined in Clause (ca) of section 2 of the Factories Act, before the ship recycling operations start for non-tankers ships and for oil tankers, the Petroleum & Explosives Safety Organization (PESO) shall issue Gas free and Fit for Hot work certificate.

6.1.6 Ship Recycler must carry out safety audit as per IS:14489 by an External Agency once in two years.

6.1.7 Director of Industrial Safety and Health (DISH) or equivalent Department of the State Government under the Factories Act shall carry out regular inspections to the plot and monitor the whole safety management aspects under the Factories Act. If there is any lapse(s) in compliance, DISH will report to the SMB/Port Authority for such non-compliances and based on recommendations by DISH, the SMB may take actions against ship recyclers in addition to legal actions already initiated by DISH under the Factories Act.

6.1.8 The management of occupational safety and health will be in accordance with the provisions of factories act and labour laws.

(a) Only trained workers shall be employed.

(b) All workers will be provided with Personal Protection Equipment as per Bureau of Indian Standard(BIS). For all operations/works the personal protective equipments of BIS standard should be used.

6.1.9 Portable water hoses with a dedicated water pump on the beach with adequate take-off points for attaching additional hoses, should be provided at all times when working on the beached vessel, for immediate water supply in the event of fire, and for wetting the asbestos, *etc.* before its removal from the vessel. The ship recycler should have mutual aid understanding with port authority/any other nearby industry for providing support in case of emergency. Work permit system should be followed as per

applicable acts and rules to carry out work safely. No hot work should be permitted unless the area is free from any explosive mixture and the explosive meter reading is below explosive limit.

6.1.10 The following areas should be given special attention and the workers should have expertise for the works allotted to them as follows:

- (a) For workers working at heights, following aspects must be ensured -
 - (i) Use of safety belt while working at height.
 - (ii) Use of Safety helmet for working at height.
- (b) Working in Confined Space-no work should be done in enclosed area without checking the presence of oxygen.
- (c) Working in Flammable Environment- the ship recycler shall ensure that spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases are inspected by the Safety Officer /Supervisor or other specially trained person to determine the presence of combustible or flammable liquids and ensure that flammable vapors or gases in the space to be entered are below the explosive limit and sufficient ventilation is provided to ensure that the concentration of flammable vapor is maintained below the lower explosive limit (at < 10% of the lower explosive limit) and there is sufficient oxygen for man entry.
- (d) Working with Toxic, Corrosive, Irritant or Fumigated Atmosphere or Residues- the ship recycler shall ensure that spaces or adjacent spaces that contain or have contained liquids, gases or solids that are toxic, corrosive or irritant are inspected visually by the Safety Officer/Supervisor or other specially trained person and ensure that air concentration of toxic, corrosive or irritants is maintained below its Threshold Limit Value (TLV) as per the Material Safety data sheet (MSDS) of that chemical, prior to entry by workers to the concerned spaces.
- (e) For gas cutting, the recycler shall employ only the workers certified for gas cutting work. Gas cutters should be provided with proper masks to avoid inhalation of toxic fumes.
- (f) For crane operation, inspection and testing records of cranes and lifting tackles to be maintained as per statutory norms and appropriate PPEs to be provided to crane operators. Constant and adequate supervision should be provided while heavy loads are lifted. Only those cranes and lifting tackles which are tested and certified should be employed. Regular/periodical testing of cranes and lifting appliances should be carried out to ensure that the material handling equipments are safe.
- (g) For Handling Asbestos Wastes and ACMs, specialized contractors can be engaged for this work. The removal of asbestos dust and fibers and its handling should be done in a wet condition. On shore removal of asbestos should be done in enclosures maintained under negative pressure, with filters for outgoing air and wastewater. The applicables should be adhered to in respect of such enclosures.
- (h) For “ Ships of Special Concern”, where asbestos/ACMs quantities are the Special Concern, asbestos/ACMs removal on board should be given special importance and the practice of wet removal of asbestos onboard may be followed with the use of appropriate PPEs.

- (i) The asbestos and broken pieces of ACMs sheets/panels thus removed should be packed in leak proof packets and disposed of at secured landfills where the packets should be handled and processed as per the SPCB norms. Recovered and usable ACMs sheets/panels may be sold for reuse as permitted by law.
- (j) PPEs like masks or respirators should be provided to all the workers engaged in asbestos removal or handling.
- (k) Asbestos fiber concentrations in the environment should be monitored regularly.
- (l) For removal of asbestos specialized contractors should be accredited and their performance assessed periodically.
- (m) Only trained workers should be employed.

6.2 Permission for cutting

6.2.1 The recycler shall apply to the Port Authority for breaking/cutting permission with relevant documents such as:

- (i) Workers' registration under Employees State Insurance Corporation
- (ii) Gas free certificate for man entry into confined spaces likely to contain dangerous fumes & insufficient oxygen, as per the Rules under Sections 36, 41 and 112 of the Factories Act 1948 issued by the Competent Person as defined in Clause (ca) of Section 2 of the Factories Act.
- (iii) Proof of removal of remaining oil from all **bunker tanks**
- (iv) Copy of Customs beaching permission

6.2.2 Prior to submitting application for permission for cutting operation, the ship-recycler shall have to install for the purpose of fire fighting two efficient fire fighting pumps in working condition, at all times, on the ship with sufficient water in the holds or any receptacles.

6.2.3 Provided that one of the above fire fighting pumps be installed and maintained in working condition at all times near the engine room with foam and dry powder, until the complete dismantling of the engine room.

6.2.4 Provided further that one portable fire extinguisher of suitable type shall always be kept in working condition near every cutting point.

6.2.4 If the Port Authority is satisfied that the ship-recycler has complied with the provisions for management of occupational safety and health , it may grant permission for cutting operations of the ship maximum within 48 hours. In case any shortcomings are noticed, the same should be communicated in writing within the said period of 48 hours to enable the ship recycler to resubmit his request after doing necessary corrections.

6.3 Specific Instructions regarding training for the Labour and usages of Personal Protective Equipments and other important aspects:

6.3.1 Prior to delegation/entrustment of any job relating to ship recycling, workers are imparted proper training for the safe ship breaking operations in general and also for the specific jobs they are attending in the plots.

6.3.2 Such training shall be with the provision of certification on successful completion of the training programme. Training shall be in the language understood by them and shall prolong till such time which is necessary to get them acquainted with the knowledge and risk factors of ship recycling operations. Training should include the hazards associated in the job and role of individual during emergency situations. **Such training programs be conducted by the State Maritime Boards/Port Authorities.**

- (i) An attendance register of workers working on the plot is maintained in accordance with the provisions of Factories Act, 1948 and rules made there under and that the workers are issued identity Cards in accordance with the relevant Rules.
- (ii) **Identity cards to the workers may be issued by the ship recyclers in an approved manner by the Port Authorities /SMBs and ship recyclers will maintain proper records of the entry and exit of the workers.**
- (iii) A Safety Supervisor, having requisite qualification experience in the relevant rules, is employed.
- (iv) Only trained and registered workers having identity cards issued as per clause 6.3.2 (ii) above shall be engaged in respective ship recycling activity.
- (v) Minimum two workers are employed who are trained to use gas detectors during ship recycling activity is carried on.
- (vi) Handling of asbestos shall be by contractors or workers having special knowledge and skill of handling of asbestos.
- (vii) all the equipments on the plot such as crane, winch, chain rope and shackles, generator set and any other safety equipments as may be prescribed from time to time, shall be installed and maintained in accordance with the provisions of the Factories Act, 1948 and the Rules made there-under and any other relevant Act(s) and Rules.
- (viii) a flammable and toxic gas detector and an oxygen percentage analyzer shall be available in the plot in working condition.
- (ix) The workers are provided with PPEs such as helmets, safety shoes, welding goggles, safety belt with safety life line, hand-gloves, self contained breathing apparatus etc as provided in the relevant Acts and Rules for such purpose and that such safety gadgets are conforming to relevant Bureau of Indian Standards (BIS) or equivalent standards or as approved by

the Chief Inspector of Factories (by Director of Industrial Safety & Health, of the State Government are concerned and are invariably used by the workers during such activities.

- x) The workers engaged in ship recycling activities are provided with the necessary instructions by the Safety Officer/Safety Supervisor with respect to the availability and use of fire fighting and safety equipments installed and maintained at the plot and on the ship and shall also ensure that such instructions are provided to the workers prior to delegation or entrustment of actual work to them.
- xi) Proper precautions are taken while dismantling CO₂ Control Room and releasing CO₂ from the Cylinders and that
 - a) such operations should be undertaken only when there are no other works in the nearby areas.
 - b) such operations are done in the presence and as per the instructions of Safety Officer/Supervisor only.

6.4 Environmental Compliance

6.4.1 Ship Recyclers are required to strictly provide the Environmental Compliance in line with Water, Air, Hazardous Wastes (M&H) Rules, Environmental Impact Assessment and Coastal Regulation Zone notifications. The following also should be attended to:-

- (i) Plot/Yard shall be kept neat and clean and good housekeeping must be carried out at the end of the day.
- (ii) All plot holders must create temporary storage as authorized by SPCB under Hazardous Waste Management Rules-2008 and the amendments issued from time to time.
- (iii) Each Plot holder must create Asbestos Containing Materials (ACM) and Asbestos Wastes with specially designed Negative Pressure Chambers with trained labors. The concentration of Asbestos fiber in the work zone while recycling of the ships be complied with the norms i.e. less than 0.1 fibre per Cubic Centimeter for Blue and Brown Asbestos and less than I fibre per Cubic Centimeter as per OSHA standards. Alternatively, the plot holders must avail the Common Asbestos Handling System as approved by DG, FASLI and SPCBs.
- (iv) Each plot holder must become a member of Treatment Storage and Disposal (TSD) Facility (TDF) authorized by SPCB to dispose of their wastes into it.
- (v) Each plot holder must maintain registers for each kind of wastes generated per ship wise calculation of the wastes. So, per ship wise, the ship recyclers must maintain a register for all waste categories.

- (vi) Ship Recyclers shall have to pay for waste management charges to TSDF operator/SMB if SMB is operating the same, based on the actual quantities of wastes disposed.
- (vii) **Seller and Cash Buyer/ Ship Recyclers** shall implement local oil spill contingency plans to combat any oil spill eventuality from anchoring point up to the ship recycling plots.
- (viii) Ship Recyclers shall enhance support to regulatory authorities for Environmental Monitoring done from time to time including providing manpower, equipments, vessels and financial support, if any, required
- (ix) For development of new plots or yards, ship recyclers through the SMB or Port Trusts/Port Authorities shall have to obtain Environmental Clearance under EIA Notification-2006 and CRZ Clearance under the CRZ Notification-1991.
- (x) The SPCB will monitor for Management and Handling of Hazardous wastes etc. Main items of ships and the substances of concern with disposal options are as follows:

SI. No.	Main items of ship that may contain substances of concern	Substances of concern	Appropriate Disposal Option(Reuse/Recycle/Incineration & Treatment & Disposal to secured landfill) of substances of concern
1	Electric equipment e.g. transformer, batteries, accumulators	Dielectric fluids containing polychlorinated biphenyl (PCBs) Lead/electrolyte in Unusable Batteries	Incineration/Disposal in secured landfill after stabilization /solidification Recycling of lead through registered recyclers; treatment and disposal of Electrolyte
2	Air conditioners and Refrigeration machines	Residual refrigerants as Ozone Depleting Substances Evaporator dosing/ descaling acids	Recovery through authorised units Recovery or treatment and disposal through authorised units/facilities.
3	Tanks	Fuels, lubricants	Reuse, Re-refining/recycling
		Sludge Oil and grease Foreign aquatic Organisms in ballast Tank sediments	Through registered cyclers/re-finers. Recycling by registered recyclers and disposal of residue in authorized facilities Reuse; treatment and disposal of bilge water Exchange of ballast

			water in high seas.
4	Partition walls	Asbestos Containing Materials (ACMs), Paints containing PCBs Lead lead Broken pieces containing ACMs	Reuse Disposal in an authorized secured landfill after solidification/stabilisation. Disposal in an authorized secured landfill after solidification/stabilisation.
5	Cables	Cables containing PCBs in insulation	Reuse; disposal of waste cable insulation in an authorized secured landfill after stabilisation/solidification
6	Heat Exchangers	Asbestos insulation on Surfaces	Disposal of asbestos in an authorized secured landfill after solidification/Stabilization
7	Storage facilities for Chemicals	Residues of toxic Chemicals/reagents	Incineration/disposal in a secured landfill after treatment
8	Stored solvents and other chemicals stocks	Residues of toxic Chemicals, solvents, thinners, kerosene, white Spirit, water treatment Chemicals. Acetylene/propane/Bu tane/ Miscellaneous Medicines	Incineration/disposal in a secured landfill in case of water treatment chemicals after treatment/stabilisation. Incineration of unusable medicines.
9	Paint Scrap	PCBs, Tributyltin, Lead TBT	Disposal in a secured landfill
10	Sacrificial anodes	Heavy metals	Disposal in a secured landfill after pretreatment/for immobilization
11	Fire Extinguishing and fire fighting equipment	Halons, CO ₂ Cylinders	Recovery and banking for Recycling through authorised facilities Recycle/Reuse
12	Piping, valves and Fittings	Asbestos as Insulation/ Gaskets	Disposal to SLF after solidification/ stabilization
13	Pumps and Compressors	Asbestos in Gaskets	Disposal to Sanitary Land Fill (SLF) after solidification/ Stabilization
14	Engines and Generators	Asbestos insulation, Residues of lubricants/ oils/coolants Anti-freeze compounds	Disposal to SLF after solidification/ Stabilization Incineration; disposal to SLF after treatment for coolants. Treatment and disposal to SLF
15	Oil sumps	Sediments	Disposal to SLF

16	Hydraulic system	Residual fluids, Anti- freeze fluids	Re-refining through registered/ Authorized units
17	Light fittings and Fixtures	PCBs	Waste material to SLF
18	Instruments	Mercury, radioactive materials including ionizing radiation based smoke detectors	Recovery by distillation; reuse of recovered mercury, and residue to SLF. Disposal as per AERB norms

6.4.2 Hazardous materials as listed above, not meant for resale, will be handed over to registered waste management facility for further treatment and disposal.

6.4.3 In addition to above, SPCB shall carry out regular monitoring of Ambient Air Quality, Soil Quality, Sediment Quality, and Marine Water Quality within 10 km radius of the ship recycling yards as well as in work-zone environment. SMB/Port Authority shall carry out twice yearly monitoring of the same independently through any Council of Industrial & Scientific research (CISR) labs of the environmental labs recognized under the E (P) Act, 1986 for the same parameters. In addition to this, the SMB/Port Authority shall carry out the detailed analysis on improvement of the beaching methods with a mandate to evolve recycling methods targeting "zero waste " and "zero accidents" at every five year time interval.

6.5 Creation/Enhancement of Facilities for Removal, Storage and Disposal of Hazardous Materials and Hazardous Wastes:

6.5.1 The ballast water is required to be exchanged at high seas to avoid entry of Ceresin organisms into the local environment. The sediments are generally disposed of at yard/inter tidal zone. In order to avoid this, it is to be ensured by the Master of the ship that the sediments are also disposed along with ballast water by churning the mass. Alternatively, the sediments must have a reception facility at the yard to be set up by the Port authority or authorized agencies on cost-recovery basis.

6.5.2 Oil sediments removal practices should be modernised to avoid workers getting exposed to unhygienic environment. The yards should use mobile tank cleaning systems to clean the tank's inside surfaces by adopting modern methods in which detergents and high pressure jets may be used.

6.5.3 For removal and disposal of asbestos, the procedure outlined in Section 6. 1.10 (f) , (g), (h) (i), (j) and (k) and Section 6.5.1(ii) should be followed.

6.5.4 A land based common facility for treating bilge water should be set up by the port authority or agencies authorized by it and made available to the recyclers on cost-recovery basis. Alternatively, a mobile facility may also be provided by the port authority or authorized agencies. The sediments should be sent to the secured landfill for disposal.

6.5.5 There shall be no burning of any material on the plot/yard./inertial zone

6.5.6 The ship recycling permission is granted subject to inter alia that:-

- (i) The waste generated during ship breaking shall be segregated into hazardous and non-hazardous categories and intimate their quantities to the authority concerned.
- (ii) Entire quantity of waste oil sludge and other mineral oil and paint, chips generated during the ship breaking process shall be removed carefully and send immediately to the areas outside the beach for safe treatment and disposal;
- (iii) A list of materials generated during ship breaking duly classified as hazardous waste and non-hazardous waste shall be submitted to SPCB in the prescribed form periodically.

6.6 Environmental Measures and House Keeping

6.6.1 The ship-recycler shall obtain necessary authorization and consent from the State Pollution Control Board (SPCB) for ship-recycling activities and will observing following stipulations in that regard:-

(a) The ship recycler shall observe wherever applicable all the norms/stipulations covered under the Water Act, 1974, Air Act, 1981, Hazardous Wastes the Environment (Protection) Act, 1986(Management, Handling and Trans-boundary Movement)) Rules, 2008 and Coastal Regulation Zone (CRZ) Rules-1991 framed under the Environment (Protection) Act, 1986.

(b) The ship recycler shall not allow waste materials such as oil cakes, dead cargo of inorganic stuff like hydrated/solidified cement, thermocol pieces, wooden pieces, rubber pieces, scrap iron and other metallic pieces, glass wool, rubber pipes and gaskets, Poly Vinyl Chloride(PVC) pipelines and pieces of PVC sheets, corks, asbestos pieces etc. to be thrown directly into the sea or on the sea shore but shall ensure that such waste materials are collected and stored in secured storage facility within the plot. In any case no open burning of hazardous waste either within the ship-recycling yard or outside shall be allowed.

(c) The ship recycler shall strictly adhere to and follow the instructions issued by the State Pollution Control Board (SPCB) for collection and disposal of toxic materials, such as asbestos lead (Pb), chromium (Cr) etc. and organic materials such as polychlorinated biphenyls (PCBs).

(d) The ship recycler shall separately collect the sand and fine powder, if any, obtained after clearing of cargo holds of oil tankers and shall dispose off the same in accordance with the directions of the SPCB.

(e)The ship recycler shall sprinkle seawater, daily, over the working area in order to minimize dust generation due to material handling.

(f)The ship recycler should inform the Coast Guard if any oil which are found subsequently and escapes into sea. If the spill is not contained locally, necessary pollution report is to be made in accordance to National Oil Spill Disaster Contingency Plan (NOSDCP).

6.7 Solid Waste Management

6.7.1 A modern Solid Waste Management system shall be established in the plot to collect, transport, store and dispose of solid waste generated from the plot in accordance with the conditions of authorization issued by the concerned SPCB, from time to time.

6.7.2 Special care must be taken in the handling of asbestos wastes, and total quantities of such waste should be made known to the authorities concerned. The concerned SPCB should authorize appropriate final disposal of asbestos waste.

6.7.3 Ship-recyclers should be given authorization under the Hazardous Wastes (Management Handling and Trans-boundary Movement) Rules, 2008, only if they have provisions for handling and disposal of the waste in an environmentally sound manner. All authorizations should be renewed only if they have facilities for handling and disposal of wastes in an environmentally sound manner.

6.8 House Keeping

6.8.1 The ship-recycler shall keep the work place clean and well maintained. The machinery and material/scrap etc. shall be arranged properly within the plot to provide access for rescue operation during accident or fire or explosion.

6.8.2 Statement of completion of ship recycling shall be submitted to the port authorities after the completion of ship recycling and shall be in the format as per the **Annexure II**.

6.9 Health Compliance:

- i. Ship Recyclers shall regularly arrange the health camps for ship breaking labors at their own cost.
- ii SMB shall facilitate for establishing permanent health care facilities at Ship Recycling Yard with adequate number of orthopedic, burns and other chronic diseases and disabilities reported in the ship recycling industries. National Institute of Occupational Health (NIOH) or Indian Council of

Medical Research (ICMR) institutions should be involved for such facilitation.

6.10 Action by the State Maritime Board (SMB)/ Port Authority

6.10.1 The SMB/ Port Authority and the Ship recycler will be responsible for overall supervision of the ship recycling yard. The SMB/Port Authority may appoint required number of qualified safety officers/supervisors for vigorous supervisions of the ship recycling activities and for attending to rescue operation in case of necessity. This is in addition to the Officers/Inspectors appointed by the State Government under the Factories Act.

6.10.2 The SMB /Port Authority's Safety officer/ Supervisor and/or Factory Inspector and/or the members of Safety Rating Team – as may be constituted by the Port Authority/SMB for safety evaluation within the ship recycling yard - will periodically visit the ship recycling plots and shall bring to the notice of the Safety Officer/Safety Supervisor of respective plots, the incidents of unsafe practices that may be observed by him/them during such visits for corrective action.

6.10.3 The SMB/Port Authority shall have the powers to suspend the cutting operations temporarily, in case of any unfair practices or unsafe operations are observed in any of the ship recycling plots until the corrective measures are taken to the satisfaction of the SMB/Port Authority.

6.10.4 The SMB/ Port Authority shall provide to the Ship recycling yard/plot:

- i. water
- ii. sanitation facilities

6.10.5 In due course of time the SMB/Port Authority shall provide adequate housing/dormitory facilities for workmen at suitable location on cost recovery basis by way of rent from occupants with facilities for supply of drinking water, sanitation, electricity and shopping centre etc.

6.10.6 The SMB/Port Authority shall take up in a time bound manner the following steps:-

- i. To rationalize the leasing arrangements for the plot, including the appropriate time period for the lease, work out appropriate plot size and layout of the recycling facilities so that the ship-breaking operations could be undertaken in a well regulated and better organized manner with particular attention being paid to requirement of safety, health and ship recycling operations management.
- ii. Setting up of a Model ship recycling Facility. This model facility may function as a demonstration/training facility, while being leased out to prospective plot holders for undertaking ship-breaking operations.

6.11 Training

6.11.1 Training facilities, should be uplifted and improved by the SMB/Port Authority in a time bound manner to ensure that all the workers are trained and also to conduct specialized training to handle gas detector and for handling of Asbestos and other hazardous materials. After such training specialization certificate should be issued to the workers concerned.

6.11.2 Till the time separate training and certification arrangements are in place, the SMB/Port Authority should set up necessary temporary facilities for training and certification or authorize a competent agency to do so.

6.12 Other Miscellaneous Provisions

6.12.1 Drinking Water and water supply overall sanitation and health care facilities to workers, including housing facilities shall be the responsibilities of the SMB/Port Trusts and these authorities must cater these facilities within 12 months from the date of entry into force of this code.

6.12.2 In case of asbestosis, cancer due to ship breaking occupation and such disabilities including lost of limbs or any part of body in accidents concerned ship recyclers or Ship Recyclers Association shall compensate such labors. The labours if detected for asbestosis and other diseases and disabilities due to ship recycling activities, Ship Recyclers shall have to re-employ them in less prone area as post disease plans and protect their livelihood.

6.12.3 Ship Recyclers shall provide the food/canteen facilities as per the provision of the Factories Act to the ship recycling labors as per desired nutrition required by these labors for such jobs during noon time. The labors with weak and anemic conditions shall not be engaged by the ship recyclers. In such cases, if noticed by SMB/Port Authorities, the SMB/Port Authorities may and ship recyclers shall immediately remove such labors who are not fit for labor intensive jobs.

6.12.4 The SMB/Port Authority with the help of Health Department of the State Government should create data base of health profile and health card of the each labors to create base line health status of the labors engaged in the ship breaking industry.

CHAPTER -VII

Management of Occupational Safety and Health

7.1 Implementation of Occupational Safety and Health Management System

7.1.1 The process of improving working conditions at a ship recycling facility must be approached systematically in order to bring them up to reasonable standards. With a view to achieving acceptable occupational safety, health and environmentally sustainable conditions, investment in permanent structures for their continuous review, planning, implementation, evaluation and action is necessary. Occupational Safety and Health (OSH) management systems should be implemented by each ship recycler. The systems should be specific to the facilities and appropriate to their size and the nature of activities.

7.1.2. Typically, an OSH management system should contain the following main elements:

- (a) OSH policy;
- (b) necessary conditions for the executing organization, i.e. establishment of responsibility and accountability, awareness and training, documentation, communication and information;
- (c) hazard and risk assessment, planning and implementation of OSH activities;
- (c) evaluation of OSH performance and to take corrective action for improvement.

7.2 Occupational safety and health policy

7.2.1 The OSH policy for the ship recycling facility should include, as a minimum, the following key principles and objectives to which the facility is committed:

- (a) management commitment to, the occupational safety, health and environmental programmes;
- (b) recognizing OSH as an integral part of the overall management structure and OSH performance as an integral part of the facility's business performance.
- (c) protecting the safety and health of all workers of the facility by preventing work related injuries and diseases, ill health and incidents;
- (d) complying with relevant OSH national laws and regulations, voluntary programmes, collective agreements on OSH and other requirements to which the facility subscribes;
- (e) ensuring that workers and their representatives are consulted and encouraged to participate actively in all elements of the OSH management system; and
- (f) continual improvement of the performance of the OSH Management system.

7.3 Planning and implementation

7.3.1 Based on the results of the initial review, subsequent reviews or other available data, arrangements should be made for adequate and appropriate OSH planning, which should include:

- (a) a clear definition, priority setting and quantification, where appropriate, of the OSH objectives for the reduction of existing risks as low a level as possible;
- (b) the preparation of a plan for achieving each objective, with defined responsibility and clear performance criteria indicating what is to be done by whom and when;
- (c) the selection, planning and implementation of corresponding preventive and protective measures;
- (d) the selection of measurement criteria for confirming that the objectives are achieved;
- (e) the provision of adequate resources, including human and financial resources and technical support, as appropriate.

7.4 Emergency preparedness

7.4.1 Emergency prevention, preparedness and response arrangements should be established and maintained. These arrangements should identify the potential for accidents and emergency situations, and address the prevention of OSH risks associated with them. Arrangements should be made according to the location and environment of the ship recycling facility and also take into account the size and nature of activities associated with each ship recycling operation. These should

- (a) ensure that the necessary information, internal communication and coordination are provided to protect all people in the event of an emergency at the facility;
- (b) provide information to, and communication with the relevant competent authorities, and the neighbourhood and emergency response services;
- (c) address first-aid and medical assistance, fire-fighting and evacuation of all people at the facility; and
- (d) provide relevant information and training to all members of the ship recycling facility, at all levels and according to their competence, including regular exercises in emergency prevention, preparedness and response procedures.

7.5 Reporting, recording and notification of work-related injuries and diseases, ill health and incidents

7.5.1 In the establishment, review and application of systems for the reporting, recording and notification of work-related injuries and diseases, ill health and incidents

7.5.2 Reporting, recording, notification and investigation of work-related injuries and diseases, ill health and incidents are essential for active monitoring and should be undertaken to:

- (a) provide reliable information about occupational accidents and diseases at facility level;
- (b) identify major safety and health problems arising from Ship recycling activities;
- (c) define priorities of action;
- (d) evolve effective methods for dealing with occupational accidents and diseases;
- (e) monitor the effectiveness of measures taken to secure satisfactory levels of safety and health.

7.6 Notification of work-related injuries

7.6.1 All occupational accidents should be notified to the SMB/Port Authority

7.6.2 Notification should be made immediately and contain:

- (a) an accident report for sending to the factory inspectorate and the SMB/Port Authority;
- (b) a compensation report for sending to the insurance institution

7.7 Notification of occupational diseases

7.7.1 Notification of occupational diseases should include the following information:

- (a) Name of the facility and employer;
- (b) person affected by the occupational disease (name; employment status; occupation at the time when the disease was diagnosed; length of service with present employer);
- (c) occupational disease (name and nature; harmful agents; processes of exposure; description of work; length of exposure; date of diagnosis).

7.8 Means of access and egress

7.8.1 Adequate and safe means of access and egress should be provided for all workplaces during all ship recycling operations. These means should be maintained in a safe condition.

7.8.2. Means of access to vessels should be:

- (a) where practical, the ship's accommodation ladder, a gangway or a similar appliance; or
- (b) in other cases, ladders, stairs; or, if necessary, rope stepladders or similar appliances.

7.8.3. Means of access should:

- (a) be kept free from obstructions; if they pass through workplaces they should be protected against falling objects;
- (b) as far as practicable, be so installed that no loads pass over them. In any event, loads should not be passed over the means of access while workers are on it.

7.8.4 Hatches, openings or any other means of access to holds, ships' decks or between decks should be provided with safety barriers. If it is not practicable to provide fixed hold ladders, portable- metal ladders (or appropriate wooden ones) should be provided. Rope ladders should be used only as supplementary means of access to holds. All ladders should be secured before being used.

7.9 Means of escape, in case of fire, or other dangers

7.9.1. Means of escape should be kept clear at all times. Escape routes should be frequently inspected and modified on the ship continuously according to the breaking progress. Where appropriate, suitable visual signs should be provided to indicate clearly the direction of escape in case of fire.

7.9.2 Means of escape should be:

- (a) provided on the ship and from the ship during all breaking operations;
- (b) clearly marked, during night work with emergency lighting;
- (c) shown on plans which should be posted at the access to and inside of the ship and landside facilities as appropriate.

7.10 Roadways, quays, yards and other places

7.10.1 Roadways, quays, yards, etc., where persons or vehicles move or are stationed should be so constructed and maintained as to be safe for the traffic that they have to carry.

7.10.2. Yards and other places that are surrounded by fencing should have separate gates for pedestrians and vehicles.

7.10.3. Dangerous crossings where transport of heavy objects is carried out should be protected by automatic signals or gates whenever possible, or be guarded by watchmen.

7.11. Housekeeping

7.11.1. A suitable housekeeping programme should be established and continuously implemented on each ship recycling facility and ship which should include provisions for:

(a) the proper storage of materials and equipment;

(b) the removal, at appropriate intervals, of scrap, waste and debris.

7.11.2. Loose materials which are not required for immediate use should not be placed or allowed to accumulate on the site so as to dangerously obstruct means of access to and egress from workplaces and passageways.

7.11.3. Workplaces and passage ways that are slippery owing to oil or other causes should be cleaned up or strewn with sand, sawdust, ash or the like materials.

7.11.4. Tools, bolts, nuts and other objects should not be left lying about where they could create a tripping hazard.

7.11.5. Scrap, waste, rubbish and dirt should not be allowed to accumulate at workplaces or in passageways.

7.11.6. Rubbish, dirt and refuse should not be thrown overboard but removed in an environmentally sustainable manner.

7.12 Scaffolds and ladders

7.12.1. Where work cannot safely be done on or from the around or from part of a ship or other permanent structure, a safe and suitable scaffold, or other equally safe and suitable provision should be provided and maintained.

7.12.2. The competent authority should establish and enforce laws, regulations or standards covering detailed technical provisions for the design, construction, erection, use, maintenance, dismantling and inspection of different kinds of scaffolds and ladders used.

7.12.3. Scaffolds should be provided with safe, means of access, such as gangways, stairways or ladders. Ladders should be secured against inadvertent movement.

7.12.4 Every scaffold and part thereof should be:

- (a) designed so as to prevent hazards for workers and collapse or accidental displacement when properly used;
- (b) designed so that guard rails and other protective devices, platforms, putlogs, rakers, transoms, ladders, stairs or ramps, as appropriate, can be easily put together;
- (c) of suitable and sound material and of adequate size and strength for the purpose for which it is to be used and maintained in a proper condition.

7.13 Precautions against the fall of persons and materials

7.13.1. All openings through which workers are likely to fall should be kept effectively covered or fenced and clearly indicated in the most appropriate manner.

7.13.2. Adequate precautions should be taken such as the provision of fencing, lookout men or barriers to protect any person who might be injured by the fall of materials, or tools or equipment being raised or lowered.

7.13.3. As far as practicable and in accordance with national laws and regulations, guard rails and toe boards should be provided to protect workers from falling from elevated workplaces. Wherever the guard rails toe boards cannot be provided:

- (a) adequate safety nets or safety sheets should be erected and maintained: or
- (b) adequate safety harnesses should be provided and used.

7.13.4. Where necessary to prevent danger, guys, stays or supports should be used or other effective precautions should be taken to prevent the collapse of structures or parts of structures that are being dismantled or demolished.

7.13.5 Waste materials or objects should not be thrown down from heights. If material and objects cannot be safely lowered from heights, adequate precautions such as the provision of fencing or barriers should be taken. Loose article should not be left lying in places where they could fall on persons underneath. Workers employed at elevated workplaces should be provided with containers for screws, bolts, nuts and the like.

7.14 Fire prevention and fire-fighting

7.14.1 All appropriate measures should be taken by the employer to:

- (a) avoid the risk of fire;

(b) control quickly and efficiently any outbreak of fire;

(c) bring about a quick and safe evacuation of persons.

7.14.2. Sufficient and secure storage areas should be provided for flammable liquids and solids and gases such as liquefied petroleum gas (LPG) tanks and acetylene cylinders, paints and other such materials.

7.14.3. Smoking should be prohibited and "No Smoking" notices., prominently displayed in all places containing readily combustible or flammable materials.

7.14.4. In confined spaces and other places in which flammable gases, vapors or dusts can cause danger:

- (a) only suitably protected electrical installations and equipment, including portable lamps, should be used;
- (b) there should be no naked flames or similar means of ignition;
- (c) there should be notices prohibiting smoking;
- (d) oily rags, waste and clothes or other substances liable to spontaneous ignition should be removed promptly without any delay to a safe place;
- (e) adequate ventilation should be provided;
- (f) persons wearing clothes likely to cause static electricity or shoes likely to cause sparks should be excluded.

7.14.5. Combustible materials, greasy/oily waste and scrap wood or plastics should be kept in closed metal containers in a safe place.

7.14.6. Regular inspections should be made to places where there are fire risks. These include the vicinity of heating appliances, electrical installations and conductors, stores of flammable and combustible materials, hot welding and cutting operations.

7.14.7. Welding, flame cutting and other hot work should only be done on the orders of a competent person after appropriate precautions, as required, are taken to reduce the risk of fire and explosion.

7.14.8. In accordance with national laws and regulations, places where the danger of fire exist, should be provided with:

(a) suitable and sufficient fire-extinguishing equipment, which should be readily available, and easily visible and accessible;

(b) an adequate water supply at ample pressure.

7.14.9. Fire-extinguishing equipment should be selected and provided in accordance with the provisions of international and national laws and regulations, the results of the initial hazard identification and risk and assessment and based on the processes, identified in the safe ship recycling plan. Equipment deployed should be suitable for and consistent with the following demands and applications:

(a) the restricted access, egress and confined spaces inside the ship;

(b) the quantity and characteristics of hazardous, flammable and explosive substances handled in ship recycling operations;

(c) site transport and storage facilities;

(d) first-stage fire-fighting purposes (hand-held or trolley-mounted portable fire-fighting extinguishers). The extinguishing medium should be selected according to identified hazards and risks and control measures.

7.14.10. Fire-extinguishing equipment should be properly maintained in full working order and inspected at suitable intervals by a competent person. Access to fire extinguishing equipment such as hydrants, portable extinguishers and connections for hoses should be kept clear at all times.

7.14.11 Suitable training, instruction and information should be given to all supervisors and a sufficient number of workers about the hazards of fires, the appropriate precautions to be taken and the use of fire-extinguishing equipment, so that adequate trained personnel is readily available during all working periods. The training, instruction and information provided should include, in particular:

(a) the circumstances in which workers should not attempt to deal with a fire themselves but should evacuate the area and call in firefighters;

(b) when and where to raise the alarm;

(c) action to be taken in the event of fire, including the use of means of escape;

- (d) the correct use of fire-fighting and fire-protection equipment, for workers expected to use. it;
- (e) the toxic nature of the fumes given off and first-aid measures;
- (f) the proper use of appropriate personal protective equipment;
- (g) evacuation plans and procedures.

7.14.12. Sufficient, suitable and effective means (sight and sound signals) to give warning in case of fire should be installed. There should be an effective evacuation plan so that all persons are evacuated speedily without panic.

7.14.13. Notices should be posted at conspicuous places indicating, if applicable, the:

- (a) nearest fire alarm;
- (b) telephone number and address of the nearest emergency services;
- (c) nearest first-aid post.

7.15 Dangerous atmospheres and confined spaces

7.15.1 Where workers are required to enter any area in which a toxic or harmful substance may be present, or may have been present, or in which there may be an oxygen deficiency or a flammable atmosphere, adequate measures should be taken to guard against danger.

7.15.2. The measures regarding dangerous atmospheres to be taken should be prescribed by the competent authority in conformity with the IMO recommendations for entry into enclosed spaces aboard ships and should include prior permission from a competent person, or any other system by which entry into any area in which a dangerous atmosphere may be present can be affected only after completing specified procedures.

7.15.3. Inside a confined space or area, no naked light or flame or hot work should be permitted unless it has been made completely free of the flammable atmosphere, tested and found safe *by* a competent person. Only non-sparking tools and flameproof hand lamps protected with guard and safety torches should be used inside such confined space or area for initial inspection, cleaning or other work required to be done for making the area safe.

7.15.4. While a worker is in a confined space:

- (a) adequate facilities and equipment including breathing apparatus, first-aid kit, resuscitation apparatus and oxygen should be readily available- for rescue purposes;
- (b) a fully trained attendant or attendants should be stationed at or near the opening;
- (c) suitable means of communication should be maintained between the worker and the attendant or attendants.

7.16 Signs, notices and colour codes

7.16.1. Signs and symbols are very effective methods for warning against hazards and for presenting information in a non-linguistic form. Safety signs and notices should conform in shape and colour to the requirements of the competent authority.

7.16.2. The contents of portable fire extinguishers should be indicated by a colour code in compliance with the requirements of the competent authority. Each fire extinguisher should have a label affixed to it providing instructions for its use.

7.16.3. Various standards exist for the colour coding of electrical wiring. Care should always be taken to ensure that personnel are aware of the meaning of the core colours on board each ship. If a replacement is required, it should be in accordance with the coding system.

7.16.4 Gas cylinders should be clearly marked with the name and symbol of the gas and the body should be coloured according to its contents. A colour coding should be provided.

7.17 Prevention of unauthorized entry

7.17.1 Visitors should not be allowed access to ship breaking facilities or ships, as appropriate, unless accompanied by or authorized by a competent person and provided with the appropriate protective equipment.

7.17.2 Appropriate arrangements concerning access by workers representatives should be established in accordance with the provisions of national laws and regulations or of collective agreements.

CHAPTER-VIII

MISCELLANEOUS AND PENALTY PROVISIONS

8.1 Actions to be taken in the event of an accident on any plot and/or on the ship or for non-compliance of any of these regulations.

8.1.1 The ship-recycler shall report in writing to the Port Authority, the Factory Inspector as well as the Police Authority about any accident/fire/explosion occurred on the plot and/or ship, immediately on its occurrence.

8.1.2 In the event of any accident/fire/explosion on any plot and/or on any ship leading to a death or serious bodily injury to any person or for the noncompliance of any of these Code Regulations, resulting in any accident on any plot and/or on the ship, the following actions shall be taken:

In the event of major fire/explosion/accident causing damages with or without death or serious bodily injury to any person all activities related to ship recycling on the plot be suspended forthwith by the port authority with immediate effect for a minimum period of 5 (five) days with a maximum period of 30 days. During this period, State Maritime Board or Port Authority shall carry out detailed investigation through a team comprising of professionals having experience and qualification of Industrial Safety and Health Management, Naval Architecture/Marine Engineering, Environment and Pollution Control . During such period the investigation team appointed by the SMB/Port Authority shall thoroughly inspect the plot/yard and get into the cause of incident and direct respective plot holder to rectify the same and restore safe working environment prior to resumption of operation within 30 days. If not restored the situation within 30 days, the time limit for closure of the plots shall be extended till the inspecting team satisfy itself for compliance.

For all the cases of fire/accident/explosion leading to a death or serious bodily injury to any person, an inquiry shall be commissioned by a team comprising authorized person(s) of SMB/Port Authority as mentioned in Para 7(i) above and shall file the inquest report on which the port authority shall initiate penal action, if any.

8.1.3 Provided further that in such eventuality the ship-recycler shall immediately pay a minimum ex-gratia compensation of Rs.200000/- (Rupees two lakhs only) per person or more as decided by the SMB or Port Authority/ Port Trust from time to time to the next kin of the deceased and Rs.50000/- (Rupees Fifty thousand only) per case or more as may be decided by the Board from time to time to the injured victim, over and above the compensation that may be received by the

next kin of the deceased or the injured victim from insurance claim or under any other enactment including Workman Compensation Act and Employee State Insurance Scheme (ESIC).

8.1.4 In case the negligence on the basis of the inquiry report submitted by the team constituted as above is proved on the part of plot holder/ship breaker following penalty shall be imposed.

- (i) The case of first incident of fire/explosion/accident leading to a death or serious bodily injury as defined under section 92 of the Factories Act, 1948 to any person shall attract penalty of Rs 5,00,000/-(Rupees five lacs).
- (ii) For 2nd incidents of fire/explosion/accident within a period of two years leading to a death or serious bodily injury as defined u/s 92 of the Factories Act 1948 to any person in the same plot shall attract penalty at double the rate as recovered for the previous incident i.e Rs 10,00,00/-.
- (iii) In case of repeated negligence by more than two times on the part of ship recycler causing injury/death of person(s), within two year, the SMB or Port Authority may cancel the permission for utilization of the plot for six months for the ship-recycling activities after giving opportunity of being heard and by issuing a speaking order. Provided that in case of more than three incidents of fire/explosion/accident in subsequent year leading to death or serious bodily injury to any person in the same plot, the permission for ship recycling activities on the said plot shall be cancelled by SMB or Port Trust forever. In case of first incident of such fatal accident, the permission would be granted only on being satisfied that the plot owner has enhanced safety arrangements by training, installation of additional equipments and agreed to abide by directives issued by SMB after investigation into such accidents. The amount so collected shall be credited in separate welfare account maintained by the Port authority and shall be utilized for welfare and awareness programs for the benefit of workers.
- (iv) The aforesaid penal action shall be taken concurrently with other appropriate penal actions that may be taken under other relevant Statutes, Acts and Regulations etc.

8.2 Action against willful defaulters

- (i) Working beyond prescribed time and during holiday shall attract penalty of Rs. 10,000/- for the first instance. Penal amount shall be double for each subsequent breach limited to three times. Any further incident of violation will attract closure of the operation for 5 days.
- (ii) Violation or non observance of the instruction within specified period given by the authority as specified under clause 19 and /or non observance of the instructions given by the Chief Executive Officer/Port Authority or any other

authority shall attract penalty up to Rs. 10,000/- or any such amount not being less than Rs 10,000/-, as may be notified by the Board/Government from time to time and as published in the Official Gazette and attract suspension of particular operation(s) till the instructions are complied.

8.3 Appeal provision

An appeal shall lie against the order made under this chapter with the Secretary, Ports Department of the State Government concerned. Such appeal shall be preferred within 30 days from the order of the SMB/Port Authority..

8.4 Miscellaneous

8.4.1 The ship-recycling yard/Ship breaking yard under SMB or Port Trust or private operator shall provide basic infrastructure which may not exceed a maximum of 2 (two) years period from the date of entry in to force of this code regulations. The basic infrastructure will have minimum the following facilities.

- i. Hydrant system for fire fighting purpose.
- ii. Potable drinking water supply.
- iii. Drainage/Sewerage system.
- iv. Street lighting facilities.
- v. Domestic waste management system.
- vi. Internal Roads and connectivity to main Highways
- vii. Administrative Buildings and Training Institutes
- viii. Common Sanitary Blocks for labors and other primary amenities like community centers, labor welfare centers.

8.4.2 The above services may be regulated either by the State Maritime Board(SMB)/Port Authority or such authorities appointed by the State Government or by a body constituted by SMB/Port Authority which shall have the authority to regulate all services, levy duty/cess, and collect operational and maintenance expenses. Such authority shall be responsible for functioning, operation, and maintenance of above facilities.

8.4.3 Further, Port Authority/Or Such Other authorities/ Owner of such yard will develop and protect the area by removing encroachments, by taking up beautification and a forestation activities

8.4.4 Housing Facilities for the laborer shall be provided by a Trust created. The Trust /may include members of ship recycling association, the SMB/Port Authority representatives, District Collect orate Officials, Labor Officer and Laborers' representatives

8.4.5 The Labour Department shall ensure that laborers are paid as per minimum wages rules and no exploitation of the ship recycling laborers be made by the ship breakers.

8.4.6 In the event of any question arising out of the interpretation of any of the clauses of the regulations, the decision of the Ministry of Steel shall be final.

8.5 Amendment Provisions for the Code

8.5.1 This code regulations may be amended in the following circumstances

- i. On ratification of the International Maritime Organization (IMO) Convention on ship recycling by the Government of India and any subsequent changes to the IMO Convention on ship recycling;
- ii. On amendments of other rules and regulations by the Government of India having a bearing on the Code; and
- iii. On consideration of the Government of India in the Ministry of Steel, on requests from the other Central Ministries/Departments, the State Maritime Boards /Port Authorities and other Stakeholders for carrying out requisite amendments, in the event of any practical difficulties in the implementation of the provisions of this Code.

Initial Reporting by the Ship Owner regarding their ship(s) to be sent to the Recycling States (Recycling Yards)

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

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

- i. name of the State whose flag the ship is entitled to fly;
- ii. date on which the ship was registered with that State;
- iii. ship's identification number (IMO number);
- iv. hull number on new-building delivery;
- v. name and type of the ship;
- vi. port at which the ship is registered and last port clearance;
- vii. name and address of the Ship-owner as well as the IMO registered owner identification number;
- viii. name and address of the company as well as the IMO company identification number;
- ix. inventory of Hazardous Materials as per Appendix-III of Hong Kong Convention of Ship Recycling on board the ships' structures(This will be made mandatory once the Convention is ratified, other wise common IHM Inventory may be sufficient for knowledge of hazardous materials by the ship recycling yards);
- x. cargo free certificate issued by the last port authorities;
- xi. name of all classification society(ies) with which the ship is classed;
- xii. ship's main particulars (Length overall (LOA), Breadth (Moulded), Depth (Moulded), Lightweight, Gross and Net tonnage, and engine type and rating); and
- xiii. inventory of Hazardous Materials; and International Ready for Recycling Certificate.

Signature of
owner
Seal of his
Company
Telephone No
Fax No
e-mail ID
Date

To,

The Port Authority/State Maritime Board

Sub: Application for beaching permission.

Dear Sir,

I/We am/are having licensed to beach and break ships on plot no. _____ apply for granting permission to beach ship on my/our plot. Required information are given below.

1. Name of the applicant:
2. Plot No.:
3. Size of the plot:
4. Last vessel beached on:
5. LDT of the last vessel:
6. Present status of the last vessel beached. (If it is under recycling, percentage yet to be dismantled shall be indicated.)
7. Details of vessel to be beached.
 - (a) Name:
 - (b) Flag:
 - (c) Origin:
 - (d) Type:
 - (e) LDT:
 - (f) ETA:
 - (g) Last port visited and Last Port Clearance certificate.
 - (h) Cargo handled during last '3' voyages:
 - (i) Live or dead vessel:

8. Certified that,

- i. All the information given are true to my best knowledge.
- ii. All the debris other than clean scrap are removed from sea/sea shore and disposed in approved manner.
- iii. Gas free certificates viz. (a) for entry into wet or dry dock (b) for man entry (c) gas free certificate for work are obtained from the explosive department and enclosed if the vessel is Oil Tanker which is attached as Annexure: _____
- iv. Certificate from master of ship is attached as Annexure: _____
- v. Certificate of entry as per Section 36 of the Factories Act is obtained from competent person and attached as Annexure:
- vi. Present status of the total width of the ship/ships along with ship to be beached is less than 5 metres of the width of the plot.

9. Documents attached:

- (a) Original MOA between buyer and seller
- (b) Challan for payment made to port
- (c) Customs NOC with challan
- (d) SPCB authorization
- (f) Copy of Registered Certificate from TDSF operator
- (h) Master Certificate (Gas free, CO₂, No hazardous material)
- (i) Survey report - original
- (j) Original physical delivery certificate
- (l) In case of LPG/LNG/Tanker or Chemical carrier - Certificate from competent person under the provision of Petroleum Rules 2002.
- (m) For oil tankers, gas free certificates issued by an officer of Petroleum and Explosives, Safety Organization, Government of India. In case of LPG/LNG tanker or chemical carrier, certificates from competent persons under the provisions of the Factories Act, 1948.
- (n) Undertaking on Rs.100 stamp paper with name, full address and contact

(For office use only)

1. Date of receipt of application
2. Received by:
3. Beaching permission granted on:

To,

The Port Authority/State Maritime Board

Sub: Application for recycling permission.

Dear Sir,

I/We am/are having licensed to beach and break ships on plot no._____ apply for granting permission to break ship on my/our plot. Required information are given below.

1. Name of the applicant:
2. Plot No.:
3. Size of the plot:
4. Present status of the vessel under cutting:
5. Details of vessel to be broken.
 - (a) Name:
 - (b) Type:
 - (c) LDT:
6. Certified that,
 - (i) All the information given are true to my best knowledge.
 - (ii) Certificates viz. (a) for man entry in to confined spaces likely to contain dangerous fumes & insufficient oxygen, as per the Rules 68-H made under sections 36,41&112 of the Factories Act, 1948 issued by the Competent Person. (b) Naked Light Certificate (Hot Work Permit) as per the Rules 68-H made under sections 41 & 112 of the Factories Act, 1948 as issued by the competent person (c) Receipt giving evidence of Custom Clearance of the ship (d) Certified copy of authorization and consent from the State Pollution Control Board for ship recycling activity; are enclosed as Annexure: _____ A copy of Ship Specific Dismantling Plan is attached.

UNDERTAKING

I, the undersigned here by certify that

- (a) All kinds of petroleum products such as oil, fuel in tank etc. and gas, including CO₂, gas of the ship have been emptied and evacuated and shall be thoroughly cleaned prior to undertake cutting operation.
- (b) No unauthorized decanting of gas cylinder/s and/or tiling of cylinder/s with gases such as Freon, Ammonia, Carbon Dioxide etc., is carried out on the plot or within the ship recycling yard as per Gas Cylinder Rules-1981.

Signature:

(Name of the official)

(For office use only)

1 Date of receipt of application:

2 Received by:

1. Beaching permission granted on:

Annexure-IV

Ready for Recycling Document to be forwarded by concerned ship recycler along with the Ship Specific Recycling Plan.

This is to certify that,

1. Ship Name with IMO Identification Nois beached in the Plot No having its dimension A x 13 which is allotted on lease by SMB or Port Trust vide its letter No..... dated for the period of year(s). In this connection, the status of previous ship beached in this plot (in which current ship is beached on date) is broken %
2. Following components of Recycling Facility Management Plan are in place and operative in our plot no.....
3. **Documents required by the facility**
 - i) Authorization for handling Hazardous waste generated from ship recycling activities issued by SPCB for the period of year(s) vide their Letter No dated.....
 - ii) Membership of TSDF from TSDF operator/SMB issued vide letter No. dated..... for period of years(s)
 - iii) Licence of storage of LPG Cylinders from Explosive Department vide their letter Nodated.....for a period of.....year(s)
 - iv) Licence of the plot as factory from under Factory Rules vide their letter No..... dated.....
 - v) Approved Recycling Facility Management Plan issued by SMB vide their letter No.....dated for period of year(s).
 - vi) Any other document(s) or NOC/Permission if any vide letter No dated.....
4. **Following Minimum Facilities are available in our plot as per recycling facility management plan approved by the SPCB-**
 - (i) Godown for Temporary Storage for Hazardous/Non. Hazardous Waste Material
 - (ii) Asbestos Handling & Removing facility as per TEC Report (Common facility may be used)
 - (iii) Storage Godown for LPG Cylinders as per Explosive Act
 - (iv) Sanitation/Drinking Water Facility/Washing Facility
 - (v) Worker Change Room
 - (vi) First Aid Facility
 - (vii) Fire fighting facility & Emergency Response System including oil spill combat system
 - (viii) Material Handling Equipments and Personal Protection Equipment
 - (ix) List of the trained Labour
 - (x) Other facilities if any

Signature of Ship
Recycler Ship
Recycling Plot No

Date:

Annexure V

(FORMAT FOR INFORMATION ON RADIOACTIVE MATERIAL CONTAINED IN THE SHIP, TO BE PROVIDED BY THE SHIP RECYCLER BEFORE ANCHORING)

- 1) Name of the Ship :
- 2) IMO Identification No :
- 3) Flag :
- 4) Call Sign :
- 5) Name of the Master of the ship and his nationality :
- 6) Details of radioactive material contained in the ship while the ship was in service:

Sr. No.	Name of radionuclide	No. of sources*	Total activity (Curies)	Location of the sources in the ship	Purpose of the sources

7. Details of radioactive material present in the ship at the time of anchoring:

Sr. No.	Name of radionuclide	No. of sources*	Total activity (Curies)	Location of the sources in the ship	Purpose of the sources

*In case of sources contained in devices, please give details of the type of device, its make and model number

Undertaking:

I hereby certify that:-

All the statements made above are correct to the best of my knowledge and belief.

Name and signature of the Master of
the Ship/ Representative of the Recycler

Designation:

Place:

Date:

Seal of the company

Annexure VI

(FORMAT FOR INFORMATION ON DESK REVIEW DURING ON BOARD VERIFICATION OF A SHIP FOR PRESENCE OF ANY RADIOACTIVE MATERIAL)

- 1) Name of the Ship:

- 2) IMO Identification No:

- 3) Flag :

- 4) Call Sign :

- 5) Name of the Master of the Ship and his nationality:

- 6) Details of the permission issued for anchoring of the ship:

- 7) Results of verification of the information provided in Form-I:

- 8) Details of any radioactive material recovered from the ship after anchoring:

Name(s) and signature(s) of the:
Inspecting Team of the State Maritime Board/Port Authority

Designation(s):

Name of the organization :

Place:

Date: