

SHIP RECYCLING IN INDIA –
Compliance with IMO
Convention on Ship Recycling,
2009

Ajoy Chatterjee

Principal & Head

The Great Eastern Institute of
Maritime Studies, India

Hong Kong Convention

“International Convention for the Safe and Environmentally Sound Recycling of Ships”
(SR/CONF/45)

- Adoption (IMO): Oct. 2008
- Adoption (DipCon) May 2009
- Final IHM-Guideline: July 2009
- Start of ratification: Sept. 2009
- Entry into force: ~ 2013*



Hong Kong Convention

- IMO Convention (21 articles and 25 regulations)
- approximately 6 Guidelines + options
- Art.8: Inspection of ships, Inventory of Hazardous Materials is required
- Reg 5: Inventory of Hazardous Materials
- Reg 8: General Requirements
 - Authorization of Ship Recycling Facilities
 - Ship Recycling Plan
 - International Ready for Recycling Certificate
- Reg 24 & 25: Reporting Requirements



Hong Kong Convention

Impact on:

- Design, construction and documentation of ships
- Operation of ships (incl. repair, conversion, etc.)
- Operation of ship recycling facilities

Key issues:

- Authorization of Ship Recycling Facilities
- Inventory of Hazardous Materials (IHM)



Inventory of Hazardous Materials (IHM)

Convention requires an Inventory of Hazardous Materials(SR/CONF/45)

Reg. 5.1: Each new ship shall have onboard an Inventory of Hazardous Materials

Reg. 5.2: Existing ships shall comply ...
- as far as practicable ...
- not later than 5 years after EiF

Guideline for the development of the IHM (Resolution MEPC.179(59))

- Check on table A and table B materials (Gdl. Reg. 4.1.2 + 3)**
- Check of information from supply chain (Gdl. Reg. 4.1.4)**
- Suppliers Declaration of Conformity (Gdl. Reg. 5.1 + 7.)**
- Material Declaration (Gdl. Reg. 6)**

Inventory of Hazardous Materials (IHM)

- **IHM Part I: hazardous materials in structure & equipment**
 - **existing ships: Preparation by HazMat expert on behalf of shipowner**
 - **new ships: Preparation by ship building yard**
- **Maintenance required in case of changes by shipowner/designated person**
- **To be certified min. every 5 years by Recognized Organisation (RO)**
- **Part I to be checked by PSC frequently**
- **Part II (wastes) & III (stores) required only prior to recycling**
- **Major source of information for ship recycling plan and selection of ship recycling facility**

Preparation of IHM for Existing Ships

- Owner
 - responsible for preparation of IHM
 - nominates “designated person” for maintenance
 - has to involve “**HazMat expert**” for preparation
- Hazardous Materials Expert (HazMat Expert)
 - works on behalf of the owner
 - “has to be qualified / experienced”
- Classification Society (e.g. LRS, GL, IRS etc.)
 - certification of IHM provided by owner / HazMat Expert

Ship Recycling Preparations by Shipowner

- Preparation of IHM Prior to Final Voyage
 - Completion of IHM (Part II and III) covering Table C and D
- Selection of authorized Ship Recycling Facility
- Ship Recycling Plan (SRP)
 - prepared by Ship Recycling Facility in cooperation with ship owner
 - IHM is source of information for SRP
- International Ready for Recycling Certificate (IRRC)
 - in future: to be issued by flag state prior to delivery of ship



ALANG – THE SHOWCASE OF INDIAN SHIP RECYCLING

- Well established ship recycling yard largest in the world.
- Blessed with high tidal range, Long beach with gentle slope and firm ground facilitating beaching of ships just at the threshold of the plot.
- 173 plots developed on 10 km. long coast.
- High breaking potential of >3 million MT per annum.
- Proximity to re-rolling mills - related industries.
- Serves the Nation by producing about 2.5 million tones per annum of re-rollable steel without exploiting natural resources.
- Serves the society by offering employment opportunity to people (direct: @ 50,000 and Indirect: @ 5 lakh people) with net positives environmental impacts.

BEACHING PROCESS



SHIP READY FOR RECYCLING



SHIP RECYCLING PLOT



GREENING AND SHIP RECYCLING



SHIP RECYCLING ALMOST COMPLETED IN THE PLOT



SECURED LANDFILL CELL FOR HAZARDOUS WASTE



CRITICAL WASTES & THEIR MANAGEMENT

- Asbestos Containing Material: Wet Methods for Extraction, Consolidation for volume reductions in enclosed chambers and final disposal to dedicated landfill
- Polychlorinated Biphenyl(PCB) Containing Wastes: Cutting of Cables in such a way that all be reused/recycled. Rest Pieces of Cable to test for carbon content and then decide whether to incinerate or landfill
- Tri- Butyl Tin(TBT)/Poly Aromatic Hydrocarbon(PAH): Testing of Carbon Content and then decide whether to incinerate or landfill

Judgement of Hon'ble Supreme Court of India regarding Ship Recycling September -2007

- Procedure for Anchoring –Desk Review of Documents
- Procedure for Beaching – Physical Verification of the Hazardous Substances, ensuring Gas Free and Fit for 'Hot Work' Conditions, prior removal of radio active substance etc. by the concerned dept. of Government.
- Procedure for Dismantling – Authorization and approval of Recycling Facility Management Plan by State Pollution Control Agency followed by approval of Dismantling Plan by State Maritime Authority
- Government of India to prepare a Comprehensive Code for Ship Recycling incorporating the above procedures .

REGULATORY FRAMEWORK FOR SHIP RECYCLING IN ALANG/INDIA

- Hazardous Waste (M & H) Rules for Waste Management
- Air (Prevention & Control of Pollution) Act
- Water (Prevention & Control of Pollution) Act
- Factory Act for Safety and Health related aspects
- Explosive Act for Gas Free for Hot Work Conditions
- AERB Rules for Management of Radio Active Wastes
- Workers Compensation Act
- Labor Laws
- GMB Ship Recycling Regulations-2003
- Supreme Court of India's Directions – Procedures for Safe and Environmentally Sound Recycling
(Most of the Provisions are as per the IMO's Hong Kong Convention)

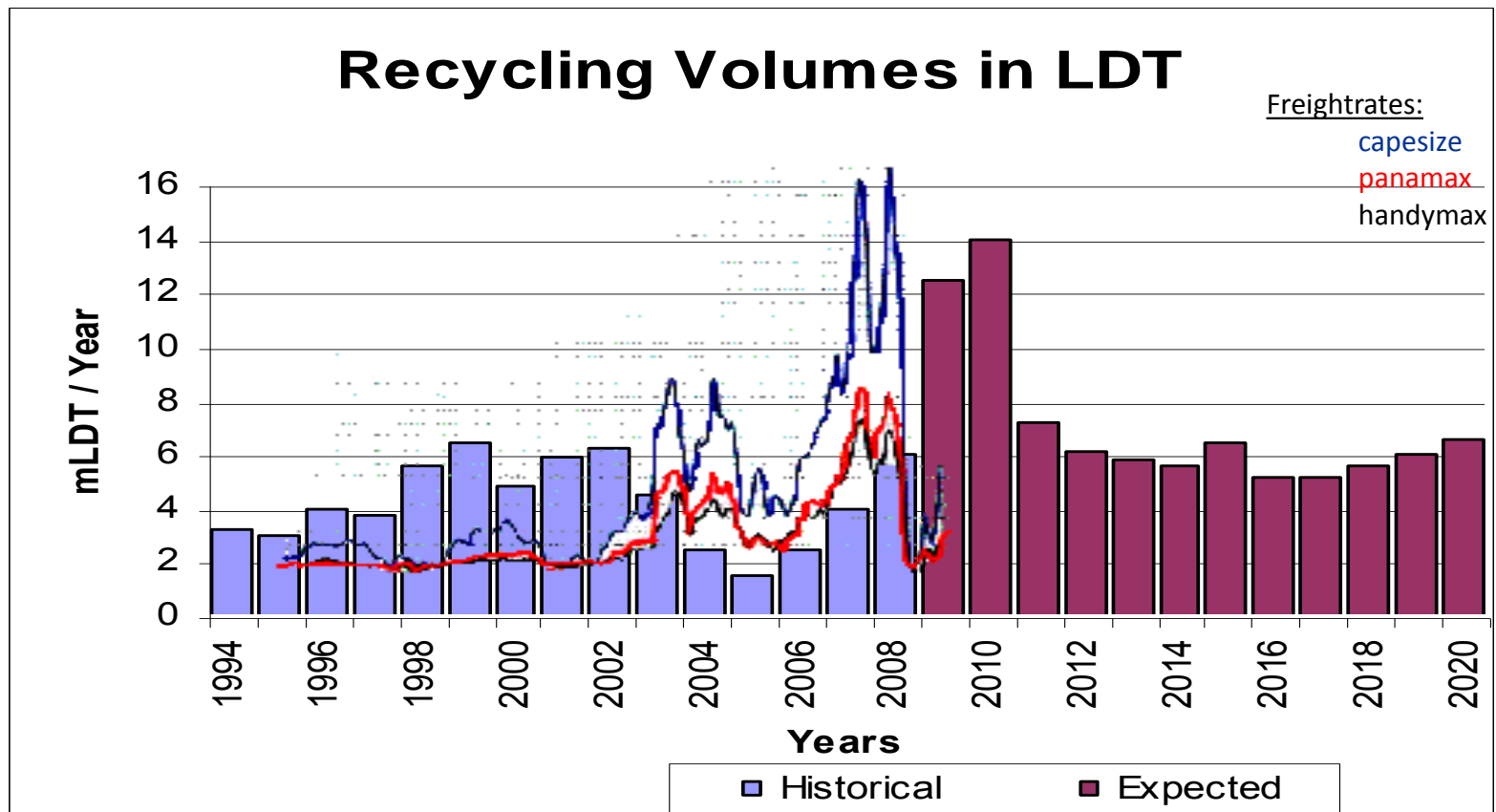
STATUS OF COMPLIANCE BY ALANG TO IMO CONVENTION

Sr No	Check List as per IMO Convention	Status at Alang	Remarks	Fully Compliance to IMO Convention
1	Recycling Facility Management Plan	Ship Recyclers are preparing the Recycling Facility Management Plan which is approved State Pollution Control Board	Complied	IMO adopted the Convention in May 2009. The various directions issued by Supreme Court of India are complied which are exactly the requirement as per the convention in the recycling state, it is therefore said that convention is almost complied by the Alang Sosia Ship Recycling Yard operated by the State Authorities.
2	Ship Specific Dismantling Plan	Ship Recyclers are preparing the Ship Specific Dismantling Plan being approved by State Maritime Board	-do-	
3	Oily Waste Reception Facility	IL&FS Ecosmart- Gujarat Maritime Board's consultant suggested to work out for mobile reception facility	At present, Used Oil is being sent to authorized recycling facilities	
4	Paint Chips removal plan	Paint chips removed from the gas cutting lines are disposed to Waste Management Facility at Alang	Complied	
5	Asbestos Waste Handling	Asbestos Containing Material(ACM) is being safely removed under wet methods and also Negative Chamber Systems	Complied	
6	Hazardous Waste Management	Fully operational as regulated under national statute	Complied	
7	Bilge Water Treatment Plan	Bilge Water is treated in Common Effluent Treatment Plant in other location.	Complied	

Markets

Freight Rates

The freight rates & scrapping volumes are inversely proportional



Recycling Volumes

- **Recycling demand**
 - **MARPOL I, Reg. 13G**
 - **Single Hull Tanker Phase out by 2010**
 - **SOLAS (1992) II-2/41-1.2.4. (MSC.24(60)):**
 - **“Phase out of Classic Cruise Liners“ by October 2010**
 - **“Recycling decision“ is driven by freight rate (income) compared to repair & operating costs (expenses)**
- **Recycling activities today**
 - **rising sharply**
 - **recycling facilities operating close to their max. capacity**

Decision to Scrap

Factors affecting decision of shipowner to scrap his ship for recycling are:

- 1. Freight rates**
- 2. Operating Costs**
- 3. Legislation**
- 4. Scrap price**

CONCERNS AT ALANG !

1. Total decontamination of a dead vessel before sending to a SRF.
2. Pre cleaning of cargo tanks of oil and chemical tankers before sending vessel for scrap.
3. Documents of ship 'ready for recycling' should clearly identify the Owner and vessel's details.
4. Strongly oppose those who are against the environmentally sound , safe and economically viable 'beaching method' of ship recycling.

THANK YOU

