Science day

Joint session of the London Convention/Protocol Scientific Groups
(LC/SG 44 & LP/SG 15)
Thursday, 15 April 2021

“Experience with comparative risk assessment for decommissioning of platforms and the disposal of vessels”

by

Sea2Cradle
Global Recycling capacity

EU approved

China

Beaches

Beaches
Experiences

Recycling is a complicated process with many topics, each of them imposing risks for the environment and health (directly or indirectly):

- Stakeholders
- Regulatory framework
- Political
- Public opinion
- Operational
- Health, Safety & Environment
- Technical
- Economical
- Market
Stakeholders

Unawareness of the recycling process imposes risks for:

- Owners & shareholders
- Ship manager
- Decommissioning/rundown
  - Various subcontractors
  - Surveyors/Classification Buro/etc.
- Broker
- Buyer
  - Cash buyer
  - Yards agent
  - Yard
- Transport
- Green recycling services

Regulatory framework

Unawareness of the regulatory framework imposes risks of prosecution:

- Basel Convention (UN)

Legislation on Ship Recycling:

- European Ship Recycling Regulation (1257/2013)
- Not ratified yet: Hong Kong Convention, 2009 (IMO)

Guidelines:

- IMO MEPC
- EU
- ILO
- Stockholm convention
- Basel convention
- Other international and national legislation/guidelines
Regulatory framework

- Sale & Purchase contracts
- RECYCLECON
- SEA2CRADLE standard contract
- Liability
- Price (Pay or get paid)

When is the offshore sector starting with an international regulatory framework?

Political

Political pressure imposes a risk choosing for economical benefit instead of Health and Environment

- Pressure on politicians by stakeholders
- Obligation to clean the North Sea
- New regulations (EU)
- Brexit
- Ban amendment
- Potential shortage of EU approved yards
Public opinion

Risk of negative publicity
- Shareholders
- NGO Shipbreaking Platform (various green organization including Greenpeace)
- Confidential or pro-active & open communication
- Name/brand protection / reputational damage

Operational

Bad planning and preparations might result in wrong decisions:
- Preparations of recycling before and during rundown and well shut down
- Planning
  - Guarantee yard space
  - Pre-cleaning (NORM, Mercury, Gas Free)
  - Investigate transport (transboundary movement of waste)
  - Removal of valuables
Health, Safety & Environment

Major risks at the all recycle yards (EU approved yards not exempted):

- **Health:**
  - Many hazards and hazardous materials
  - Working circumstances, ILO
  - PPE (specific for torch cutters)

- **Safety:**
  - Plans & planning
  - Safety meetings and preventive measures
  - Scrapping vs Recycling vs Demolition vs De-constructing

- **Environment**
  - Plans & planning
  - Response planning and readiness
  - Many spills noted
  - No control of the process

Technical

Unfamiliarity of essential technical requirements imposes a major risk for HS&E.

- Inventory of Hazardous Materials
- Pre-cleaning (NORM, Mercury, Gas Free)
- Rundown and well shut down
- Prepare transport

**CARBON MONOXIDE (CO) POISONING**

**CAN'T BE SEEN, CAN'T BE SMELLED, CAN'T BE HEARD, CAN BE STOPPED**
Financial risk when doing it wrong
- Pre-cleaning offshore/onshore
- Offshore recycling versus onshore
- Recycling market
- Transport
- Valuable equipment

Economical

Market

Unawareness of the market components results in wrong decisions
- Scrap market is volatile
- Offshore or special decommissioning requires longer term approach
- Recycle location vs transport consideration
Innovation

A lot needs to be done to reduce the risks in the recycling sector. Innovation and knowledge needs expanding and improvement:

- Cutting
  - Reduce torch cutting
  - Investigate the use of diamond wires
  - Cutting using water
- Cleaning
  - NORM cleaning is a cumbersome and expensive process
  - Unawareness of MERCURY contamination
  - Insulation, Chrome 6 and other materials not on the list of hazardous materials
  - Use of Hydro jetting and chemicals
  - Sound
- Fully automated process

Considerations

- Recycling is one of the most dangerous industries.
- No progress on new technics
- No EU approved recycling capacity worldwide
- Presence responsible recycling capacity worldwide
- Shortage of recycling capacity after 2027
- Pressure to do it right
- Prosecution of ship owners
- Compliance with Legal framework
- Stricter control by authorities
- Call for common approach to develop more geographic spreaded recycling capacity
- HKG convention not ratified and outdated
Sea2Cradle services

- Highest HSE standard
- Compliant with EU, IMO, Basel Convention and ILO legislation
- Inventory of hazardous materials
- Yard audits
- Brokerage
- Management & Operations
- Supervision on recycling and waste management
- Market research
- > 20 Years experience
- > 170 Successful projects

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