

Disposal of obsolete warships

- charting the challenges



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Case Study – ex FNS *Clemenceau*

- Decommissioned 1997 disposed of for scrapping in France.
 - 2003 – Navy resumed vessel from Spanish company.
 - Two year legal battle in French courts.
 - Vessel towed to India for scrapping 2005.
 - Passage through Suez canal delayed by Egyptian Govt.
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- 3 month tow.
 - Indian Government challenged the entry of the vessel.



Case Study – ex FNS *Clemenceau*

- French Navy argued that vessel not subject to Basel Convention as it is a warship.
- Court challenge reignited in France over poorly estimated asbestos content ca. (220- 550 tonnes).
- French president ordered vessel to be returned to France.
- Returned to France May 2006 after tow around Africa.



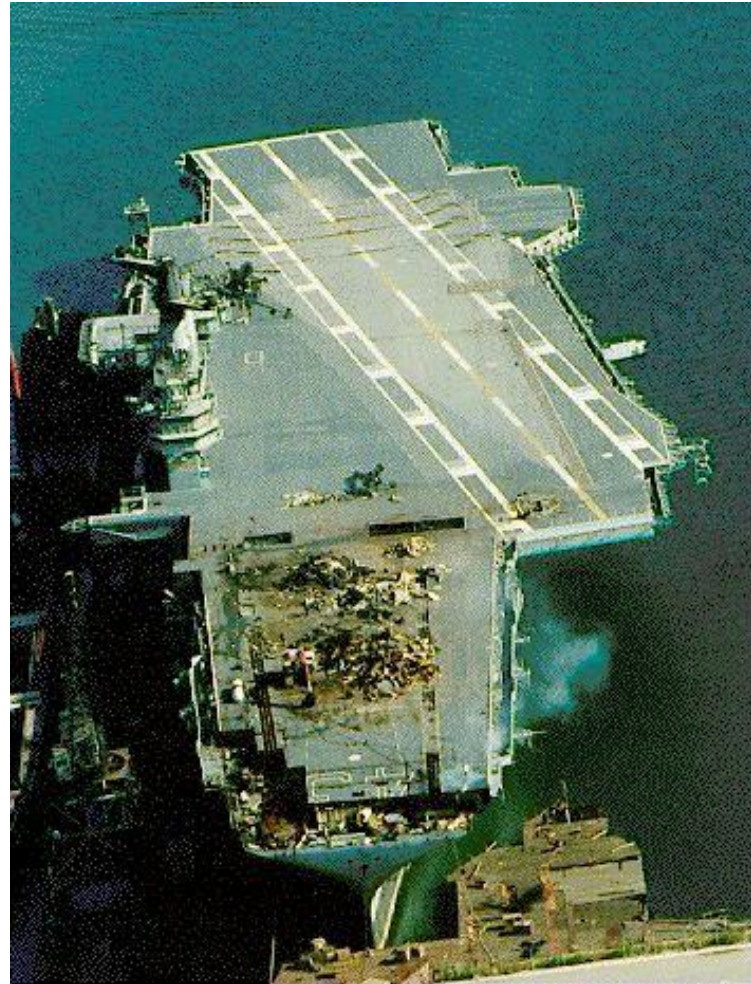
Clemenceau currently being dismantled in the United Kingdom.

Greenpeace protester aboard *Clemenceau*



Disposal of obsolete ships

- Management issues.
- Disposal options.
- Future.



ex – USS *Coral Sea* (CV 43)

Disposal issues – OHS

- Old ships by nature are obsolete technology.
- Contain a range of hazardous materials and polluting chemicals.
- Ships often in poor material state.
- Closed compartments create toxic gas hazards.
- Inactive vessels deteriorate rapidly without ongoing crew maintenance.

Military vessel awaiting
final disposal



Disposal issues - biosecurity

- Hull biofouling accumulates rapidly on inactive vessel.
- May affect ability to move ship to destination.
- Authorities may require the vessels hull to be cleaned.
- Bird wastes create biohazard, and can encourage vermin infestation.



Disposal issues - site contamination

- Biocide leaching from antifouling paints can cause site contamination.
- Delamination of antifouling paint and deck/uppers paint will cause sediment contamination.
- Rainwater runoff and waste discharges can contaminate site and surrounding waters.

ex-Royal Navy vessel
Sir Lancelot.



Disposal issues - maintenance

- Ship must be maintained ready for tow.
- Cannibalisation for spares can lead to ship becoming unseaworthy even for tow, limiting disposal options.
- Security risk from vandalism (fire, flood, OHS).
- Need for ongoing monitoring of lines and bilges.
- Emergency response planning.



or this will happen...

Disposal options

- Sale/gift for refit/reuse.
- Museum.
- Scrapping.
- Sea dumping (artificial reef, dive wreck, target).



USN mothballed fleet

- some 350 vessels for disposal
- many in poor material state

Sale or gift for refit/reuse

- Old ships with obsolete technology.
- Most are beyond economic reuse.
- Refit and reconfiguration is costly.
- Successful reuse is rare for military vessels.



ex- HMAS *Jervis Bay* as ferry



ex- HMAS *Stalwart* at Alang Bay

Museum vessels

- Limited potential due to large maintenance costs.
- Only iconic vessels, and in very small numbers.
- Some risks if proponent fails.



Ex- HMA Ships *Vampire* and *Onslow* in Sydney

Ship scrapping

- Almost all ocean going vessels are scrapped in third world countries regardless of origin.
- Currently 50% of ships scrapped at Alang Bay in India.
- Recycling rate is high but environmental cost is too.



Ships being scrapped in Pakistan

Ship scrapping

- Working conditions are hazardous and unhealthy.
- Worker accident rate is high.
- Local environmental impacts are high.
- Cost effectiveness is marginal.
- but Pakistan gets 70% of steel from scrapping ships.



Disposal of obsolete vessels - Scrapping

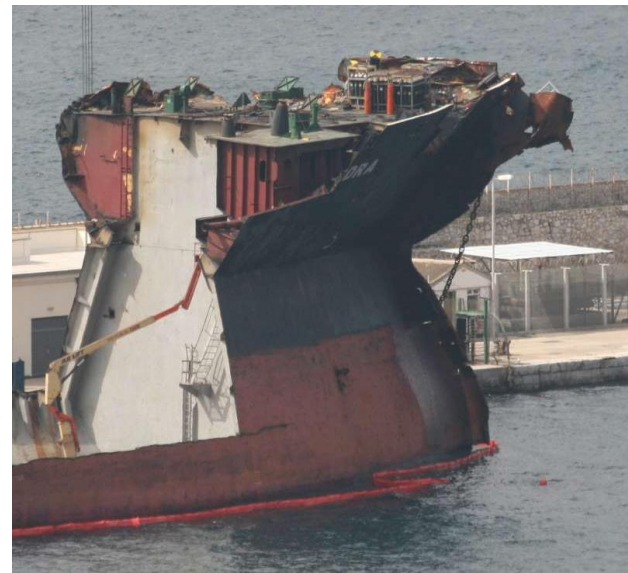
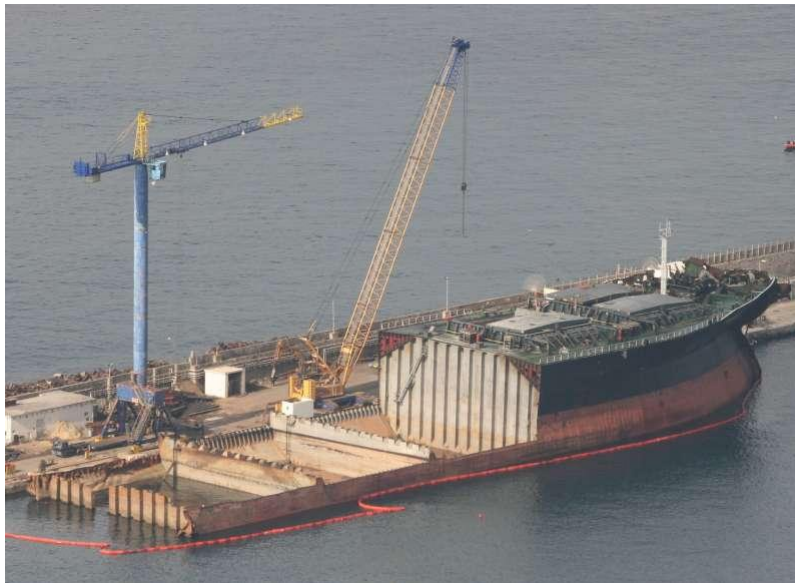
- Basel Convention regulates the import and export of hazardous material.
- Designed to protect workers and the environment in third world countries receiving ships.
- Scrapping is costly and resource intensive if environmental and health risks are addressed.
- Significant proportion of vessel ends up as landfill.
- High cost and low return on investment.



ex – HMA Ships
Whyalla and *Cessnock*

Disposal of obsolete vessels - Scrapping

- Scrapping in-country can be done cost effectively and in a compliant manner.
- Novel solutions can substantially reduce costs.



Bow of ex-MV *Fedra* scrapped at Gibraltar in 2008

Disposal of obsolete vessels - Sea dumping

- **Disposal of vessels at sea may be done for a range of reasons including:**
 - Commonly for re-use as a dive site or fish attracting device.
 - (rarely) to reduce environmental risks during an emergency.
 - (rarely) if no other disposal option available.
 - (rarely) for target practise.
- **In all cases the requirements of the London Convention must be met.**

ex – HMAS *Brisbane*



Sea dumping of ships - Advantages

- Sea dumping as dive wrecks or fish attracting devices remains a cost effective method of disposal.
- Vessel takes on new role as tourist destination with significant revenue potential for local economy.
- Represents a recycling option to a new use.
- Vessel retains heritage values in new role.



**Ex- HMAS *Swan*,
Perth WA**

Sea dumping of ships - Disadvantages

- Limited control over process.
- Highly contentious decision on final recipient.
- Only suitable for “iconic” vessel such as destroyers.
- Defence retains interest - significant reputation issues



**Ex- HMAS PERTH,
Albany WA**

Sea dumping of ships - Preparation

- High cost of preparation – ca. \$6-7 million for a frigate.
- Safety of divers crucial.



Removal of entanglement hazards.

Sea dumping of ships - Preparation

Removal of access hazards.



Enlargement of compartment exits.



Removal of internal bulkheads and buoyant material.

Disposal of obsolete vessels - Future

- Incorporate Environmental Compliance during build.....



- Cradle to grave holistic management approach.
- “Hazardous materials register” to facilitate disposal.
- Management of cultural heritage significance.

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QUESTIONS?