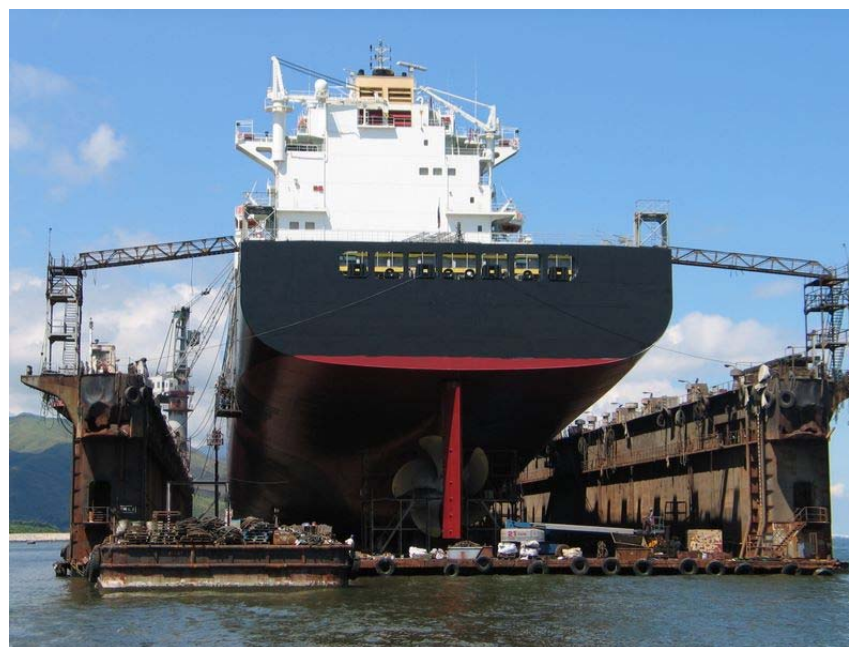




Floating Dock Relocation in Hong Kong



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Hong Kong SAR Government



HK Port and facilities

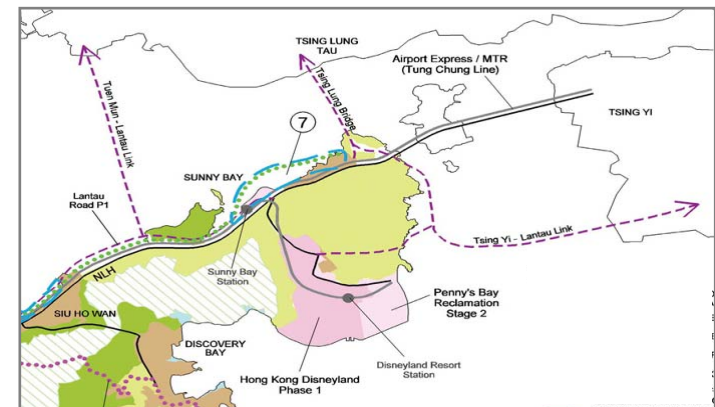
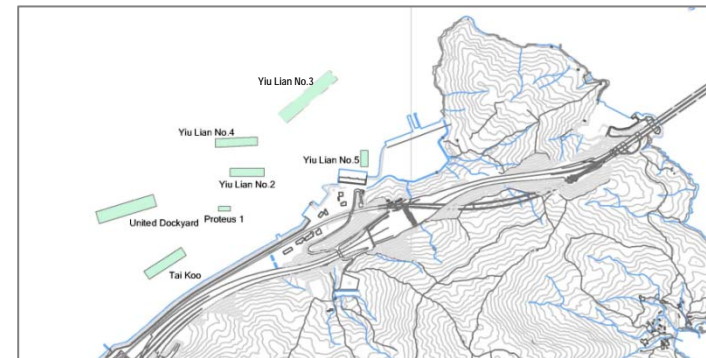
- Hong Kong is one of the busiest international container ports in the world, being visited by around 230,000 ships annually;
- Although the port facilities are owned and operated by the private sectors, the HK Government is responsible for long-term strategic planning for port facilities;
- Floating docks and shipyards are important in providing supporting facilities for maintaining the visiting ships.





Change of land use in north Lantau

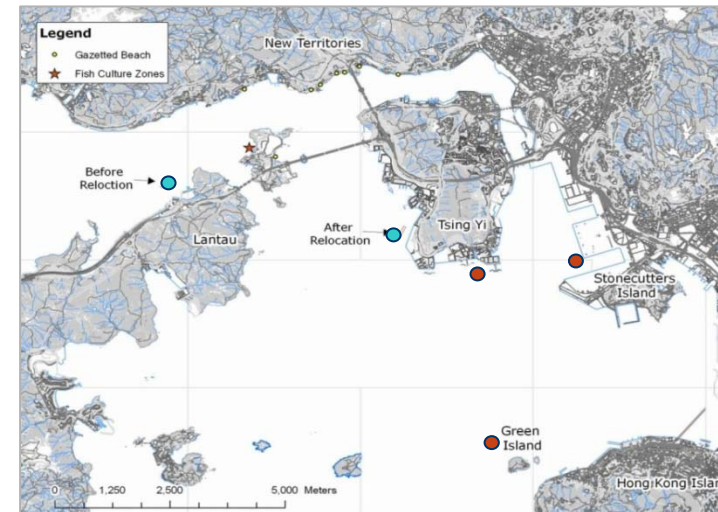
- Since 1989, the northern shore of Lantau has been planned for port related facilities, with many floating docks being allowed to operated around there;
- In 1998, the land use for that area was changed to tourism and recreation. Port related facilities became incompatible and the floating docks had to be relocated from the site;
- Yiu Lian, the largest floating dock of HK, was the last one based at Yam O and the land lease will be expired in 2008.





Alternative sites for relocation

- Potential sites for relocating the floating docks were studied at Green Island, south Tsing Yi and north Stonecutters, but they were unsuitable because they were either too shallow or affected by other developments.
- Southwest coast of Tsing Yi was chosen because it was :
 - easily accessible by sea
 - was sufficient water depths at the approaches
 - close to the other two floating docks
- Marine Department had no objection to this site, except EIA had to be carried out to confirm the **environmental acceptability of the proposal**.





Environmental concerns

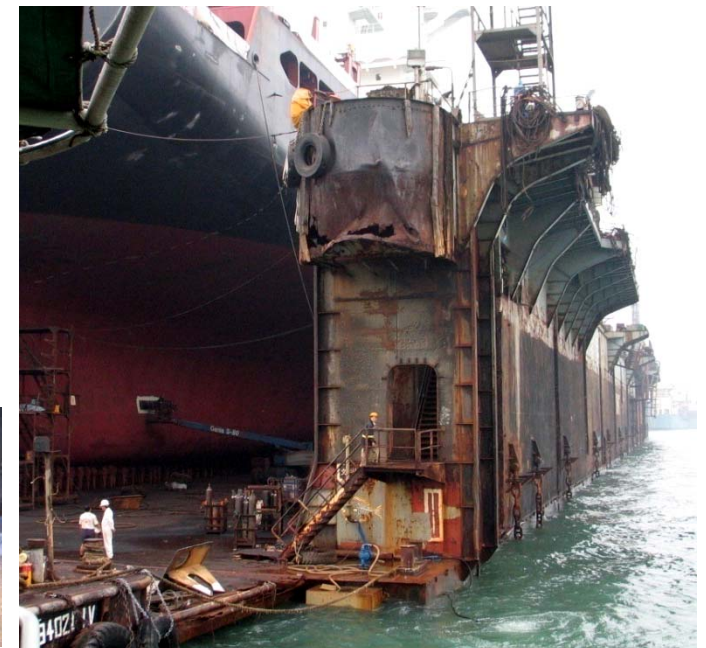
- Ship hulls are regularly cleaned and have antifouling paint applied to ensure that they are free of fouling organism.
- TBT is the commonest antifouling paint used, and constantly leaches TBT at certain to prevent bio-fouling.
- While TBT is very efficient in controlling bio-fouling, it is also very toxic to aquatic life. It enters the environment in votatile, dissolved and solid forms through the ship maintenance process.





Water impact from the dock activities

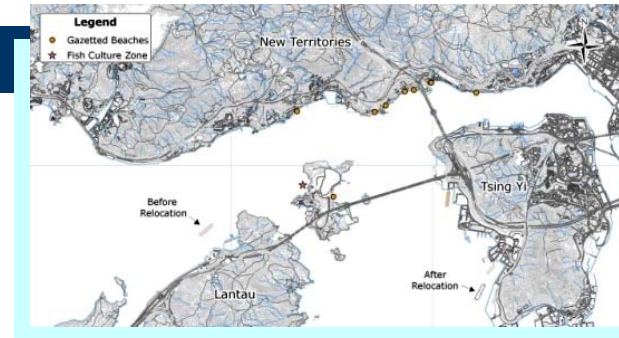
- The hull cleaning produces large quantity of waste and wastewater containing contaminants, e.g. TBT and metals;
- The floating docks generally have minor setup on board to screen the large amount of wastewater before discharge;
- Previous studies showed that marine sediment around the dock generally had high level of TBT and other related metals.



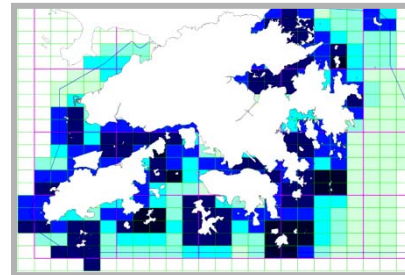


Concerns from different parties

- The existing site at Yam O falls in the activities zone of Chinese White Dolphin, high fisheries production area and close to the Ma Wan fish culture zone;
- As the floating dock relocation process might affect the habitat of the dolphin and other marine organisms, fish production and survival at the culture zone, the green groups and fishery associations became very concerned about the relocation.



Fisheries production distribution



Chinese White Dolphin active zone

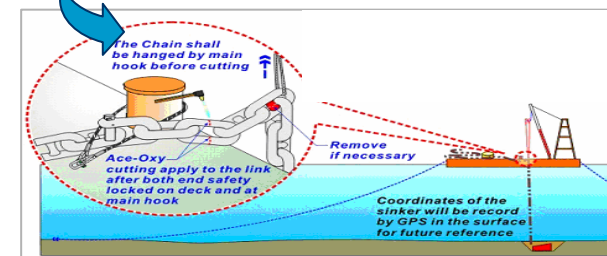
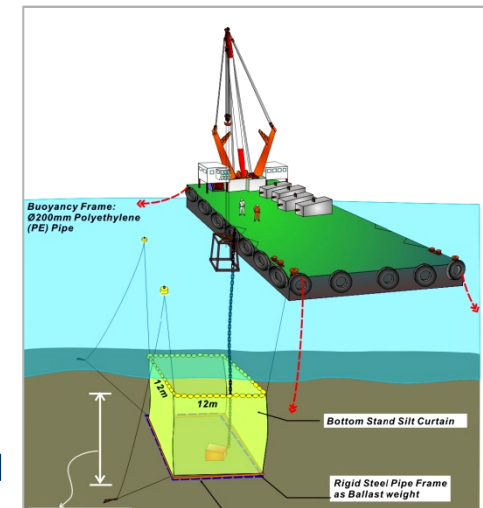
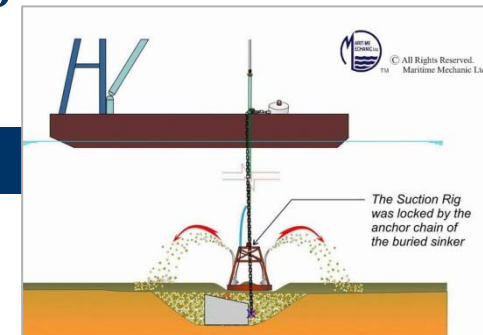




Consideration of alternative solutions

Decommissioning at Yam O

- Initial proposal included the use of the purpose built airlift suction dredger to remove the contaminated sediment in order to recover the 28 anchor blocks from the seabed of the existing site.
- Further proposed to use standing type silt curtain to fence up the dredging area to reduce the dispersion of suspended solids;
- In the final method statement, adopted the 'leave the anchor in place' approach in order to reduce the disturbance to the marine sediment.

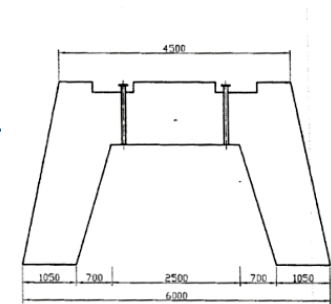




Consideration of alternative solutions

Site preparation at Tsing Yi

- Adopted the alternative of using a specially designed anchor that can sink directly into the seabed. This let the dredging and backfilling process for anchor deployment at Tsing Yi become unnecessary.



Operation at Tsing Yi

- On top of the onsite settling tanks to treat the wastewater, carried out pilot study to demonstrate the effectiveness of the settling system of up to 75% and 90% removal of SS and Copper respectively.
- Agreed to provide further treatment if the effluent could not meet the discharge standards, and not to serve any vessels with TBT-containing paint after relocation.



Timeline of the relocation application

- In 2003, Yiu Lian intended to apply for direct application of EP, but failed to collect sufficient information to support the application;
- In 2005, applied for the Study Brief for EIA study. Lots of technical information were then collected to justify the acceptability of the proposal.
- Rounds of formal and informal discussions had been arranged during the EIA preparation and after the formal submission for public inspection. The proposal was significantly refined and different alternatives were adopted. The EIA was finally approved and the EP was granted in Mar 2007.
- It took over 4 years for the relocation application, although the actual relocation process only took around 3 months to complete. The floating dock was finally moved to Tsing Yi in Sep 2007.



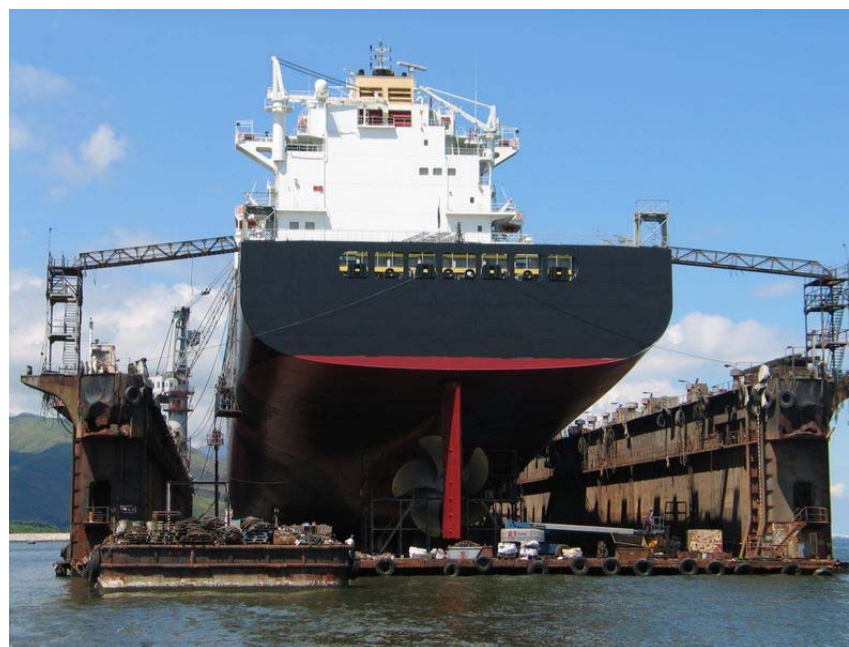
Experience gained from the floating dock case

- The Yiu Lian case showed that it was equally important to collect technical information to demonstrate the environmental acceptability of the proposal and consideration of viable alternatives to ease public concerns.
- The EIA process had successfully provided the formal and informal discussion platforms for the project proponent, public and stakeholders to exchange view on relevant concerns.





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THE END