Lifeboat accident on board M.V. "Lowlands Grace" on 7.10.2004 causing two fatalities

1. The Incident

1.1. At about 1525 on 7 October 2004, a fatal lifeboat incident occurred on board M.V. "Lowlands Grace" when the stern of the port lifeboat detached from the hook arrangement and the port lifeboat later plunged into the sea during a lifeboat launching operation. Two seamen died in the incident. The fatal incident took place in good weather conditions. The vessel was riding at the anchorage of Port Hedland, Australia.

1.2. The master immediately ordered the crew members to organize rescue operation for the five crewmembers inside the lifeboat and reported to the Port Hedland Harbour Control for assistance. The Ordinary Seaman who was trapped inside the lifeboat and the Third Engineer who swam out of the lifeboat were both died from their injuries. The other three crewmembers, namely the Third Officer, the Deck Fitter and the Able Seaman sustained serious injuries and were sent to hospitals in Port Hedland and Perth.

2. Findings

2.1 The complete aft hook assembly and fixing plates of the lifeboat were found missing during the inspection after the incident. An object appearing to be the hook unit was seen falling out of the lifeboat at the instant when the port lifeboat was detached from the aft suspension block.

2.2 The reason why the lower end of the fixing plates were sheared off is not exactly known but with the following possibilities:

a. Wastage due to corrosion might have occurred to the fixing plates. The condition of the fixing plates in the starboard lifeboat was indicative that there was an ongoing problem with corrosion and wastage of the fixing plates at the point of attachment.

b. The lifeboats are stowed on davits without resting on chocks. As a result, the lifeboat hook assemblies and the fixation plates are always subject to heavy and fluctuated stress, particularly in rough seaways.

The combination of the direct and fatigue stresses would have additional loading on the aft hook assembly and the fixing plates.

c. Fretting corrosion might have also occurred around the securing bolt area of the fixing plates. The securing bolt was a full threaded bolt instead of a fit bolt. Fretting corrosion could have therefore occurred between the contact surface of the securing bolt and the lower part of the fixing plates.

d. Metal defects, which may be hidden, has long been associated with failure of fabricated structures. The crack being suspected in this fatal incident, may have initiated when excessive stress encountered during the rough handling of lifeboat during launchings. The crack can, over some period of time, move slowly its way across the material as the part flexed or the stress is oscillated at different levels. The crack weakened the structure and subsequently tend to cause fractures or failure of structure.

2.3 The fixing plates were housed in a glass-reinforced plastics enclosed compartment fitted with an access door. As most of the ships are invariably sailing in a trimmed condition by stern, rain, seawater, or condensation could accumulate from time to time in the aft enclosed compartment, which would present favourable conditions for the corrosive process to take place.

2.4 The fixing plates of the lifting hooks of the lifeboats appeared to have not been inspected and maintained properly. Such items of inspection as to the condition of structure of the lifeboat are however, not included in the “Instructions for On Board Maintenance of LSA”. Although the fixing plate was housed inside a compartment fitted with an access door, as there was no specified instruction the crew might not have opened the door to check for the condition of the fixing plate.

2.5 As a result, the stern of the port lifeboat detached from the aft suspension block and the port lifeboat later plunged into the sea from a height of about 16 m after a swing for about 220º when the forward hook was forced open.

3. Lessons

3.1. The Management Company should be reminded that adequacy of the shipboard inspection and maintenance on the fixing plates of lifting hooks should be reviewed and corrected as necessary. The “Instruction for On Board Maintenance of LSA” should include the revised procedure to ensure that adequate shipboard inspection and maintenance are carried out.

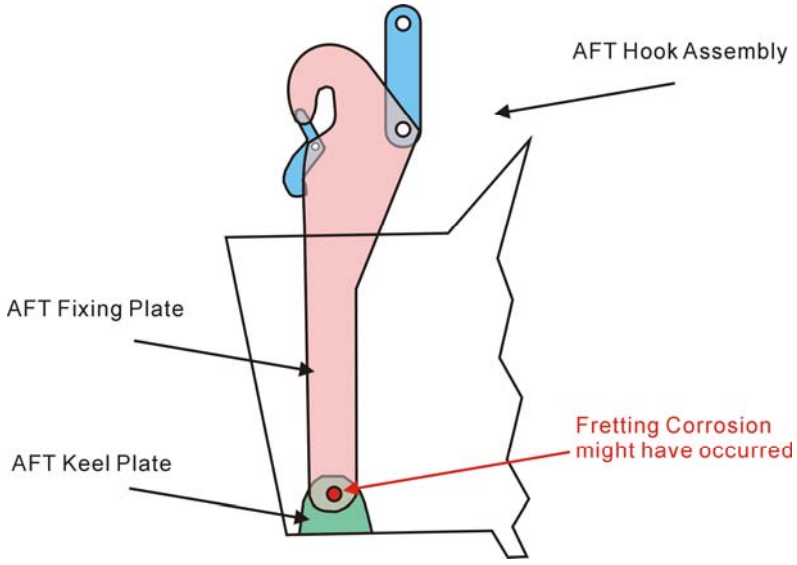
3.2. The company should consider seeking for technical assistance from a renowned lifeboat manufacturer or the classification society to look into the holding arrangement between the fixing plates and the keel plate of the lifeboats.

3.3. A Merchant Shipping Information Note (48/2005) should be promulgated to the shipping industry and the Marine Institutes on the lessons learnt from this incident by drawing their attention on:

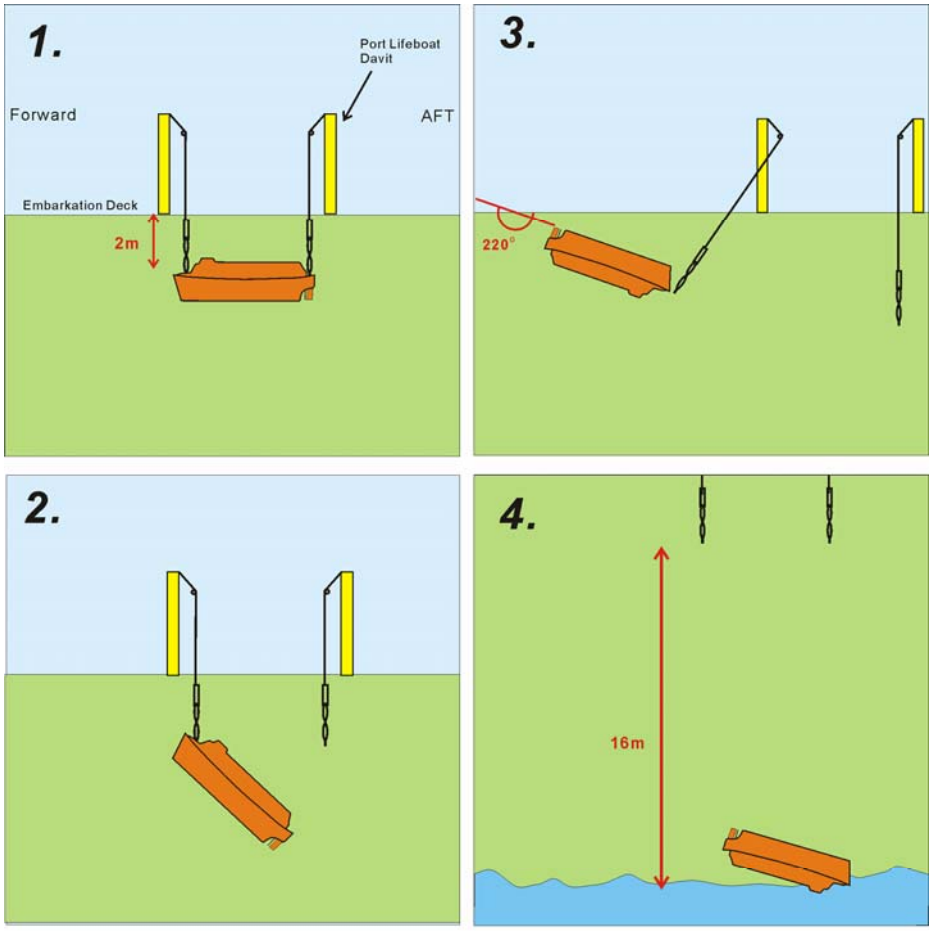
a. the importance of proper lifeboat inspection and maintenance;

b. the fixing plates and its holding arrangement on lifeboats built by the ex-Blue Sea Industrial Co. Ltd. in Taiwan, which may have design faults or inherent defects; and

c. the Merchant Shipping Information Note No. 15/2005 on the Guidance on Safety of Crew during Abandon Ship Drills Using Lifeboats.



Fretting Corrosion at Contact Surface of the Securing Bolt and the Lower Part of the Fixing plates



1. The port lifeboat was launched by the 3/O using the remote control wire inside the lifeboat.

2. After the port lifeboat had travelled for about 2 m, the after part of the port lifeboat detached and the port lifeboat swung forward on the forward hook.

3. The forward hook opened at the top of the swing for about 220° and the port lifeboat started to plunge into the sea in an up side down position.

4. The port lifeboat plunged into the sea from a height of about 16 m.

Sequences of Events Leading to the Dropping of Port Lifeboat into the Sea