



## 香港商船資訊

## HONG KONG MERCHANT SHIPPING INFORMATION NOTE

**Explosion of windlass hydraulic motor**

To : *Shipowners, Ship Managers, Ship Operators, Masters, Officers, Crew and Classification Societies*

**Summary**

While a Hong Kong registered bulk carrier was heaving up anchor, the hydraulic motor of the anchor windlass exploded and killed a crew member. This Information Note draws the attention of the shipowners, ship managers, ship operators, masters, officers, crew and Classification Societies on the lessons learnt in the accident.

**The Incident**

1. Due to strong wind and rough sea while anchoring in the anchorage area, the Hong Kong registered bulk carrier ( the “*vessel*” ) rolled and pitched heavily. *The vessel* dragged her anchor and drifted towards another vessel.
2. The anchor party was summoned to forecastle to heave up the anchor. At the same time, *the vessel* was maneuvered using main propulsion power to keep her away from the ship at the stern. During the operation, the anchor chain was found leading astern and not coming up. Suddenly the hydraulic motor of the windlass exploded.
3. A seaman, who was operating the windlass, was hit by debris on his neck and jaw. He sustained serious injuries and died on board later.
4. The investigation revealed that the main contributory factors causing the accident was overloading of the hydraulic motor of the anchor windlass which was attributed by the following : -
  - (a) dragging of anchor and anchor chain on the seabed;
  - (b) shock-loading of anchor windlass system when *the vessel* rolled and pitched heavily under strong wind and rough sea situation;
  - (c) frictional force while the anchor chain was touching of the hull;

- (d) fouling of anchor by an abandoned anchor chain on the seabed; and
- (e) severe rise of hydraulic pressure inside the hydraulic motor by runaway of the anchor chain that started in a flash before the explosion.

### **Important lessons to be learnt**

5. It is important that : -

- (a) overloading of hydraulic motor of anchor windlass should be avoided especially when the equipment is operated in heavy weather condition or the anchor and chain are fouled by underwater object;
- (b) watchkeeping officers should closely monitor the ship's position and any deterioration of weather and sea conditions in order to avoid such situation as requiring to operate the anchor windlass hastily;
- (c) if practicable and as advised by manufacturer of the equipment, a safety guard to cover the hydraulic motor of anchor windlass should be provided.

6. The attention of Shipowners, Ship Managers, Ship Operators, Masters, Officers, Crew and Classification Societies is drawn to the lessons learnt above.

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