



## 香 港 商 船 資 訊

HONG KONG MERCHANT SHIPPING INFORMATION NOTE

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**A fatal accident involving enclosed space entry and rescue**

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

***Summary***

An electrician collapsed inside a cargo hold aft transverse bulkhead lower stool (*the lower stool*) when testing the water ingress alarms. The bosun also fainted inside *the lower stool* while trying to rescue the electrician. This accident resulted in the death of the electrician and bosun. This Note draws the attention of shipowners, ship managers, ship operators, masters, officers, and crew to the lessons learnt from this accident.

**The Incident**

1. When a Hong Kong registered bulk carrier (*the vessel*) was en route from Hay Point, Australia to Jingtang, China, an electrician, while working inside *the lower stool* alone to test the water ingress alarms, collapsed there without anyone noticing it until the suppertime.
2. A rescue team comprising the fitter, bosun, and two crew members was formed to look for the electrician in the duct keel in the evening. The fitter, who was the only one in the rescue team equipped with self-contained breathing apparatus (SCBA), did not notice the overhead access opening on the inner bottom plate leading to *the lower stool*. The bosun noticed the access opening and found the fainted electrician after entering *the lower stool*. When he tried to rescue the electrician, he also collapsed inside. When one of the team members, who followed the bosun, nearly fainted at the entry of *the lower stool* and the low level alarm of fitter's SCBA sounded coincidentally, the team evacuated immediately from the duct keel. However, the electrician and the bosun were left behind.
3. A second rescue team was organised and the bosun was successfully brought out. While resuscitation was applied to the bosun, *the vessel* directed its course to the nearest port in

Weihai, China. The second rescue team re-entered *the lower stool* and finally brought the electrician out, but the electrician did not show any vital signs. After about two hours of resuscitation, the bosun also failed to respond. Both the electrician and the bosun were certified dead after they were sent ashore by a rescue tug.

4. The investigation identified that the electrician entered the enclosed space alone without following the permit to work procedures; the crew were not effectively trained in the enclosed space emergency rescue; and the safety management system was also not effectively implemented on board.

5. The investigation also revealed that the crew were not familiar with the ship compartments configuration and the ventilation limitations of the lower stools; and no warning sign was posted at the entrance of the access hatches to prevent unauthorised entry when the access hatches were left open during ventilation.

### **Lessons Learnt**

6. In order to avoid recurrence of similar accidents in the future, masters, officers, and crew of vessels should:

- (a) follow the permit to work system for enclosed space entry strictly;
- (b) enhance the enclosed space entry and rescue drill and training; and
- (c) enhance the knowledge of the ship compartments configuration in relation to the limitations of the corresponding ventilation systems.

7. The attention of shipowners, ship managers, ship operators, masters, officers and crew is drawn to the lessons learnt above.