



香港商船資訊

HONG KONG MERCHANT SHIPPING INFORMATION NOTE

Two stevedores and one bulldozer operator were collapsed inside the stair trunk for entry to cargo hold

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

Summary

A fatal accident happened on a Hong Kong registered general cargo ship that two stevedores and one bulldozer operator were killed inside the stair trunk, after they entered the enclosed stair trunk without following the proper procedures. It was due to oxygen depletion atmosphere inside the enclosed stair trunk. This Information Note draws the attention of the shipping industry to the dangers associated with the characteristics of the semi-coke cargo. Parties concerned should treat the space inside stair trunk to cargo hold as an enclosed space and take appropriate safety precautionary measures before entering such space.

The Incident

1. In April 2015, a Hong Kong registered general cargo ship was berthing at a port to discharge the cargo of semi-coke. Two stevedores and one bulldozer operator entered the stair trunk of the No.4 cargo hold to sweep the cargo. They collapsed in the bottom of the trunk.
2. Some minutes later, another stevedore entered the stair trunk to check why his colleagues did not exit from the bottom door of the stair trunk and enter into the cargo hold. He discovered the incident, and exited from the trunk for help from the ship's crew.
3. The three casualties were retrieved soon from the stair trunk and sent to a hospital for emergency treatment. However, they were certified dead later in the hospital.
4. The investigation revealed that the main contributory factors of the accident was that the requirements of the entering enclosed space were not complied with. Main aspects were as follows:-
 - The stair trunk had not been provided with sufficient ventilation prior to the entry, and the atmospheres at the bottom of the stair trunk was oxygen deficient due to the oxygen consumption of semi-coke in the cargo hold which was not gas segregated from the stair trunk;

- No test of the atmosphere was carried out by the responsible officer to verify the condition of the atmosphere in the trunk for safe entry. No “enclosed space entry permit” was issued to certify the safe entry into the stair trunk; and
- Stenciled warning signs “Ventilation before Entry” and “O₂ Depletion” at the entrance of the stair trunk were disregarded by the stevedores. There was no particular means to prevent accidental entry to the enclosed space (i.e. the stair trunk).

Lessons Learnt

5. The enclosed stair trunks to the cargo holds must be treated as enclosed spaces. The requirements of IMO Resolution A.1050(27) “REVISED RECOMMENDATIONS FOR ENTERING ENCLOSED SPACES ABOARD SHIPS” must be referred to and complied with while making entry to those enclosed stair trunks. An entry permit system on board should include the entry of the stair trunk. Particular measures should be stipulated in the permit system as follows:-

- At the entrances of the stair trunks, appropriate warning signs should be displayed and barrier, such as a rope of chain should be secured across to entrance to prevent accidental entry;
- Prior to the entry, the space should be thoroughly ventilated by natural or mechanical means to remove any toxic or flammable gases and to ensure an adequate level of oxygen throughout the space. The ventilation should be kept continuously during the entire entry operation;
- Before any person entering the space, the atmosphere of the space must be tested as appropriate by responsible officer with properly calibrated instruments to ascertain acceptable level of oxygen and acceptable levels of flammable or toxic vapours;
- Only trained personnel should be assigned the duties of entering, functioning as attendants or functioning as members of rescue teams. The enclosed space entry drill should be conducted in accordance with the requirement of the SOLAS Convention Regulation III/19 that at least once every two months.

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