

Fatality of two persons inside enclosed space

A. The Incident

1. On 6 August 2002 at around 1230 hours, two persons were reported to have collapsed inside No. 4 starboard buoyancy chamber of the split hopper barge “Ho Hon 6 (浩航 6)” which was moored inside Tuen Mun typhoon shelter (Fig. 1). Various government launches rushed to the scene for assistance after the emergency call on “999”. The two persons were later rescued by the Fire Services team and were sent to the hospital for emergency treatment. Both persons were certified dead upon arrival at Tuen Mun hospital.

B. Findings

1. There is no reasonable explanation as to why the two deceased entered the buoyancy chamber. The buoyancy chambers are used solely to provide buoyancy to the split hopper barge and under normal circumstances there is nothing inside that needs to attend to (Fig. 2).
2. In this accident the cause of death of the two deceased was identified to be suffocation due to depletion of oxygen. As the buoyancy chambers of the barge had been closed for a considerable periods, the oxygen content of the atmosphere inside had been consumed by oxidation in the process of rusting and corrosion of steel structures over a period of time and was unable in sustaining human survival.

C. The Lessons

1. The deceased did not follow the procedures as laid down in the code of safe working practice, in particular, without applying prior ventilation and testing of the inside atmosphere, or using protective equipment such as breathing apparatus in maintaining their survival inside the chamber. Workers should be reminded of the danger of entering into an enclosed space that was not adequately ventilated.



Fig. 1 Location of manhole at No. 4 starboard buoyancy chamber



Fig. 2 Internal structure of No. 4 starboard buoyancy chamber