

Explosion occurred on board the dangerous goods carrying barge at Western Public Cargo Working Area on 22 August 2005

1. The Incident

- 1.1 At about 0930 on 22 August 2005, an explosion and subsequently a fire happened in the cargo hold of the dangerous goods carrying barge "Cheung Kam Shui No. 2" (*the Vessel*)
- 1.2 The accident resulted in the death of one Coxswain and serious injuries to three other crewmembers of the vessel.

2. Findings

- 2.1 At the time of the accident, *the Vessel* carried with certain amount pyrotechnic special effects materials (PSEM) in its cargo hold, was moored at the Western District Public Cargo Working Area. As PSEM is classified as category 1 dangerous goods, *the Vessel* should stay at the designated dangerous goods anchorage as required by the Conveyance Permit while carrying the PSEM.
- 2.2 No VHF radio was equipped onboard *the Vessel*. The crew of the Vessel relied on mobile telephones for outside communications. There was complaint about the difficulty to make telephone call to relevant departments for help after the accident.
- 2.3 The PSEM consisted of a number of cylindrical cardboard tubes containing lift charge and pyrotechnic materials which were explosive and inflammable materials.
- 2.4 The explosion caused the hatch cover boards fell into the cargo hold. The tarpaulin sheet was burnt with a large hole on the tarpaulin hatch cover. The body of the Coxswain was found inside the cargo hold.
- 2.5 A circular saw bench and a number of cut cylindrical cardboard tubes which scattered on the floor were found inside the cargo hold.
- 2.6 Due to the absence of witness, the exact cause of the accident could not be established. However, based on the evidences available, the fire and explosion were probably caused by the heat and spark generated when the circular saw bench was used for cutting the cardboard cylinders of the

PSEM inside the cargo hold.

3. Lessons

- 3.1 No electrical machinery should be used in cargo hold when carrying dangerous goods.
- 3.2 Instructions and procedures for the disposal of PSEM should be established and made known to all crewmembers.
- 3.3 The movement of category 1 dangerous goods carrying vessels should be monitored more closely.
- 3.4 All category 1 dangerous goods carrying vessels should be equipped with VHF radio installation to enable reliable communication.