Fatal accident of an engine cadet on board Hong Kong registered bulk carrier “Golden Taurus” at sea on 5 February 2017

1. The incident

1.1 On 31 January 2017, the Hong Kong registered bulk carrier “Golden Taurus” (the vessel) completed loading of Hard Red Winter wheat at New Orleans, USA. Fumigation commenced on the same day after completion of loading.

1.2 On 1 February 2017, fumigation was completed and the vessel departed the berth and commenced her sea passage.

1.3 On 1 February, 2 February and 3 February 2017 respectively, phosphine gas readings were taken at the upper deck accommodation and forecastle deck three times a day and all readings were zero PPM (parts per million).

1.4 On 4 February 2017, three phosphine gas readings were taken at 0730 hours, 1530 hours and 2330 hours at upper deck accommodation and forecastle deck, the readings were increased to 0.1 PPM.

1.5 At 0730 hours on 5 February 2017, a phosphine gas reading of 2.0 PPM was measured at the upper deck alleyway. All crew members were advised to vacate their cabin at once.

1.6 At 0747 hours, the engine cadet was found not coming out from his cabin. Two crew members entered his cabin and he was found lying in his bed and he was taken outside at once.

1.7 At 0800 hours, a phosphine gas reading of 9.0 PPM was measured in the engine cadet’s cabin.

1.8 At 1010 hours, the engine cadet was taken to the vessel’s hospital and Cardio Pulmonary Resuscitation (CPR) was applied to him. Medical Advice was received from Centro Internazional Radio Medico (CIRM).

1.9 At 1422 hours, CIRM advised that the engine cadet had passed away.

1.10 The investigation also revealed the following safety factors:

   a) the senior officers of the vessel were lack of safety awareness and did not comprehend the risks associated with a minor increase of phosphine gas and thus no immediate actions were taken; and

   b) phosphine gas was leaked into the accommodation through an electric cable duct without proper sealing, which was installed as a result of modification works.
2. Lessons learnt

2.1 Education and training of situational awareness and risk perception should be provided for senior officers. They should be re-trained in areas of properties of phosphine gas and risks associated with fumigation.

2.2 Procedures should be established for inspection and checking of modification works to ensure the modifications to meet relevant rules and regulations.