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香 港 商 船 資 訊

HONG KONG MERCHANT SHIPPING INFORMATION NOTE

A fatal accident by welding above the flammable cargo inside a cargo hold

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

Summary

A fatal cargo hold fire happened on board a general cargo ship when the welding sparks in a cargo hold ignited the flammable cargo stored underneath the tween deck of the cargo hold. In the accident, a fire watchman had tried to put out the fire by portable fire extinguisher, but in vain. He could not escape out of the hold due to heavy smoke and quick spread of the fire. He was eventually killed. This Information Note draws the attention of the shipowners, ship managers, ship operators, masters, officers, crew and Classification Societies on the lessons learnt in the accident.

The Incident

1. A fire watchman from shore died in the cargo hold fire on board the Hong Kong registered general cargo ship while loading cargo in China.

2. At the time of the accident, stevedores were carrying out welding work on the tween deck of the cargo hold to fix some cargo lashing fixtures. The welding sparks ignited the flammable cargoes underneath the tween deck. The fire watchman tried to put out the fire by a portable extinguisher, but in vain. He could not escape out of the hold due to heavy smoke and quick spread of the fire. He was eventually killed.

3. Following are the contributory factors of the accident:

   i. the aft access opening of the cargo hold was occupied by a number of steel coils which blocked the escape route of the fire watchman;

   ii. no risk assessment had been conducted properly before commencing the hot work;

   iii. no properly illuminated escape route had been established for the fire watchman to carry out the fire patrol in the lower space of the cargo hold;

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iv. the toolbox meeting failed to invite the concerned people to sit for the meeting to take part in the lashing work safety analysis. The Chief Officer failed to ensure the lashing work supervising officer to be familiar to his work;

v. the Supervising Officer failed to ensure hot work safety preparation being carried out satisfactorily. When the welding blankets were not properly in place, he did not stop the welding work and did not inform his supervisors;

vi. the stevedores working on board failed to follow the shipboard safety instructions;

vii. the emergency preparedness of crewmembers were poor as follows:

a. the crew failed to range out the fire hose to the cargo hold and to pressurize the fire hose with the fire hydrant;

b. the flammable cargo failed to be protected with welding blankets for shielding; and

viii. the cargo hold transverse partition became a barrier to the fire watchman that would apparently reduce the number of escape routes for the cargo hold from two to one.

Lessons learnt

4. Followings are lessons learnt from the incident:

i. the effectiveness of the safety management system regarding the hot work in cargo hold with flammable cargo is needed to be reviewed;

ii. safety guidelines related to the use of the removable partitions are needed to be developed in the Shipboard Safety Manual;

iii. proper risk assessment involved in cargo lashing works is required together with preventive measures to minimize the potential risks;

iv. proper inspections and control of ship area are required to be carried out for hot work at all times;

v. shipboard personnel should be trained systematically through regular drills and exercises to enhance their competence in handling emergency situations; and

vi. the familiarization of the crew to escape and to rescue any victims from the cargo holds is required when they are blocked by the removable partition in cargo hold.

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