

# **MARINE DEPARTMENT NOTICE NO. 119 OF 2002**

(Navigational and Seamanship Safety Practices)

## **Notice to Owners, Operators, Masters and Persons-in-charge of Locally Licensed Vessels - Safety in Electrical Work**

### **The Accident**

A fatal accident occurred on 24 March 2002 that a sailor was electrocuted while handling a portable electric submersible pump in pumping out cargo hold bilge on board a dumb steel lighter. In the incident the deceased, who had no evidence of having received any electrical training, extended the original cable of a portable electrical submersible pump by cutting the original cable into two and adding an additional length of cable in between as the original cable was not long enough to reach the bottom of the cargo hold. However, the cable extension work was not done properly. Firstly, the conductors of individual cores of the cables at the joints were connected simply by twisting and the joints were wrapped with adhesive insulating tapes. Secondly, the core wirings of the added cable had a different color coding from that of the original cable and the connection had been done incorrectly. Because of the wrongly connected core wirings of the added cable, the live line of the electricity supply at the plug end was connected to the casing of the pump, whilst the neutral and earth lines were connected to the motor windings. With this cable connection, the pump casing became live when electricity was supplied via the plug. Subsequently, while handling the pump in the cargo hold in pumping of bilge under a wet working environment, the deceased received an electric shock.

### **Lessons Learnt**

2. Important lessons should be learnt from this incident :
  - (i) Joining the cores of two electric cables simply by twisting and wrapping with adhesive insulating tapes is liable to cause electric hazards. Proper connector should be used for connecting the cables and, in exposed deck, the connector should be of waterproof type.

/ ...

(ii) Connecting the cores of electric cables without properly identifying and matching individual cores may give rise to wrong connection and the consequence could prove fatal. Proper care should always be taken especially when cables of different color coding are involved.

(iii) Electrical work should be undertaken by competent electricians.

3. Owners, operators, masters and persons-in-charge of the locally licensed vessels are requested to take note of the above-mentioned accident and the lessons learnt, and to observe the safe practices on work equipment and identification of electric wiring color code as promulgated in Chapter 7 and Chapter 28 respectively of the Code of Safe Working Practices for Merchant Seamen.

**( S.Y. TSUI )**  
**Director of Marine**

Marine Department  
Government of the HKSAR  
Date: 24 September 2002  
Action File Ref.: MAI/P 901/029-2002