

## **ELECTROCUTION DURING SHOWER – IS THE WATER HEATER UNSAFE? HOW IT CAN BE PREVENTED**

**T**he Institution of Engineers, Malaysia (IEM) is gravely concerned over an incident on 26 July 2016, in which a university student was believed to have been electrocuted while taking a hot shower in her family home at Garden Homes, Seremban 2. This was reported in various local media.

According to the reports, the Seremban OCPD had said on Tuesday that initial investigations showed that Lee Xing Ni, 19, was having a hot shower when she was electrocuted and died.

Similar incidents have occurred over the past few years. At present, IEM is unable to verify what had actually happened as the information available is not sufficient to come to a conclusion on the cause of the electrocution.

It could have occurred due to equipment failure and subsequently, the unavailability of or defective electric shock safety protection consisting of Residual Current Devices (RCD) and earthing to protect the water heater system.

Current Electricity Regulations 1994 specifically require residential installation to be mandatorily installed with appropriately rated Residual Current Devices (RCD) and earthing based on use. The purpose of the RCD is to detect any current leakage from defective equipment. The correct installation and maintenance of RCD and earthing are critical to ensure that end-users are well protected. These also serve as primary electrical safety protection should there be equipment malfunction.

In 2014, the Energy Commission (Suruhanjaya Tenaga) issued a circular which was concurrent with The Electricity Regulations 1994 and uploaded it on its website, to urge developers to practise the correct use of the RCD especially for water heaters. All power supply to water heaters or wet areas has to be mandatorily equipped with a RCD of a sensitivity of less than or equal to 10mA.

In addition, the Electricity Regulations 1994 (Amendment 2013) enables the Energy Commission to regulate electrical equipment in line with safety requirements as well as to safeguard consumer interests. The 34 types of electrical equipment, including water heaters, are being regulated. These types of equipment must be tested to the specified standards, thus meeting safety requirements. Consumers are also advised to only buy water heaters with SIRIM-ST approval stickers.

IEM, via its Electrical Engineering Technical Division, together with other related association and stakeholders such as The Electrical and Electronic Association of Malaysia (TEEAM), is currently assisting the Energy Commission to formulate the "code of practice for the installation and maintenance of water heaters"; it is in the final stages of formulation.

With this code, IEM hopes to work with EC and TEEAM to create awareness among the public on the importance of the proper design, installation and use of water heaters. ■

### **Ir. Tan Yean Chin**

President, The Institution of Engineers, Malaysia  
28 July 2016

The Press Statement was published in the following media:  
(29 July 2016)

- 1) FMT News, The Star, The Star Online - Press Statement - ELECTROCUTION DURING SHOWER – IS THE WATER HEATER UNSAFE? HOW IT CAN BE PREVENTED (also published in Sin Chew Online, Sin Chew)