**Soldering Code of Practice**

Department of Electronic and Electrical Engineering,

University College London

These rules apply to all personnel no matter where they are working within EE or outside of EE related to work associated with EE.

The following rules must be enforced rigorously by all personnel soldering or supervising. Anyone observing infringements of these rules must endeavour to stop the offending person provided that this does not result in any danger to themselves or others and the offence must be reported to the DSO Kenneth Tong at the earliest opportunity.

The process of soldering has several dangers:

1. Solder wire\bar\ball\paste\etc may contain lead so holding solder, soldering irons and solder containers will transfer lead on to your hands and fingers. Therefore, it is essential to wash your hands thoroughly before eating food and, of course, no food or drink should be consumed while in the act of soldering. Do not put the solder or your dirty hands into your mouth. If lead enters your body it will not come out easily and will build up in your system. Lead is a poisonous substance harmful to the human body such as the nervous system and can lead to brain disorders, poor muscle coordination, ADD, bone growth, kidney failure etc.
2. Some solder is made of indium and similar precautions must be observed to those in (1)
3. Using Lead free solder does not mean a lead free soldering process as the equipment may have been used for leaded solder in the past without your knowledge so precautions must be observed to those in (1) and (2).
4. During the process of soldering the solder melts and obviously this is dangerous as it is very hot and will burn your body on contact. Take care not to touch the molten solder. However, if you do get burnt you should cool the area of skin quickly, under a running cold water tap for 10 minutes. Do not be tempted to remove your hand early otherwise you may get a scar or blister.
5. The soldering iron itself is very hot (temperatures can exceed 400oC) and similar precautions to (3) must be observed. Any metal part of the iron should not be touched when powered. If the soldering iron falls from the bench let it drop to the floor DO NOT attempt to catch it; in doing so you will burn yourself on the hot end. Make sure that there are no flammable materials on or under the bench before you start soldering so that if the soldering iron falls it will not cause any immediate danger of fire.
6. The flux core of the solder becomes active with heat in the process of soldering this becomes partly a mild acid and gaseous when the solder is melted. These gaseous fumes are a carcinogenic and must not be inhaled. The flux fumes can contain formaldehyde and can cause asthma attacks and the acid can cause skin irritation with prolonged soldering. Therefore you must carry out the soldering with fume extraction do not use a fan blowing the fumes away this will only circulate the carcinogenic around the room you are in and towards others and after soldering wash your hands.
7. You must not solder when alone otherwise there will be no one to call for help and no one to aid you should the fumes render you unconscious or you are seriously burnt with the hot iron or solder. Make note of your first aiders and fire marshals should an accident occur.

Updated by deputy DSO Andrew Moss 08/12/2015