201: Health and safety in building services engineering  
**Handout 5: Safe isolation**

**Learning outcome**

The learner will:

1. Be able to demonstrate and understand the procedures for establishing a safe working environment

**Assessment Criteria**

The learner can:

3.8 specify and demonstrate the procedures for ensuring electrical systems are safe to work on.

3.9 state the **implications** of:

a) carrying out safe isolation procedures

b) not carrying out safe isolation procedures.

**Range**

**Implications**: Self, Others, Building systems.

**Safe isolation**

Every year, people working on construction sites and on refurbishment and maintenance activities suffer electric shock and burn injuries some of which, tragically, are fatal. Electrical contractors should be aware that many of these accidents are a direct consequence of electricians not implementing safe isolation procedures on low voltage installations (that is, those operating at up to 1000 V a.c. or 1500 V d.c.).

Duties are placed on employers to ensure, amongst other things, that employees engaged in such work activities on or near electrical equipment implement safe systems of work, have the technical knowledge, training or experience to carry out the work safely, and are provided with suitable tools, test equipment and personal protective equipment appropriate to the work they are required to carry out.

To comply with regulation 14 of the Electricity at Work Regulations 1989 (work on or near live conductors), dead working should be the normal method of carrying out work on electrical equipment and circuits.

To ensure the maximum safety for yourself, others in the installation and the building systems a full and proper isolation must be carried out.

The implications for carrying out (and not carrying out) the safe isolation procedure are as follows:

**Self**: Carrying out the safe isolation procedure ensures, as far as is reasonably practicable, that you should not receive an electric shock and burns. Conversely, not following the isolation procedure could result in you receiving an electric shock and burns that could be fatal.

**Others**: Other people in the installation could be affected by you not safely isolating the relevant part(s) of the installation. These ‘others’ could include the client and their employees, other trades people, client customers and members of the general public. They could suffer electrocution or harm caused by possible fire or explosion due to lack of awareness of potential danger. Also failing to carry out the isolation procedure could cause inconvenience to these ‘others’.

**Building systems**: Failure to carry out the safe isolation procedure could have implications for building systems including risk of damage to electrical equipment and/or building fabric, loss of essential services such as fire alarm systems, escape lighting and loss of data and or communication systems.

The flowchart on the following page shows the safe isolation procedure:

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