

Safe Isolation of Equipment for Electrical/Mechanical Services

Sale Group (inclusive of Sale Service & Maintenance Ltd, Sale Maintenance Ltd and Sale NuGen Ltd) has certain legal obligations to fulfil when carrying out its business. Among these are:

- The Health and Safety at Work Act 1974 sets out the general health and safety duties of employers, employees and the self-employed.
- Under the Electricity at Work regulations 1989 there is a requirement for precautions to be taken against the risk of death or personal injury from electricity during work activities. To comply with these regulations the normal method of work on electrical equipment or circuits is with the system powered down and isolated. Live work will only be carried out in particular circumstances where it is unreasonable to work dead, such as fault finding and testing, where the risks are acceptable and where suitable precautions can be taken against injury.
- The Provision of use of Work Equipment requires that every employer shall take appropriate measures to ensure that re-connection of any energy source to work equipment does not expose any person using the work equipment to any risk to his health and safety.

Sale Group will ensure that any employee using or maintaining equipment is not exposed to harm and that personnel involved in the isolation of plant and equipment are trained and competent to carry out their responsibilities and understand the principles and practices of the following safe isolation procedures and safety rules.

1. Electrical isolation

Electrical work will always be carried out with the installation isolated from its power source. The only exceptions to this will be fault finding and testing operations that have been subject to a separate risk assessment.

Before commencing work all operatives will ensure that isolation has taken place and is effective.

In some case this will be a local isolation by means of a plug and socket, switch disconnecter, circuit breaker or fuse. In all cases the operative must ensure that they retain control/ownership of the means of isolation at all times until the work is completed.

Where there is no local means of isolation, or the means of isolation is not under the direct control of the person carrying out the work, other control measures are required to ensure that the isolation remains secure and supply cannot be inadvertently reinstated.

Where a permit to work system is in place the permit must be obtained with all sections signed off and the supervisor/operative must satisfy themselves that the control measures are in place before work is commenced. This may involve the supervisor/operative taking possession of keys to cupboards, keys to padlocks or relevant circuit fuses. They must remain in the possession of the nominated individual at all times until work is completed and permit handed back.

In any event, where isolation is not local there must be a system in place to ensure that once an installation is isolated, it cannot be inadvertently reinstated.

Therefore, the following methods will be adopted, as appropriate:

- Switch rooms and distribution boards will be locked with secure padlocks (unique keys or combinations) until work is completed.
- Circuit breakers will be locked off using the appropriate lock off clip and padlock.
- Relevant fuses will be removed and replaced with a fuse insert and padlock)
- Where necessary an appropriate sign e.g. "CAUTION DO NOT SWITCH ON" will be displayed. Note that this sign is NOT an alternative to the other control measures, it is in addition to.
- Where several people are working on an installation, a multi padlock system will be used. Each worker will have a unique key to his padlock, and power will only be reinstated once all padlocks have been unlocked and removed and any permit signed off.

The practice of putting insulating tape over a circuit breaker to prevent accidental switch on is not a safe isolation procedure and is expressly forbidden.

Following isolation, and before starting work, personnel must ensure that the system to be worked on is dead.

This means ensuring that any additional supplies such as photoelectric cells, that may reinstate supplies during hours of darkness, are also isolated.

2. Mechanical isolation

Where a machine or device is connected to a piping system e.g. hydraulic, pneumatic or where piping may introduce hazardous products during the repair/installation process.

In this case the following procedure will apply:

- Where possible the supply valve will be closed off and locked out prior to work commencing.
- Valves will be locked with a padlock
- Where valves cannot be locked off the valve handle will be removed and retained by the person carrying out the maintenance or installation
- Piping will be disconnected using a suitable device such as blanking plate.
- Chocks and/or locking pins will be put in place to prevent any parts moving whilst under repair
- Any residual energy must be relieved or restrained before work commences. This may include relaxing springs or relieving negative or positive pressure safely.
- Attempt to re-start or re-energise the equipment to confirm it is isolated before work commences.

Note: Under no circumstances will interlock devices be relied upon to adequately isolate equipment.