



National
Operational
Guidance

Control measure

**Isolate and make safe electricity
supplies**



NFCC
National Fire
Chiefs Council

Developed and maintained by the NFCC



Contents

Control measure - Isolate and make safe electricity supplies 3



Control measure - Isolate and make safe electricity supplies

Control measure knowledge

Electrical isolation to small premises can be achieved by isolating electricity at the consumer unit (or fuse board) or by removing the supplier's main fuse, found on the supply side of the meter.

Removal of this fuse could be carried out by fire and rescue service personnel in extreme circumstances. Due to the possibility of small quantities of asbestos being present in older fuses, appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE) should be worn.

All commercial premises will have electricity isolation points at the electrical intake. At larger sites, there may be isolation points that control areas of the site or separate pieces of machinery or equipment.

Fire and rescue service personnel will benefit from having access to risk information about equipment and its location such as:

- Substations
- Transformers
- Switchgear
- Emergency stops
- Consumer units (fuse boards)

If fire and rescue service personnel need to deal with three-phase power supplies, they may need to request assistance from the electricity supplier, unless there are on-site engineers competent in dealing with, and controlling, this hazard.

Health and Safety Executive - electrical definitions

It is critically important that fire and rescue service personnel understand electrical terminology when discussing isolation of electricity supplies with electricity distributors or any attending electrical engineers. Failing to understand this terminology may increase the risks encountered.

The definitions in the table below provide the explanation for words and terms used in this guidance, unless otherwise stated. Note that some of these terms are definitions from the [Electricity at Work Regulations \(1989\)](#):



Charged	Means that the item has acquired a charge either because it is live or because it has become charged by other means such as by static or induction charging, or has retained or regained a charge due to capacitance effects even though it may be disconnected from the rest of the system.
Dead	Not electrically 'live' or 'charged'
Designated competent person (also known in some industries as 'authorised person' or 'senior authorised person')	A competent person appointed by the employer, preferably in writing, to undertake certain specific responsibilities and duties, which may include issuing and receiving safety documents such as permits-to-work. The person must be competent by way of training, qualifications and/or experience and knowledge of the system to be worked on.
Disconnected	Equipment (or a part of an electrical system) that is not connected to any source of electrical energy
Electrical equipment	Includes anything used, intended to be used or installed for use, to generate, provide, transmit, transform, rectify, convert, conduct, distribute, control, store, measure or use electrical energy
High voltage	Voltages greater than 1000V AC or 1500V DC. Voltages below these values are low voltage.
Isolated	Equipment (or part of an electrical system) that is disconnected and separated by a safe distance (the isolating gap) from all sources of electrical energy in such a way that the disconnection is secure, i.e. it cannot be re-energised accidentally or inadvertently
Live	Equipment that is at a voltage by being connected to a source of electricity. Live parts that are insulated and exposed so they can be touched either directly or indirectly by a conducting object are hazardous if the voltage exceeds 50V AC or 120V DC in dry conditions.



Live work	Work on or near conductors that are accessible and live or charged. Live work includes live testing, such as using a test instrument to measure voltage on a live power distribution or control system.
Low voltage	Voltages up to 1000V AC or 1500V DC. Voltages above these values are high voltage.

Note: on a nuclear site, the designated competent person would be referred to as the duly authorised person.

The Energy Networks Association has produced [Safety Information for the Fire Service](#). This contains information on emergency situations involving electricity, along with important contact numbers for electricity companies. It contains a rescue flow chart that may assist with risk assessments.

Strategic actions

Fire and rescue services should:

- Liaise with local utility and fuel supply companies and maintain up-to-date emergency contact details in their fire control rooms
- Consider adopting memoranda of understanding (MoU) with their electricity suppliers to improve joint working at emergency incidents

Tactical actions

Incident commanders should:

- If required, isolate electricity supplies to domestic and commercial premises as soon as reasonably practicable, using appropriate isolation points
- Implement appropriate procedures to prevent electrical systems being switched on inadvertently, for example, using locks, signs or supervision
- Consider seeking specialist advice or assistance where isolating supply is problematic
- Consider the consequences of isolating electricity supplies
- Request and record permission from the designated competent person (authorised person or senior authorised person) before commencing fire and rescue service activities near high-voltage equipment
- Ensure that stored charge or stored energy is discharged
- Always assume the system is live until relevant power company engineers or other competent engineers confirm otherwise, for example, through a permit-to-work certificate