Electrical Isolation Policy

Office Address:

Sigma Grp Ltd
Unit 9B
Alpine Court
Castleford
West Yorkshire
WF10 4TL

Telephone No: (0845) 521 0258

Document Control

Document title: Electrical Isolation Policy

Client: Sigma

Reference number: SI-SHEQ-P-1-048-V1 -R7 Final

Version	Author	Date	Reviewed/ Authorised	
			By	Date
Draft A	Jeffrey Moorhouse	June 2018	Ben Tiffany Lee Revill	July 2018
V1 Final	Jeffrey Moorhouse	Sept 2022	Lee Revill	April 2025

Issue: V1 Final

Date of first draft: June 2018
Date of current issue: Aril 2025
Date of next review: April 2026

Issue	Date	Comments
Revision 1	12th July 2018	First Issue
Revision 2	29th June 2020	Update and required amendments Change of Company Name
Revision 3	8th December 2023	Update of Document Reference
Revision 4	22 December 2023	Formatting update to brand guidelines
Revision 5	08 December 2023	Updated for requirements of ISO 45001 - revised doc control reference and Header added
Revision 6	13 September 2024	Added Section 4 – Permit to work and revised other wording throughout document
Revision 7	02 April 2025	Additional and revised regulations , definitions and guidance updates

Contents

Introduction

This policy document establishes the minimum requirements for safely isolating potentially hazardous electrical energy sources

The policy and its associated documents apply as defined to all colleagues employed or contracted to the Company as appropriate to the work being undertaken. It is the duty of all colleagues so involved to apply the requirements of these documents to their work.

Signed By Director

Craig Bennett

CEO

02/04/2025

1.0 Purpose

This document forms part of Sigma GRP Ltd safety and procedures and details the policy and safe work procedures relating to electrical services and equipment in use on premises of our offices and clients premises The provisions set forth in this policy apply to all employees and contractors without exception

2.0 Legislation/Guidance

2.1 The Electricity At Work Regulations 1989

The Regulations are made under the Health and Safety at Work etc Act 1974. The Electricity at work regulations 1989 requires every employer to comply with the provisions of the regulations in so far as they relate to matters which are written within his control and in particular.

- The purpose of the Regulations is to prevent death or personal injury to any person from electrical causes in connection with work activities.
- No person shall be engaged in any work activity on or so near any live conductor

  (other than one suitably covered with insulating material so as to prevent danger)
- All systems shall at all times be of such construction as may be necessary to prevent danger, so far as is reasonably practicable.
- All systems shall be maintained so as to prevent, so far as is reasonably practicable, such danger.
- Every work activity, including operation, use and maintenance of a system and work near a system shall be carried out in such a manner as not to give rise so far as is reasonably practicable to danger.
- Any equipment provided under these regulations for the purpose of protecting persons at work on or near electrical equipment shall be suitable for the use for which it is provided and be maintained in a condition suitable for that use and be properly used.

2.2 Health Technical Memorandums

- Health Technical Memorandum 06-01 / 2017 Electrical Services Supply & Distribution
- Health Technical Memorandum 06-02 / 2023 Electrical safety Hand
- Health Technical Memorandum 06-02 / 2023 Electrical safety Code For Low Voltage System
- Health Technical Memorandum 06-03 / 2023 Electrical safety Code For High Voltage System

2.3 IEE Wiring Regulations

BSS 7971: Latest edition IEE wiring regulations.

3.0 Definitions

Electrical equipment: is defined as 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.(as defined in the EAW Regulations);

Live: equipment that is at a voltage by being connected to a source of electricity. Live parts that are uninsulated and exposed so that they can be touched either directly or indirectly by a conducting object are hazardous if the voltage exceeds 50 V ac or 120 V dc in dry conditions – see BSI publication PD 65193 – and/or if the fault energy level is high.

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. This implies that unless otherwise stated, the live parts are exposed so that they can be touched either directly or indirectly or indirectly by means of some conducting object and that they are either live at a dangerous potential in dry conditions; or at a dangerous energy level.

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: means not electrically 'live' or 'charged'.

Disconnected: is used to describe equipment or a part of an electrical system which is not connected to any source of electrical energy.

Isolated: is used to indicate equipment or part of an electrical system which 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 and cannot be re-energised accidentally or inadvertently.

Lockout/Tagout (LOTO): A safety procedure used to ensure that electrical equipment cannot be re-energised while maintenance or repair work is being carried out. A lockout device, such as a padlock, secures the energy isolating device while a tagout device (i.e. a tag) warns not to use the equipment.

Permit to Work (Electrical Isolation Permit): A legally mandated safety document that authorises and controls any task involving the isolation, de-energisation, and reinstatement of electrical systems, ensuring compliance with safety protocols and preventing accidental re-energisation.

Low Voltage: is regarded as a voltage exceeding 50v a.c or 120v d.c between conductors or earth but not exceeding 1000v AC or 1500v DC between conductors or 600v a.c or d.c between any conductors and earth.

High Voltage: is regarded internationally as being in excess of 1000 V a.c or 1500 V dc, however certain precautions have been applied in the uk to systems energised at over 650 volts. To maintain the same degree of safety this guidance uses the term 'high voltage' where the voltage exceeds 650 volts a.c.

Competent person (also known as 'authorised person' and 'senior authorised person'): a competent person appointed by the employer, to undertake certain specific responsibilities and duties, which may include the issue and/or receipt of 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

Authorised persons (Electrical)- Authorised persons (Electrical) are employees of Sigma GRP Ltd who have been approved by the Authorising Engineer to authorise work to be carried out on electrical services from the point of supply.

Competent Persons (Electrical)-Competent persons (Electrical) are employees of Sigma GRP Ltd who are trained as electricians & are experienced in relevant electrical works in accordance with the Electricity at Work Regulations (1989).

4.0 Permit To Work

4.1 The following works carried out on electrical equipment will be subject to Sigma's Permit System

- Isolation of electrical distribution systems & equipment to make them safe.
- Switching off any switch fuse, distribution board, or mains circuit board that may affect or safety critical systems, the safety of persons working on or visiting the premises or site
- Replacement of electrical outlets, fittings, equipment & fuses
- Installation of new electrical fittings, outlets & equipment where the circuit is connected to a live source
- Work on electrical distribution systems that need the installed safety systems/barriers or removed
- Work on electrical distribution system that expose personnel to shock hazards
- Work on remote & automatically controlled low voltage switchgear
- Work on any earthing whilst the supply is still live
- Work on live electrical apparatus (Live working is not allowed, with the exception of live testing and only then in compliance with regulation 14 of EaWR)

4.2 All permits to work for work on electrical equipment shall be issued in accordance with Sigma GRP Ltd.

5.0 General Electrical Work

5.1 A permit to work is not required for the following work if it is carried out by a competent person (Electrical) or authorised contractor

- Installation of new electrical fittings, outlets & equipment where the circuit is not connected to a live source

5.2 The replacement of electrical lamps may be carried out by semi-skilled operatives under the guidance of a competent person (Electrical).

5.3 Lamps shall be disposed of in accordance with the latest environmental codes of practice.

5.4 The disposal of all redundant equipment recycled wherever possible or disposed of in a proper manner & in accordance with the latest environment codes of practice.

6.0 Safe System Of Work

6.1 All work carried out on electrical equipment on premises including work carried out by authorised contractors shall be subject to a risk assessment and method statement.

6.2 The results of all risk assessments for work on electrical equipment shall be documented and shall include a detailed method statement that documents:

- The steps that will be taken to ensure or verify that there is adequate working space, adequate means of access, and adequate lighting at all electrical equipment on which or near which work is being done.
- The means by which the electrical equipment to be worked on shall be disconnected from the primary and any secondary source of electrical energy (Solar, Battery systems, UPS, Generator, EV Car Chargers etc).
- The steps that will be taken to ensure that electrical equipment to be worked has been made dead.

- The precautions that will be taken to prevent electrical equipment, which has been made dead, from becoming electrically charged during that work.
- The personal safety equipment & tools that shall be required to prevent injury.
- The action to be taken to segregate the work area & post warning notices.
- The inspections & tests required on completion of the work.
- The action required to return the low voltage electrical equipment to service.
- That information if any must be included on record drawings.

6.3 Authorised persons (Electrical) shall ensure that all work carried out on electrical equipment or service on premises or site is carried out by a competent person (Electrical) or authorised contractor.

6.4 A person shall be deemed competent to work on electrical equipment if they:

- Have a recognised qualification in electrical installation.
- Have sufficient training & experience in the type of work involved to carry out the work in accordance with current best practices, to the standards required by legislation, and are able to apply this to the tasks required.
- Recognise the limitations of their own knowledge & experience.
- Understand the principles of risk assessments & risk prevention.

7.0 Planning Work On Electrical Equipment

7.1 All work on electrical equipment shall be planned in advance, when planning work the following factors shall be considered:

- The work to be done.
- The primary and if present - secondary points of isolation for other energy sources
- The hazards of the system or equipment to be worked on.
- The people doing the work & the level of supervision necessary.
- The precautions to be taken.
- The system of work to be employed.

7.2 It is recognised that further review of the ongoing project may be necessary due to unforeseen circumstances.

7.3 All work on electrical equipment that may have an effect clinical or critical safety shall be notified in advance.

7.4 Notifications shall set out:

- The work to be carried out.
- The effect that it will have.
- The duration of the work.

7.5 Authorised persons (Electrical) shall ensure that notification is sent to any department, or contractor who may be affected by the work.

8.0 Procedure For Working On Dead Electrical Equipment

8.1 The competent person (Electrical) shall ensure before any work is carried out on electrical equipment that may give rise to danger that there is:

- Adequate means of isolation.
- Adequate working space.
- Adequate means of access.
- Adequate lighting.

8.2 All necessary steps shall be taken to protect against inadvertent contract with other live parts nearby. This shall be done wherever practicable by the erection of physical and/or the use of temporary insulation.

8.3 No person shall work on electrical equipment on the premises if they are unsure of the requirements of the safe working procedures set out in the safety method statement for the work.

8.4 Before disconnecting or isolating any electrical equipment, the circuit to be worked on. Or near, shall be identified.

8.5 Electrical equipment shall where ever practicable be physically identified. Wherever possible this process should be aided by the use of appropriate drawings, diagrams and other written information. Labelling on circuits & equipment may be used to assist in the identification process it must however never be assumed that labelling is correct.

8.6 Once the circuit or equipment to be worked on or near has been identified it shall be disconnected from every source of electrical energy.

8.7 The competent person (Electrical) shall prove live then prove dead before work can be carried out on the circuit/equipment and complete all necessary documentation as per this document.

8.8 Adequate precautions shall be taken to prevent electrical equipment which has been made dead, from becoming electrically charged during that work. Wherever practicable this should be carried out by locking off all isolators. Where such facilities are not available, the removal of fuses or links is permissible.

8.9 Fuses or links shall be in safe keeping away from the isolator by an authorised person (Electrical) or competent person (Electrical). Under no circumstances must the fuse or links be left unattended by or near the isolator.

8.10 If a plug has been withdrawn, steps shall be taken to ensure that it cannot be reconnected to the electrical supply while work is taking place on the circuits or apparatus.

8.11 Once isolated a notice or label shall be put at the place of disconnection. This should be supplemented by ‘danger’ notices adjacent to the place of work indicating nearby apparatus that is still energised.

8.12 Having isolated the circuit or equipment all parts to be worked on. Or near, shall be tested to ensure that they are dead, even if the isolation has been achieved automatically through an interlocking system. If it is a three-phase system or equipment with more than one supply. Prove that all supply conductors are dead. The device used for proving dead shall itself be proved immediately before & after testing.

8.13 Before reinstatement, the circuit/equipment shall be tested to prove safe before energisation.

8.14 To ensure that the risk to personnel is minimised, even if the above precautions fail, all conductors should be earthed using properly designed earthing devices or earthing leads, usually applied to all points where the circuit or equipment is isolated from the supply. Additional earths at the point of work may also be necessary if this is remote from the point of isolation, but these should be applied

only after proving dead at the point of work. These procedures are essential for high voltage apparatus & stored energy equipment. The earthing conductors should be suitable for the energy that may flow in the event of a failure of the above precautions. Earthing low voltage equipment is particularly desirable if there is a risk of re-energising. In other low voltage equipment, however it may be physically impractical to apply earths, or the risk of short circuit from introducing an earth near adjacent live parts may outweigh the benefit of earthing the apparatus worked on.

9.0 Safety Equipment

9.1 The competent person (Electrical) shall ensure that the following equipment is available and used where necessary during any work on electrical equipment located on site (including work carried out by authorised contractors).

- Rubber gloves.- EN 60 903:2003 et CEI 60 903:2002 tested to 10000 V ac this Class 1
- Leather Electrical Safety Work Gloves to be worn over rubber electrical gloves
- Arch flash clothing to be worn to be determined by arch flash calculation
- Safety glasses & face shields.
- Rubber mats.
- Approved electrical test instrumentation as per HSE Guidance note GS38
- Insulated tools.
- Safety locks, tags & different from normal system locks.

9.2 All safety equipment should be suitable for the voltage potentially encountered during the work. Safety equipment shall be kept in approved containers when not in use & stored in a location where it is not exposed to damage or deterioration.

9.3 All insulating personal protective equipment (PPE) and devices shall be inspected for scratches, punctures, and crack/cuts before use. Defective (PPE) & devices shall be disposed of immediately or removed from site.

9.4 All rubber gloves used must be stamped with the date of test, marked with the rated voltage & never used with voltage that exceeds this rating. Defective gloves shall be disposed of immediately.

9.5 Where work is permitted by a contractor, the contractor shall provide all necessary personal protective equipment, tools, safety devices, & instructions.

10.0 Safety Locks, Caution Notices & Danger Notices

10.1 Caution notices shall be fixed on all switchgear controlling the apparatus on which is to proceed.

10.2 Safety locks (differing from any standard locks of the system) shall be used to lock off switches at point where the circuit on which work is to be carried out can be energised.

10.3 Danger notices shall also be fixed where applicable, on or adjacent to live apparatus.

10.4 Safety warning tags are to be attached to each caution & danger notice.

10.5 Keys for safety locks shall be retained in the possession of the competent person (Electrical) or authorised contractor who is working on the equipment or installation.

10.6 Locks can only be removed by the competent person (Electrical) or authorised contractor who is working on the equipment or installation. Only in exceptional circumstances can the locks be

removed by others. Approved from the authorising engineer in writing is required for the removal of these locks.

10.7 When the circuit is controlled only by fuses or links. The competent person (Electrical services) or authorised contractor shall remove, retain in a safe place & replace the fuses, links & carriers.

11.0 Operation Of Low Voltage Switchgear

11.1 The following items of low voltage switchgear shall be normally in the service position & operated only be competent persons (Electrical).

- Main building incoming supply circuit breakers/isolators/switchgear.
- Bus-section switch on main switch boards.
- Standby generators switchgear connected (via switchgear) to the low voltage switchboards.
- Uninterruptible power supplies.

12.0 Remote & Automatically Controlled Switchgear

12.1 Before work is carried out on remote or automatically controlled switchgear, all remote control & automatic features must be rendered inoperative.

12.2 The authorised person (Electrical) shall issue a permit-to-work if work is to be carried out on the controlling equipment, wiring or relays.

12.3 Whilst such work is in progress, only work hat is clearly written into the permit-to-work shall be carried out on the controlling equipment, wiring or relays.

13.0 Live Working

13.1 Work on or near live conductors shall only be permitted in exceptional circumstances & only when authorised after consultation & agreement between the authorised person & competent person. In all other circumstances live working shall be strictly forbidden. The advice of the authorising engineer shall be sought where appropriate.

13.2 Routine testing & adjustment of control circuits is permitted if a risk assessment proves that minimal hazards exist & are acceptable.

- The following requirements still apply.
- No working alone.
- Only trained, qualified & experienced persons are used to carry this out.
- Evaluation of potential hazards in the area, must take place to ensure safe working conditions.
- A suitable communication device is available to summon help in an emergency.

14.0 Appendix A : Management Organogram