Leep Utilities Distribution Safety Rules
2022 Edition

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Distribution Safety Rules

2022 Edition - this version supersedes all previous versions of the Distribution Safety Rules.

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Foreword

These Leep Utilities Distribution Safety Rules with acknowledgment are based upon The ENA Model Distribution Safety Rules.

The ENA Model Distribution Safety Rules provide a set of generic rules that Electricity Companies may use as the foundation of their safety management System for operations on their networks. They were originally written using experience gained over many years of operating electricity networks and are now regularly reviewed in the light of recent events and the introduction of updated equipment and new technology. Where practical, revisions have been included as a result of pro-active risk assessments of new circumstances in addition to lessons learned reactively.

The MDSRs are a copyrighted document and have been produced and Approved by the Safety, Health and Environment Committee of the Energy Networks Association.

These Model Distribution Safety Rules are written to fulfil a number of extremely important roles:

- By documenting generic safe systems of work, these rules, in conjunction with Approved procedures produced following risk assessments by individual companies of their own circumstances, fulfil a variety of legal obligations placed on Electricity Companies by legislation such as the Health and Safety at Work (etc) Act 1974 and the Management of Health and Safety at Work Regulations 1999;
- They provide a common framework that allows co-operation and safe movement of staff and contractors throughout the country;
- They allow best practicable safety standards to be known and shared throughout the industry; and
- Most importantly, they provide guidance to staff and contractors working in the industry to ensure that they are able to work safely and reduce the risk of serious injury to themselves and their colleagues.

Leep Utilities Distribution Safety Rules are to be adopted and used in conjunction with the contractual conditions of a COMER, Term Contract Agreement or a Transfer of Control agreement with Leep Utilities Group.

Contents

Approvals

Where the word **Approved** appears in a paragraph, reference should be made to Appendix F.

Appendix F comprises a table setting out how the approval is implemented.

Policy

P1 The design of **Leep Electrical Networks** its **Systems** and associated **Plant** and **Apparatus** for the distribution of electrical energy, at voltages up to and including 132kV, is such that they may be operated safely when **Approved** operational procedures are followed correctly. However, when **Switching** for operational purposes, or when work such as maintenance, testing and repair has to be carried out or when, particularly, **Systems** and associated **Plant** and **Apparatus** have to be taken temporarily out of normal operational use, it is necessary for the Distribution Safety Rules and related documents and procedures to be applied so as to ensure the health and safety of all who are liable to be affected by any **Danger** that might arise. The Distribution Safety Rules, as read with related documents and procedures, are based on the principle that they should state what should be done to ensure that specified work or activity may be carried out without **Danger** so far as is reasonably practicable. The **Dangers** that can arise are two-fold:

(i) Inherent **Dangers** from distribution **Systems, Plant** and **Apparatus**, which are covered by the Distribution Safety Rules

(ii) General **Dangers** associated with the work as it proceeds including, in addition to the work process, **Dangers** from access and egress, the place of work and the working environment. (These **Dangers** may be of a different kind, and under different control, from the inherent **Dangers** in (i) above and may not be specifically covered by the Distribution Safety Rules.)

P2 In the implementation of the Distribution Safety Rules, related documents and procedures, specified methods of work, and other forms of local instruction, management **Shall** allocate responsibility for the achievement of health and safety from the inherent **Dangers** mentioned in (i) above during the various stages of work or activity.

Management **Shall** also carry out a suitable and sufficient risk assessment, issue instructions and allocate responsibility for dealing with the general **Dangers** mentioned in (ii) above where such **Dangers** are not already specifically covered in these Distribution Safety Rules or associated **Approved** procedures or Codes of Practice.

P3 It is **Leep Electrical Networks** policy that the **Persons** in charge of the various stages of the work or activity **Shall** have the appropriate competence and written authority and **Shall** understand the Distribution Safety Rules, related documents and procedures, the methods of work and any local instructions. Such **Persons Shall** understand the **Dangers** that might arise and the precautions to be taken over the whole period of the work or activity.

Leep Electrical Networks Ltd policy requires that all **Persons** at work are adequately instructed and supervised and are competent to avoid **Danger**, according to the circumstances of the work they are doing. It is also **Leep Electrical Networks Ltd** policy that the relevant legal requirements, the Distribution Safety Rules and other required health and safety precautions are observed at all times.

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Distribution Safety Rules
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Section 1

Section 1

General Provisions

1.1 Scope and application of the Distribution Safety Rules

These Distribution Safety Rules (DSRs) apply to distribution **Systems** up to and including 132kV and to associated **Plant** and **Apparatus** under the ownership or control of **Leep Electrical Networks Ltd**. These Safety Rules, **Shall** unless transferred under a **COMER** agreement normally be the only Rules applicable to such **Systems, Plant** and **Apparatus** and **Shall** be applied, in accordance with management instructions, together with related documents and procedures, for the whole course of the work for which they are intended.

1.2 Other safety rules, related documents and procedures

In addition, or as an alternative, to the application of these Distribution Safety Rules and related documents and procedures, other rules, documents and procedures issued by **Leep Electrical Networks Ltd , Shall** be complied with in accordance with management instructions. Whereas the appendices to these Safety Rules are not, in themselves, individual Distribution Safety Rules, they **Shall** be read in conjunction with the Rules to which they relate. As such, the appendices form important supporting information for the implementation of the Safety Rules.

Where an appropriate written agreement exists between **Leep Electrical Networks Ltd** and a third party, the employees of that third party may carry out work and operate on the Distribution **System** under the control and ownership of **Leep Electrical Networks Ltd** . The employees of the third party may carry out work and operate in accordance with other rules and procedures, provided that this approach complies fully with the detail of the written agreement between **Leep Electrical Networks Ltd** and the third party.

Safety precautions required across control/ ownership boundaries **Shall** be carried out and documented in accordance with **Approved** procedures. Such procedures **Shall** be agreed between **Leep Electrical Networks Ltd** and the owner of the other **System** and **Shall** be made known to the staff concerned. In all cases the Model Distribution Safety Rules and related documents and procedures **Shall** be used as a guide to safe working.

1.3 Information, instruction and training

Arrangements **Shall** be made by **Leep Electrical Networks Ltd** to ensure:

(i) That all employees concerned are adequately informed as to:

- The risks to their health and safety as identified by risk assessment.
- The preventative and protective measures to be taken;
- The procedures to be followed in the event of serious and imminent **Danger**; and
- The risks arising from the activities of any other employer and/ or employee.

(ii) That adequate levels of supervision of its employees and those under its control are provided.

(iii) That all employees concerned are adequately informed and instructed as to the Systems, Plant and Apparatus which are affected by a particular operation or work

(Whether or not they are owned or operated by Leep Electrical Networks) and which legal requirements, Safety Rules, related documents and procedures Shall apply;

(iv) That all employees concerned are adequately informed and instructed as to the Systems, Plant and Apparatus which are affected by a particular operation or work (Whether or not they are owned or operated by Leep Electrical Networks) and which legal requirements, Safety Rules, related documents and procedures Shall apply;

(v) That other Persons who are not employees, but who are carrying out work or operations on behalf of Leep Electrical Networks Ltd and may be exposed to Danger during their operations or work, also receive adequate information and instruction.

(vi) That the capabilities of employees are taken into account in allocating tasks.

(vii) That employees are provided with adequate health and safety training and re training.

1.4 Issue of safety rules

A copy of these Safety Rules and, as appropriate, related documents and procedures **Shall** be issued to such employees of **Leep Electrical Networks Ltd** and such other **Persons** as the **Designated Engineer** may determine. Such employees and other **Persons Shall** sign a receipt for a copy of these Safety Rules, related documents and procedures (and any amendments) and **Shall** keep them in good condition and have them available for reference as necessary when work is being carried out under these Safety Rules.

1.5 Variation of safety rules

Individual companies may vary these rules as required to suit their individual circumstances. Such variations **Shall** be **Approved** by the individual company's **Designated Engineer**.

1.5 Special procedures

Work on or testing of **Apparatus, Conductors** or **Plant** to which these Rules cannot be applied, or for special reasons should not be applied, **Shall** be carried out in accordance with an **Approved** procedure. Such a procedure **Shall** ensure that the safety requirements of these Safety Rules are satisfied in some other way.

1.7 Objections

When any **Person** receives instructions regarding the operation of or work upon **Leep Electrical Networks Ltd, Operated Systems**, and associated **Plant** and **Apparatus**, they **Shall** report any objections on safety grounds to the carrying out of such instructions to the **Persons** issuing them, who **Shall** then have the matter investigated and, if necessary, referred to a higher authority for a decision before proceeding.

1.8 Reporting of accidents and Dangerous occurrences

Persons must comply with any **Leep Utilities** procedures for the statutory reporting of accidents and dangerous occurrences. In addition, all electrical accidents, electrical dangerous occurrences and

such other accidents and dangerous occurrences as may be specified by the appropriate **Designated Engineer**, involving **Leep Utilities Operated Systems** or associated **Plant** and **Apparatus, Shall** be reported immediately to the appropriate **Incident Management and Reporting System** in accordance with **Approved** procedures. In the case of accidents and dangerous occurrences involving **Low Voltage Systems** or associated **Plant** or **Apparatus**, these **Shall** be reported immediately in accordance with **Approved** procedures.

1.9 Duties

Leep Utilities as an employer, has a duty to comply with the provisions of the Health and Safety at Work etc. Act 1974, the Electricity at Work Regulations 1989, and other relevant statutory provisions, such as ESQCR 2002. Additionally, authoritative guidance is available from the Health and Safety Executive and other sources.

Leep Utilities employees and its contract staff also have a duty to comply with certain provisions of the Health and Safety at Work etc. Act 1974, the Electricity at Work Regulations 1989 and with other relevant statutory provisions, such as ESQCR 2002.

In addition to these statutory duties and any other duties separately allocated to them, all **Persons** who may be concerned with the operation of, or work upon, distribution **Systems** and associated **Plant** and **Apparatus Shall** be conversant with, and comply with, those Safety Rules relevant to their duties and related documents and procedures. Ignorance of legal requirements, or of Safety Rules and related documents and procedures, **Shall** not be accepted as an excuse for neglect of such duties. If any **Person** has any doubt as to any of these duties he **Shall** report the matter to a higher authority for advice before proceeding with work, i.e. **if you are not sure, stop and ask for help.**

1.10 Use and wearing of safety equipment and protective clothing

Where any work under these Safety Rules and related documents and procedures takes place, appropriate safety equipment and protective clothing of a company **Approved** type **Shall** be issued and used in accordance with management instructions. At all times employees are expected to wear sensible clothing and footwear having regard to the work being carried out.

1.11 Treatment for electric shock

All **Persons** who may be concerned with the operation of, or work upon, **Leep Electrical Networks Ltd Operated Systems** and associated **Plant** and **Apparatus, Shall** be trained in and be conversant with the treatment of electric shock.

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Section 2

Section 2

Definitions

D.1 Apparatus

Any item of electrical machinery or equipment in which **Conductors** are used, or supported, or of which they form part.

D.2 Approved

Sanctioned by a **Designated Engineer** in order to satisfy in a specified manner the requirements of any or all of these Safety Rules. (See appendix F for **Leep Utilities Approvals**)

D.3 Designated Engineer

The person appointed by **Leep Utilities** to be responsible for the application of these Safety Rules.

D.4 Conductor

An electrical conductor arranged to be electrically connected to a **System.**

D.5 Field Control Engineer

A **Field Control Engineer** or an appropriate "Control Person" recognised by **Leep Utilities** as being of the following:

Standard Field Control Engineer
In the case of a locally controlled **System** the engineer specifically deputed to exercise the function of control of such a **System**, in accordance with an **Approved** procedure.

Enhanced Field Control Engineer
A person whom having met the requirements for **Standard Field Control**, has the capability and is authorised by the D.E. to undertake whole control of the **SYSTEM** or **Network** wherein he may then give instruction to personnel such as **SAPs** or **APs** to assist them in the duties for controlling and operating such a **Network**. And in accordance with such **Approved Procedures** as are applicable.

D.6 Danger

A risk to health or bodily injury.

D.7 Dead

At or about zero voltage and disconnected from any **Live System**.

D.8 Earth

The conductive mass of the **Earth**, whose electric potential at any point is conventionally taken as zero.

D.9 Earthed

Connected to **Earth** through switchgear with an adequately rated earthing capacity or by **Approved** earthing leads.

D.10 Circuit Main Earth

An **Earth** applied to the **System**, utilising earthing equipment of **Approved** type, applied at a point agreed by the **Senior Authorised Person** prior to the issue of a **Safety Document**.

D.11 Additional Earth

Earthing equipment of **Approved** type which is applied after the issue of a **Safety Document** (for example an **Earth** applied at a **point of work**) used for protection against impressed voltages and inadvertent energisation.

D.12 Leep Utilities Private and Regulated Networks

A license holder who is an associate member of the ENA and has signified its intention to use their Model Safety Distribution Rules (MDSRs).

D.13 High Voltage Live Line Work

Work in an **Approved** manner on the **Conductors** or **Apparatus** of a **High Voltage** overhead line with the **Conductors Live.**

D.14 Isolated

Disconnected from associated **Plant**, **Apparatus** and **Conductors** by an **Isolating Device** in the isolating position, or by adequate physical separation, or sufficient gap.

D.15 Isolating Device

A device for rendering **Plant** and **Apparatus Isolated**.

D.16 Key Safe

A device of an **Approved** type for the secure retention of keys.

D.17 Live

Electrically charged.

D.18 Caution Notice

A notice in **Approved** form prohibiting unauthorised interference, with such additional **Approved** words as **Leep Utilities** may determine.

D.19 Danger Notice

A notice in **Approved** form reading "**Danger**" with such additional **Approved** words as **Leep Electrical Networks Ltd** may determine.

D.20 Persons, being one of the following:

(i) Competent Person

A Person recognised by **Leep Utilities** as having sufficient technical knowledge and/or experience to enable him/her to avoid **Danger** and who may be nominated to receive and clear specified **Safety Documents,** and **Shall** be appointed in writing.

(ii) Authorised Person

A **Competent Person** over 18 years of age who has been appointed in writing by **Leep Electrical Networks Ltd** to carry out specified duties which may include authority to issue and cancel **Limitations-of-Access** and/or to receive **Sanctions-for-Test.**

(iii) Senior Authorised Person

An **Authorised Person** who has been appointed in writing by **Leep Electrical Networks Ltd** to carry out specified duties, including the issue and cancellation of **Safety Documents.**

D.21 Plant

Mechanical **Plant** including all machinery and equipment not elsewhere defined as **Apparatus**.

D.22 Safety Distance

The distance from the nearest **High Voltage** exposed **Conductor** not **Earthed** or from an insulator supporting a **High Voltage Conductor**, which must be maintained to avoid **Danger.** (See Table 1 and Diagram in Rule 4.4.1.).

D.23 Working and Access Clearance

The distance to be maintained from the nearest **Live** exposed **High Voltage Conductor** as specified in these **Safety Rules** to ensure observance of the **Safety Distance** for work on or near **Systems.**

D.24 Long Object

Any object that has the potential to infringe the **Safety Distance.**

D.25 Safety documents being one of the following:

(i) Limitation-of-Access

A **Safety Document** of a format indicated in these Safety Rules which defines the limits and nature of work which may be carried out when verbal instructions are not considered sufficient for that purpose, and where a **Permit-to-Work** or **Sanction-for- Test** is not applicable.

(ii) Permit-to-Work

A **Safety Document** of a format indicated in these Safety Rules specifying the **High Voltage Apparatus** which has been made safe to work on and the work which is to be carried out.

(iii) Sanction-for-Test

A **Safety Document** of a format indicated in these Safety Rules specifying the **High Voltage Apparatus** which has been made safe for the testing described in the **Safety Document** to proceed and the conditions under which the testing is carried out.

(iv) Operation, Isolation and Earthing Certificate

A Safety Document of a format indicated in these Safety Rules specifying the High Voltage Apparatus which has been made safe for the purpose of work to be carried out in the vicinity of the network or for the purpose of work to be carried out beyond Leep Utilities Regulated network.

(v) Confined Space Certificate

A Safety Document of a format indicated in these Safety Rules specifying the controls required for access, egress and carrying out any activity within a confined space as defined by the HSE as A confined space is a place which is substantially enclosed (though not always entirely), and where serious injury can occur from hazardous substances or conditions within the space or nearby (e.g. lack of oxygen).

NB Safety Documents are reproduced in Appendices A, B and C.

D.26 Safety Lock

A lock used exclusively for **Approved** purposes (such as for locking-off the points at which the circuit can be energised) that lock being different from all other standard locks used on **Systems**.

D.27 SUPERVISION, being one of the following:

(i) Immediate Supervision

Supervision by a **Person** (having adequate technical knowledge, experience and competence) who is continuously available at the location where work or testing is in progress and who attends the work area as is necessary for the safe performance of the work or testing.

(ii) Personal Supervision

Supervision by a **Person** (having adequate technical knowledge, experience and competence) such that they are at all times during the course of the work or testing, continuously observing and in the presence of the person(s) being supervised, with the ability and competence to directly intervene. Supervision at ground level provided for person(s) positioned at height is considered to be **Personal Supervision** when the supervisor at ground level maintains verbal and visual communication with the person(s) being supervised.

D.28 Switching

The operation of circuit breakers, isolators, disconnectors, fuses or other methods of making or breaking an electrical circuit and/or the application and removal of **Circuit Main Earths.**

The operation of a selector switch for the purpose of:

(a) Inhibiting or restoring telecontrol operation of Primary equipment or

(b) Testing VF Intertripping **Systems**
is not considered to be **Switching**.

(c) Primary transformer OLTC – On Load Tap Changer,
The exercising or adjustment of tap settings on **OLTC'**s, via the Auto-Sequencing Remote switching. Shall not be considered as **Switching** activity.

D.29 System

An electrical **System** in which **Conductors** and **Apparatus** are electrically connected to a common source of supply.

Voltage Categories
(Based on the Electricity Safety, Quality and Continuity Regulations 2002)

D.30 Low Voltage (LV)

A voltage not exceeding 1000 volts AC or 1500 volts DC.

D.31 High Voltage (HV)

A voltage exceeding 1000 volts AC or 1500 volts DC.

D.32 Working Party

Either the **Persons** under the **Supervision** of a **Competent** or **Authorised Person** (who **Shall** be a member of the **Working Party**) or a **Competent** or **Authorised Person** when working by themselves).

D.33 Shall

Where '**Shall**' is used in these rules with no qualification, this indicates a mandatory requirement with no discretion permitted and no judgement to be made.
This can be qualified by:
'where practicable'
Where '**Shall**' is qualified only by the word 'practicable' a slightly less strict standard is imposed. It means that where it is possible to achieve in the light of current knowledge and invention, but bearing in mind the hazards associated with the work to be undertaken, then the requirement must be met. One is not allowed to avoid the requirement on the grounds of difficulty, inconvenience or cost.
'where reasonably practicable'

When '**Shall**, where reasonably practicable' is used to qualify a requirement then a judgement must be made as to what is reasonable, taking into account the magnitude of the risk on one hand and the cost, time and trouble, or effort necessary for averting the risk on the other hand.

D.34 General Safety

The control and management of risks posed by hazards in the working environment which are not covered by these safety rules.

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Section 3

Section 3

General Safety Precautions

In addition to all other requirements specified in these Distribution Safety Rules the safety of **Persons** at work **Shall** also be achieved by maintaining at all times **General Safety** at and in the vicinity of the place of work. Before work or testing commences the **Person** in charge of the **Working Party** must ensure that safety precautions are taken to establish **General Safety** at and in the vicinity of the workplace. This **Person** must ensure that at all times during the work or testing that **General Safety** arrangements are maintained and that other work areas are not adversely affected by the activities for which he / she is responsible.

The discharging of responsibilities for **General Safety** will be achieved as part of the normal pattern of management delegation and control by ensuring that all activities are carried out in accordance with appropriate instructions and guidance.

3.1 Access to and Work in Operational Premises, Underground Chambers and Confined Spaces

3.1.1 No **Person Shall**, without proper authority, enter or have access to any operational premises such as any substation, **Switching** station or underground chamber under the control of **Leep Utilities.**

3.1.2 Access to confined spaces such as underground chambers, cable tunnels and indoor substations with restricted access or egress **Shall** be gained in accordance with an **Approved** procedure.

3.1.3 Access to vessels recently emptied of flammable or toxic substances, **Shall** only be allowed in accordance with an **Approved** procedure which includes provision to expel all dangerous vapours and substances.

3.1.4 Work involving the application of heat or the use of exposed flames, in the vicinity of open vessels containing or having recently contained flammable substances, **Shall** be prohibited until all practicable steps have been taken, in accordance with an **Approved** procedure, to prevent **Danger**.

3.2 Access to and Work in Fire Protected Areas

3.2.1 Automatic Control

Unless alternative **Approved** procedures apply because of special circumstances then before access to, or work or other activities are carried out in, any enclosure protected by automatic fire extinguishing equipment:

(a) The automatic control **Shall** be rendered inoperative and the equipment left on hand control, and locked where reasonably practicable. A **Caution Notice Shall** be attached.

(b) Precautions taken to render the automatic control inoperative and the conditions under which it may be restored **Shall** be noted on any **Safety Document** or written instruction issued for access, work or other activity in the protected enclosure;

(c) The automatic control **Shall** be restored immediately after the **Persons** engaged on the work or other activity have withdrawn from the protected enclosure.

3.2.2 Portable Fire Extinguishers

Only **Approved** portable fire extinguishers **Shall** be available and used in the vicinity of **Live Apparatus** and **Conductors**. In the handling of fire extinguishers the appropriate **Safety Distances** specified in Rule 4.4 **Shall** be maintained. After the discharge of portable fire extinguishers in an enclosed space, personnel **Shall** leave the space until the precautions set out in Rule 3.2.3 have been taken.

3.2.3 General

After any explosion or fire, or after the discharge of fire extinguishers in an enclosed space, either the space **Shall** be adequately ventilated before entry of personnel or **Approved** breathing **Apparatus** and, where necessary, **Approved** safety harnesses **Shall** be worn by **Persons** specially trained in their use. Such breathing **Apparatus** and safety harnesses **Shall** be worn in any case of doubt.

3.3 Access to or Working on Towers and High Structures

Climbing irons **Shall** not be used when working on a pole where any type of **Live** un-armoured cable is attached to the pole unless the cable is guarded to a point beyond the climbing position.

3.3.1 Before any pole is accessed or worked on it **Shall** be tested in an **Approved** manner. No pole badly impaired by decay or damage or whose stability is in doubt **Shall** be accessed or worked on until it has been supported by **Approved** means. The pole **Shall** then either be climbed by only one person at a time or access to the top of such pole **Shall** be by **Approved** means independent of the pole.

Where tensioned **Conductors** and stays are displaced, the **Conductors** and stays **Shall** be released in a controlled manner such as to minimise shock loading of the support, its stays and the tensioned **Conductors**.

Before any work is carried out on a support or any displacement of tensioned **Conductors** and/or stays connected to that support, this includes working from a MEWP, scaffold, ladder or climbing irons, the support and its associated stays shall be tested in an **Approved** manner.

3.3.2 All **Persons** gaining access to and during work on towers, poles and high structures **Shall** make proper use of **Approved** safety equipment and **Shall** be in visual range of another **Person.** Unattached climbing is strictly forbidden. All **Persons** concerned **Shall** be fully conversant with **Approved** rescue procedures.

3.3.3 Gates and devices to prevent climbing of towers and gantries supporting **High Voltage Conductors Shall** always be kept secured in an **Approved** manner and access **Shall** be controlled by an **Authorised Person** or **Competent Person** in receipt of an appropriate **Safety Document** or to an **Approved** procedure**.**

3.4 Access to High Voltage Apparatus and Conductors

3.4.1 High Voltage Structures and Outdoor Compounds

Guards on access ladders, and barriers, or doors or gates on or in outdoor compounds preventing access to **Live High Voltage Conductors Shall** be kept secured in an **Approved** manner and access **Shall** be in accordance with **Approved** procedures.

3.4.2 High Voltage Chambers, Cubicles and Cells

Barriers, doors or gates preventing access to totally enclosed chambers, cubicles and cells containing **Live High Voltage Conductors Shall** where the facility exists be kept locked and the keys **Shall** be accessible only to an **Authorised Person.**

3.4.3 Spout Shutters on High Voltage Switchgear

All spout shutters not required for immediate work or operation **Shall**, if the spouts are not otherwise made inaccessible, be locked shut and the keys **Shall** only be accessible to an **Authorised Person.**

3.5 High Voltage Switching

3.5.1 No **High Voltage Switching Shall** be carried out other than by an **Authorised Person** or by a **Competent Person** acting under the **Personal Supervision** of the **Authorised Person.**

3.5.2 When a **Field Control Engineer** gives authority for **High Voltage Switching** to be carried out they **Shall** communicate directly with the **Person** who is to carry out the **Switching**. Where, for special reasons, direct communication is not possible, an **Approved** procedure **Shall** be followed. Unless the **Person** who is to carry out the **High Voltage Switching** is using a prepared and checked **Switching** schedule, they **Shall** record the instruction and confirm it back to the **Field Control Engineer** before undertaking the **Switching** operation, or an **Approved** procedure **Shall** be followed.

3.5.3 Before any **High Voltage Switching** is carried out on any **System** which may affect another **System**, the **Authorised Person** authorising the **Switching Shall** communicate with the **Authorised Person** of the other **System** and the **Switching Shall** be agreed between them and recorded by all **Party** concerned.

3.5.4 Where **High Voltage Switching** is to be carried out for the purpose of issuing a **Safety Document** and there are two or more control functions involved then, in the absence of a standing agreement for such matters, the **Field Control Engineers** concerned **Shall** agree on the **Person** who **Shall** be in control of the part of the **System** in the **Isolated** state and who **Shall** be responsible for giving consent to the issuing of a **Safety Document.** Such agreement between **Filed Control Engineers Shall** be recorded by each **Field Control Engineer.**

3.5.5 Where there are special requirements to be complied with before, during or after **High Voltage Switching** operations, **Approved** procedures **Shall** apply and special provision **Shall** be made to ensure that the **Field Control Engineer**, the operators and others affected are aware of their responsibilities.

3.5.6 High Voltage Switching with the **Field Control Engineer's** authority **Shall** be carried out without unnecessary delay. Completed **Switching** operations **Shall** be confirmed in writing, as agreed and without unnecessary delay, by **Approved** means.

Emergency **Switching** (in accordance with DSR 3.5.1) **Shall** be reported to the **Designated Engineer** without unnecessary delay. The circumstances necessitating such **Switching Shall** be explained at that time.

3.5.7 All switchgear **Shall**, so far as reasonably practicable, be operated in accordance with the following hierarchy:

(i) Remotely via remote control facilities;

(ii) Remotely on site via control panels in a different room to the switchgear being operated;

(iii) Remotely via a control panel in the same room as the switchgear being operated;

(iv) Remotely via an **Approved** umbilical device or **Approved** similar device; or

(v) Via the operating facilities on the switchgear.

When considering what is reasonably practical when **Switching** to the hierarchy, consideration should be given to all the hazards at the site.

Switchgear (including associated equipment) which is to be operated locally on site **Shall** be visually inspected immediately before any **Switching** operation to check its condition is satisfactory. The switch to be operated **Shall** be visually checked to ensure that it is in the expected position prior to operating.

Following the intended operation, switchgear **Shall** be visually checked to ensure the anticipated position has been achieved and it has operated fully and correctly.

When switchgear shows any signs of distress, its condition **Shall** be reported immediately to the **Designated Engineer** and it **Shall** be examined before a decision is made about further operation.

3.5.8 When operating switchgear mounted on a pole or other structure from ground level, the operator **Shall** wear **Approved** PPE and use such other equipment as may be **Approved** and required.

3.5.9 It is forbidden to undertake **Switching** by signal or pre-arranged understanding after an agreed interval of time no more than a five minute interval.

3.6 Records

3.6.1 Messages

Messages by telephone or otherwise, relating to the operation of any **High Voltage System**, **Shall** be recorded by **Approved** means. Every such message **Shall** be confirmed back to the sender to ensure that it has been accurately received.

3.6.2 Recording of Switching

The **Field Control Engineer Shall** ensure that a record is made of the time and particulars of all **High Voltage Switching** including any carried out by third party **Control** by remote means.

3.7 Failure of Supply

A failure of supply, from whatever cause, to or from any part of the **High Voltage System Shall** be immediately reported to the **Head of Operations** and/or the **Designated Engineer**. During failures of supply all **Apparatus** and **Conductors Shall** be regarded as being **Live** unless **Isolated** and proved **Dead** by **Approved** means.

3.8 Use of Voltage Test Devices

Where voltage testing devices are used they **Shall** be of **Approved** type and such use **Shall** be in accordance with **Approved** procedures. Such devices **Shall** be tested in an **Approved** manner immediately before and after use or, where this is not reasonably practicable, they **Shall** be tested in accordance with **Approved** procedures.

3.9 Excavation Near Live Cables

All damaged cables or cables with exposed **Conductors Shall** be treated as **Live** until identified and proved **Dead** by an **Approved** procedure. When excavation work is carried out in proximity to **Live** cables by **Leep Utilities** or its contractors, the work **Shall** be done in accordance with an **Approved** procedure.

3.10 Use of Mobile Plant and Equipment Near Overhead Lines

When **Leep Utilities** or its contractors are working adjacent to overhead lines with mobile **Plant** and equipment which is capable of reaching within the **Safety Distance** of a **Live High Voltage Conductor,** or touching a **Live LV** conductor the work **Shall** be done in accordance with an **Approved** procedure.

Distribution Safety Rules
2022 Edition

Section 4

Section 4

Safety Precautions for Work on or Near High Voltage Systems

4.1 General Requirements

All **High Voltage Apparatus** and **Conductors** including those that are damaged or have faulted, **Shall** be treated as **Live** unless they have been made safe in accordance with Rule 4.1.1.

4.1.1 Subject to the exceptions stated below and those expressly permitted by individual Rules, no person **Shall** undertake any repair, maintenance, cleaning, alteration or such work, on or within the **Safety Distance** of an exposed **Conductor** or on any part of a **High Voltage System** unless such parts of the **System** are:

(a) Dead;

(b) Isolated and all practicable steps taken to lock off from all points of supply, at any voltage**,** including voltage and auxiliary transformers, common neutral earthing equipment and other sources from which the **Apparatus** and **Conductors** may become **Live**, and **Caution Notices** fixed at all points of isolation &,

(c) Connected to **Earth** by **Approved** means at all points of disconnection of **High Voltage** supply from the **System** or between such points and the point(s) of work;

(d) Screened where necessary to prevent **Danger** and **Danger Notices** attached to **Apparatus** containing **Live Conductors** and attached adjacent to other **Live Conductors**.

(e) Identified at the point of work by **Approved** means and,

(f) Released for work and the measures taken under this rule are formally communicated to the **Working Party**, using an **Approved** procedure which involves the issue of appropriate **Safety Documents** which **Shall** not be issued unless the issuer and the recipient are fully conversant with the precise parts of the **Systems, Apparatus** and **Conductors** to be worked upon, the nature and also the extent of the work to be done and the safety precautions to be taken.

It is the duty of the **Person** issuing the appropriate **Safety Document** to ensure compliance with the foregoing provisions in the correct sequence.

EXCEPTIONS

(i) Work such as cleaning and painting of **Earthed** metal enclosures, connections or disconnections of circuits to or from **Live High Voltage Systems, Live** line testing and **Live** insulator washing may be carried out but only in accordance with **Approved Procedures**.

(ii) **High Voltage Live Line Working** on **High Voltage** overhead Lines may be carried out but only in accordance with **Section 6** of these **DSRs**.

(iii) Where the design of **Apparatus** precludes strict compliance with all the requirements of Rule 4.1.1 the work **Shall** be carried out in accordance with an **Approved** procedure or to the special instructions of a **Senior Authorised Person,** and after agreement with the **Designated Engineer,** to ensure that safety is achieved in another way. Such work **Shall** be carried out under the **Personal Supervision** of a **Senior Authorised Person.**

(iv) Where the work will proceed at a single point on an overhead line and where that work will not interfere with the continuity of the **Conductors**, one **Circuit Main Earth** applied at the point of work is acceptable

(v) **W**here work is carried out on a **High Voltage** overhead **System** and where it is not reasonably practical to isolate all connected customers in accordance with rule 4.1.1 (b), an **Additional Earth Shall** be provided and maintained between the consumer and the point of work Unless a **Circuit Main Earth** is provided in that position.

4.2 Isolation of Apparatus and Conductors

4.2.1 No isolation or reconnection of **High Voltage Apparatus** or **Conductors Shall** be initiated except with the sanction of the **Field Control Engineer.**

4.2.2 Safety Locks

(a) Where a locking facility exists, **Safety Locks Shall** be used to lock open all switchgear at points where the circuit on which work is to be carried out could be energised. The keys for such locks **Shall** be kept in a **Key Safe**, if provided, in the possession of a **Senior Authorised Person** or in accordance with an **Approved** procedure.

(b) Details of the isolation referred to in Rule 4.2.1 and deposit of **Safety Lock** keys associated with the isolation, **Shall** be recorded at centres specified in **Approved** procedures

4.2.3 Fuses or Links

When the circuit on which work is to be carried out is controlled only by fuses or links, the fuses, links (and carriers) **Shall** be removed and kept in a safe place which may include custody by the **Person** responsible for issuing the **Safety Document**. Where such removal is not practicable, **Approved** procedures to ensure safety **Shall** be followed.

4.2.4 Caution Notices Shall

Caution Notices Shall,be fixed at all points of isolation and secured with a **Safety Lock** where reasonably practicable.

4.3 Earthing

4.3.1 When **High Voltage Apparatus** and **Conductors** are to be discharged and **Earthed** in accordance with Rule 4.1.1.(c) it **Shall** be done:

(a) Where reasonably practicable by the use of a circuit breaker or earthing switch provided for the purpose to make the earthing connection. When the circuit breaker is used, the trip feature **Shall** normally be rendered inoperative before closing, unless this is not practicable when it **Shall** be done afterwards. After closing, the circuit breaker or earthing switch **Shall** be locked in the **Earthed** position, so that it remains inoperative while it is the **Circuit Main Earth**; or

(b) Where (a) is not reasonably practicable or not applicable, the **High Voltage Apparatus** and **Conductors Shall** be checked by means of an **Approved** voltage testing device or other **Approved** means to verify that they are not **Live**, and may then be discharged and **Earthed** by an earthing lead applied by means of an **Approved** earthing pole or other **Approved** appliance

(c) In addition to the requirements in sections (a) and (b) above the first **Earth** applied to, and the last **Earth** removed from a circuit **Shall** where reasonably practicable be achieved using a circuit breaker or earthing switch provided for that purpose. It is not normally considered reasonably practicable to disrupt electricity supplies in order to meet these requirements.

4.3.2 Earthing Leads and Connections

Earthing leads and associated clamps **Shall** be of **Approved** type and of adequate capacity for the duty at the point of application. They **Shall** be adequately maintained and always examined immediately prior to use. The maintenance & examination shall be formally documented, and a record kept on file.

4.3.3 Procedure for the Use of earthing Leads

Subject to Rule 4.3.1 the general procedure to be followed when using earthing leads **Shall** be as follows:

(a) The circuit **Shall** be verified that it is not **Live** and, where practicable, checked by means of an **Approved** voltage testing device or other **Approved** means;

(b) Earthing leads **Shall** be connected to **Earth** before being connected to the phase **Conductors**. They **Shall** be connected to the phases by means of an **Approved** earthing pole or other **Approved** appliance. Care **Shall** be taken to ensure that good contact is made and that earthing leads are clearly visible.

(c) All phases **Shall** be **Earthed**, even if work is to be carried out only on one phase;

(d) Earthing leads **Shall** not be applied in any cell or compartment in which there is any exposed metal **Live** at **High Voltage** which may be a source of **Danger**. Earthing leads **Shall** be applied in such a manner that they remain clearly visible so far as it is reasonably practicable;

(e) When earthing leads are being removed each one **Shall** be disconnected from its phase **Conductor** by means of an **Approved** earthing pole or other **Approved** appliance before it is removed from the **Earth** connection; and

(f) For the purpose of earthing on spout contacts of metal-enclosed switchgear, only **Approved** appliances **Shall** be used. The insertion of the hand or any tool into contact spouts for this purpose is **forbidden**.

4.3.4 Circuit Main Earths

(a) Operation

No **High Voltage** earthing switch **Shall** be operated, or **Circuit Main Earth** connected or disconnected except with the consent of the **Field Control Engineer** (or under the terms of a **Sanction-for-Test** or under 5.1.2 or 5.5.4(i)).

Where a locking facility exists, **Circuit Main Earths Shall** be secured by an **Approved** lock.

(b) Recording of **Circuit Main Earths**
Completed earthing operations **Shall** be confirmed to the **Field Control Engineer** as agreed and without unnecessary delay. The location of each **Circuit Main Earth Shall** be recorded on the **Safety Document.**

(c) The **Field Control Engineer Shall** record in their log the time of application and the location of each **Circuit Main Earth** connection and the time of its removal except under the terms of a **Sanction-for-Test,** or rules 5.1.2 or 5.5.4(i).

4.3.5 Additional Earths

(a) **Additional Earths** applied after the issue of a **Permit-to-Work** or **Sanction-for- Test** may only be attached or removed by the recipient of the **Safety Document** or a **Competent Person** under their **Personal Supervision.**

(b) When the recipient of a **Permit-to-Work** clears and returns the **Permit-to-Work** to a **Senior Authorised Person** the recipient clearing the **Permit-to-Work Shall** ensure that the **Senior Authorised Person** is aware of the position of any
Additional Earths that have not been removed.

4.4 Approach to Exposed Live High Voltage Conductors or Insulators Supporting Them

4.4.1 Safety Distances

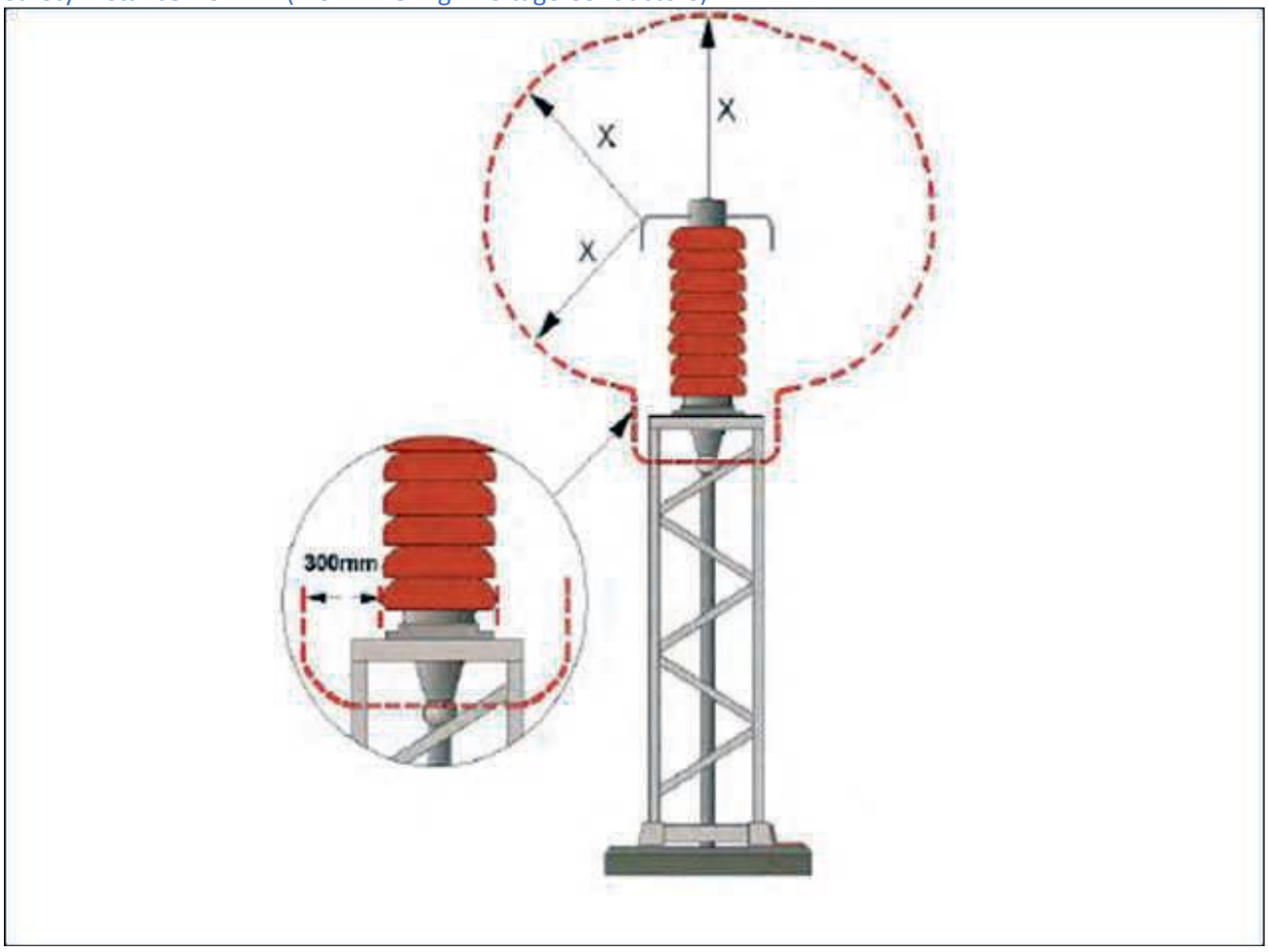
(a) The **Safety Distances** (designated 'X' in Table 1 and Diagram below) **Shall** be maintained at the respective **System** voltages between any part of the person or object and the nearest exposed **Live High Voltage Conductor.**

(b) A distance of 300mm **Shall** also be maintained, at all **System** voltages, from the portion of insulators supporting **Live High Voltage Conductors** which is outside the appropriate **Safety Distance** from the **Conductors**.

Table 1 Safety Distances

Nominal System Voltage	Safety Distance 'X'
Up to and including 33kV	0.8m
Exceeding 33kV but not exceeding 66kV	1.0m
Exceeding 66kV but not exceeding 132kV	1.4m
Exceeding 132kV but not exceeding 275kV	2.4m
Exceeding 275kV but not exceeding 400kV	3.1m

Safety Distance from 'X' (From Live High Voltage Conductors)



4.4.2 Approach of Persons

(a) Subject to the provisions of Rule 4.4.2(b), and 4.4.2 (c), no person allow any part of their body to approach exposed or insulators supporting such, within the specified in Rule 4.4.1 unless the have been made safe for work and a issued as required by Rule 4.1.1.

(b) When a is applying an **Approved** voltage testing device to **High Voltage Conductors** contained within the open spouts of metal-enclosed switchgear, it is allowable for those parts of the body required to perform the task to approach within the **Safety Distances** specified in Rule 4.4.1 subject to **Approved** procedures. **Approved** insulating gloves **Shall** be worn.

(c) When **High Voltage Live Line Work** is being carried out in accordance with **Approved** Hot Glove Procedures, it is allowable for the body to approach within the **Safety Distances** specified in Rule 4.4.1.

4.4.3 Objects Being Handled

(a) When exposed **High Voltage Conductors** are not **Isolated** the only objects which **Shall** be caused to approach them, or insulators supporting them, within the **Safety Distances** specified in Rule 4.4.1 **Shall** be those **Approved** for **High Voltage Live Line Work** and **Approved** voltage testing devices.

(b) When exposed **Conductors** are **Isolated** but not proved **Dead**, the only objects which **Shall** be caused to approach them, or insulators supporting them, within the **Safety Distances** specified in Rule 4.4.1 **Shall** be insulated devices **Approved** for **High Voltage Live Line Work** and **Approved** voltage testing devices.

4.4.4 Working and Access Clearances

Taking account of the nature and location of the work, the hazards and the presence of **Persons**, the **Senior Authorised Person** or the **Person** in charge of the work as listed below, **Shall** establish **Working and Access Clearances** such as to ensure that the **Safety Distances** specified in Rule 4.4.1.

Clearances are maintained both in respect of those **Persons** present and the objects being handled.

NB Recommended **Working and Access Clearances** for the guidance of **Senior Authorised Persons** are specified in Appendix D. If clearances cannot be complied with, guidance should be sought from the **Designated Engineer**.

The following **Persons** may also establish **Working and Access Clearances** provided that the **Working and Access Clearances** are not less than those recommended in Appendix D.

(a) An **Authorised Person** responsible for the **Personal Supervision** of **Live Line Work.**

(b) An **Authorised Person** with authority to issue **Limitation of Access** documents.

(c) A **Competent Person** when responsible for the **Personal Supervision** of work in accordance with Rule 5.10.5.2.

4.5 Work in Substations and Switching Stations Containing Exposed Live High Voltage Conductors

4.5.1 Work Area

(a) When work is to be carried out in a Substation or **Switching** station in which there are exposed **Live High Voltage Conductors,** the work area **Shall** be properly identified by a **Senior Authorised Person**. The work area **Shall** then be defined as far as possible by the use of **Approved** barriers, chains or by other **Approved** means. These **Shall** be so arranged that the specified **Working and Access Clearances**, from the nearest exposed **Live Conductor** or supporting insulator to ground level or platform or access way which may be required to be used, are established.

(b) The work area to be defined at ground level **Shall** only be that in which the work is to be carried out.

(c) If the work cannot be carried out without leaving ground level or a platform or access way, the **Working and Access Clearances Shall** also be obtained from the nearest exposed **Live High Voltage Conductor** to the points from which work is actually carried out. In such cases access **Shall** only be by means of an **Approved** ladder or other **Approved** means in accordance with Rules 4.5.4 and 4.5.5. The climbing of structures to gain access is forbidden. In addition, a **Limitation-of-Access Shall** be issued provided the work is not already the subject of a **Permit-to-Work**. The work shall be under the **Personal Supervision** of an **Authorised Person**, or **Senior Authorised Person**.

In the case of terminal poles, or towers in substations, access **Shall** be in accordance with an **Approved** procedure.

(d) If the work is such that the specified are not
sufficient to avoid Danger other suitable arrangements be made.

(e) The **Approved** barriers or chains **Shall** be clearly visible and **Shall** not be supported by any structure carrying electrical **Apparatus** or **Conductors** and **Shall** not carry any notice. At ground level the section so defined **Shall** be clearly distinguished in accordance with an **Approved** procedure. **Danger Notices Shall** be attached to adjoining **Apparatus** containing **Live Conductors** or adjacent **Conductor** supports at the limits of the work area.

4.5.2 Access to Work Area

Where necessary to prevent Danger the access to and from the work area **Shall** be clearly defined in an **Approved** manner.

4.5.3 Working and Access Clearances

The **Working and Access Clearances** required at the work area under Rule 4.5.1 **Shall** be as specified in Rule 4.4.4. (See also Appendix D - Diagram 4.)

4.5.4 Use of Portable Ladders and Long Objects Where There are Exposed Live Conductors

Note: For the purpose of this rule **LONG OBJECTS** being any tool or object which by virtue of movement or improper use may infringe the safety distance.

(a) Portable ladders **Shall** be of **Approved** type and of no greater length than is required for the work involved.

(b) Portable ladders and other **Long Objects Shall** not be used without the permission of a **Senior Authorised Person**, who **Shall** define the conditions of use to the **Authorised Person** in charge of the work. The movement and erection of such ladders and objects **Shall** then be carried out only under the **Personal Supervision** of the **Authorised Person** in charge of the work, and when moved at ground level they **Shall** be carried only in a horizontal position and as near the ground as reasonably practicable.

(c) Portable ladders provided to allow access to fixed ladders which terminate above ground level, and to provide access in other **Approved** cases. **Shall** be padlocked in position or otherwise secured by an **Authorised Person** while work is being carried out.

(d) All portable ladders within substations or **Switching** stations **Shall** be securely locked to a suitable anchorage when not in use

4.5.5 Movement and Use of Cranes, Scaffolds, Mobile Elevated Work Platforms and Other Equipment

(a) The **Senior Authorised Person Shall** determine:

(i) the route of such equipment in and out of the site.

(ii) How such equipment **Shall** be connected to substation earthing **System** as soon as is reasonably practical

(iii) The limits of operation of such equipment **Shall** be defined by a **Senior Authorised Person** to an **Authorised Person** who **Shall** be in charge of the work and thereafter the equipment **Shall** be erected or moved only within these limits under the **Personal Supervision** of the **Authorised Person**.

4.5.6 Danger Notices, Barriers and Screens

Danger Notices, barriers and screens **Shall** be fixed or moved only by, or under the **Personal Supervision** of a **Senior Authorised Person**.

4.5.7 Adverse Weather Conditions

In the event or near approach of a lightning storm, work on exposed **Conductors** in outdoor substations or outdoor **Switching** stations, or on **Apparatus** directly connected to exposed **Conductors**, **Shall** cease immediately where necessary to prevent **Danger**.

4.6 Permits-to-Work

4.6.1 Authority for Issue

(a) The **Permit-to-Work Shall** be issued by a **Senior Authorised Person** before any work is carried out on any **Apparatus** or **Conductor.**

(b) The **Permit to Work**, shall be issued with the authority of the Field Control Engineer who shall maintain an approved record of the issue and cancellation of each **Permit-to-Work**.

4.6.2 Procedure for Issue and Receipt

(a) A **Permit-to-Work Shall** be explained and issued to the **Person** in direct charge of the work, who after reading its contents and confirming that he understands it and is conversant with the nature and extent of the work to be done, **Shall** sign its receipt and its duplicate. The recipient **Shall** confirm their understanding by explaining the safe working area, the work to be carried out, and precautions required. The recipient **Shall** also ensure that the **Permit-to-Work** is effectively explained to the other members of the **Working Party** in accordance with an **Approved** procedure.

(b) The recipient of a **Permit-to-Work Shall** be a **Competent Person** who **Shall** retain the **Permit-to-Work** in his possession at all times whilst work is being carried out.

(c) Where more than one **Working Party** is involved a **Permit-to-Work Shall** be issued to the **Competent Person** in direct charge of each **Working Party** and these **Shall**, where necessary, be cross-referenced one with another.

4.6.3 Procedure for Clearance and Cancellation

(a) A **Permit-to-Work Shall** be cleared and cancelled:

(i) when work on the **Apparatus** or **Conductor** for which it was issued has been completed;

(ii) when it is necessary to issue a **Sanction-for-Test** in which case all **Permits-to- Work** that are associated with the **Apparatus** and **Conductors** to be tested **Shall** be cleared and cancelled in accordance with rule 4.6.4;

(iii) when it is necessary to change the person in charge of the work detailed on the **Permit-to-Work** unless the document is transferred in accordance with rule 4.6.5; or

(iv) at the discretion of a **Senior Authorised Person** when it is necessary to interrupt or suspend the work detailed on the **Permit-to-Work**.

(b) The recipient **Shall** sign the clearance and return the **Permit-to-Work** to a **Senior Authorised Person** who **Shall** cancel it. In all cases the recipient **Shall** indicate in the clearance section whether **Additional Earths** have been “removed” or “accounted for”, whether the work is “complete” or “incomplete” and that all gear and tools “have” or “have not” been removed.

(c) Where more than one **Permit-to-Work** has been issued for work on **High Voltage Apparatus** or **Conductors** associated with the same **Circuit Main Earths,** the **Senior Authorised Person Shall** ensure that all such **Permits-to-Work** have been cancelled before the **Circuit Main Earths** are removed.

4.6.4 Procedure for Temporary Withdrawal or Suspension

Where there is a requirement for a **Permit-to-Work** to be temporarily withdrawn or suspended this **Shall** be in accordance with an **Approved** procedure.

4.6.5 Procedure for Transfer

Where there is a requirement for a **Permit-to-Work** to be transferred between appropriately **Competent Persons** this **Shall** be done in accordance with an **Approved** procedure.

4.6.6 Minor Testing Under A Permit-to-Work

Where there is a requirement for minor testing under a **Permit-to-Work**, this **Shall** be in accordance with an **Approved** procedure.

4.7 Sanctions-for-Test

4.7.1 Authority for Issue

A **Sanction-for-Test Shall** be issued by the **Senior Authorised Person** initiating the testing under these Safety Rules before any testing is carried out on any **Apparatus** or **Conductor**.

4.7.2 Procedure for Issue and Receipt

(a) A **Sanction-for-Test Shall** be explained and issued to the **Authorised Person** in direct charge of the testing, who after reading its contents and confirming that they understand it and are conversant with the nature and extent of the testing to be done, **Shall** sign its receipt and its duplicate. The recipient **Shall** confirm their understanding by explaining the **Apparatus** to be tested, the testing to be carried out, and precautions required. The recipient **Shall** also ensure that the **Sanction-for-Test** is effectively explained to the other members of the testing party.

(b) The recipient of a **Sanction-for-Test Shall** be an **Authorised Person** who **Shall** retain the **Sanction-for-Test** in their possession at all times whilst tests are being done.

4.7.3 Procedure for Clearances and Cancellations

When testing on **Apparatus** for which a **Sanction-for-Test** has been issued is suspended or completed the recipient **Shall** sign the clearance and return the **Sanction-for-Test** to a **Senior Authorised Person** who **Shall** cancel it.

4.7.4 Procedure for Temporary Withdrawal or Suspension

Where there is a requirement for a **Sanction-for-Test** to be temporarily withdrawn or suspended this **Shall** be in accordance with an **Approved** procedure.

4.7.5 Minor Work Under Sanction-for-Test

Where there is a requirement for minor work under a **Sanction-for-Test**, this **Shall** be in accordance with an **Approved** procedure.

4.8 Limitations-of-Access

4.8.1 Authority for Issue

(a) A **Limitation-of-Access Shall** be issued by a **Senior Authorised Person** or an **Authorised Person** specially authorised to do so when it is considered necessary to have written instructions to avoid **Danger** and when a **Permit-to-Work** or a **Sanction-for-Test** is not applicable.

(b) In particular, a **Limitation-of-Access** may be issued for the following types of activity when there is **Danger:**

(i) work in proximity to, but outside the **Working and Access Clearance** from, exposed **Live High Voltage Conductors;**

(ii) work on **Plant** operated by or containing compressed air or other gases;

(iii) such other access or work as specified by an **Approved** procedure.

4.8.2 Procedure for Issue and Receipt

(a) A **Limitation-of-Access Shall** be explained and **issued** to the **Person** in direct charge of the work who after reading its contents and confirming that they understand it and are conversant with the nature and extent of the work to be done, **Shall** sign its receipt and its duplicate. The recipient **Shall** confirm their understanding by explaining the work to be carried out, and precautions required. The recipient **Shall** also ensure that the **Limitation-of-Access** is effectively explained to the other members of the **Working Party** in accordance with an **Approved** procedure.

(b) The recipient of a **Limitation-of-Access Shall** be a **Competent Person** who **Shall** retain the **Limitation-of-Access** in their possession at all times whilst work is being carried out.

(c) Where more than one **Working Party** is involved, a **Limitation-of-Access Shall** be issued to the **Competent Person** in direct charge of each **Working Party.**

4.8.3 Procedure for Clearance and Cancellation
A **Limitation-of-Access Shall** be cleared by the recipient signing the clearance and then returning the **Limitation-of-Access** for cancellation to a **Senior Authorised Person** or **Authorised Person** specially authorised to do so, or in accordance with an **Approved** procedure.

4.9 Transfer of Control

4.9.1 Authority for Issue
A Transfer-of Control **Shall** be issued by the Senior Authorised Person transferring the control of a high voltage network from the client to Leep Utilities Group. Where by these Safety Rules become the safe system of work to be applied before any operation and/or work is carried out on any Apparatus or Conductor.

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Section 5

Section 5

Procedures for Work on Particular Items of Plant, Apparatus or Conductors

5.1 General Safety Precautions

5.1.1 The safety precautions detailed in Section 4 for work on or near **High Voltage Systems Shall** apply.

5.1.2 Zone of Work
When, in order to work on particular items of **Plant**, **Apparatus** or **Conductors**, a section of the **System** larger than the zone of work is **Isolated** and **Earthed** (as, for example, in the case of work on ring main units) the Safety Rules specified in Section 5 relating to isolation and earthing and the requirements for **Personal Supervision** by the **Senior Authorised Person**, for such work may be waived in **Approved** circumstances provided that:

(a) Before the waiver the normal requirements of Rule 4.1.1 are applied in full;

(b) All **High Voltage Apparatus** and **Conductors** within the zone of work are connected to the **Circuit Main Earths** at the time when the specified **Apparatus** or **Conductors** are released for work or testing by the issue of a **Safety Document**; and

(c) An **Approved** procedure applies.

In these circumstances, the recipient of the **Safety Document** may, in the course of work or testing, disconnect from the **Circuit Main Earths** as required any **Apparatus** or **Conductors** within the zone of work.

The **Senior Authorised Person Shall**, at the time of issue of the **Safety Document**, demonstrate to the recipient by **Approved** means that the **Apparatus** or **Conductors** are **Dead**.

The **Apparatus** and **Conductors Shall** be reconnected to the **Circuit Main Earths** before the **Safety Document** is cleared, unless the **Circuit Main Earths** or the **Apparatus** have been permanently removed from the **System**.
Precautions **Shall** be taken to avoid **Danger** from potential differences arising from remote **Earth** points, by bonding and earthing **Conductors** in an **Approved** manner at a point as near as possible to the point of work.

5.2 Remotely and Automatically Controlled Equipment

Before work is carried out on remotely or automatically controlled equipment such as circuit breakers, isolators, tap changing gear or air compressors, all remote control and automatic features **Shall** first be rendered inoperative and, where the facility exists,

Safety Locked off and **Caution Notices** posted. Whilst such work is in progress no work **Shall** be carried out on the controlling equipment and associated wiring or relays, except by an **Authorised Person** or a **Competent Person** acting under their **Personal Supervision**. In this case **the Senior Authorised Person,** authorised as a **Standard Field Control Engineer, Shall** be informed, but no work

of this kind **Shall** be carried out if it could compromise the present **Safe System of Work** & give rise to the potential to restore the remote control or automatic features of the supply.

5.3 Withdrawable Apparatus

5.3.1 When withdrawable **High Voltage Apparatus** has been disconnected from all supplies and removed from its normal housing, its **Conductors Shall** be discharged to **Earth**, but need not remain connected to **Earth**. Where a risk assessment shows there is no **Danger** from stored electrical energy, there is no need to discharge the withdrawable **Apparatus**.

5.3.2 All spout shutters not required to be opened for immediate work or operation **Shall**, where practicable be locked shut or otherwise made inaccessible.

5.3.3 Work, at the location, on withdrawable **High Voltage Apparatus** that has been disconnected in accordance with Rule 5.3.1 **Shall** be carried out under a **Limitation-of-Access.**

5.4 Busbar Spouts, Busbars and Busbar Connections of Multi-Panel Switchboards

5.4.1 Isolation

When work is to be carried out on busbar spouts, busbars and busbar connections, all the following isolation procedures **Shall** be carried out:

(a) the section of the busbars on which work is to be carried out **Shall** be **Isolated** from all points of supply from which it can be made **Live**;

(b) the isolating arrangements **Shall** be locked so that they cannot be operated and, where practicable, the shutters of **Live** spouts locked shut. Where duplicate circuit breakers or switches in one tank or on-load selectors are installed, and it is not possible to isolate them from all points of supply, then all circuit breakers or switches that can be closed on to the busbars on which work is to be carried out **Shall** have their mechanisms locked in the open position and the closing mechanism **Shall** be made inoperative;

(c) **Caution Notices Shall** be attached at all points where the busbars can be made **Live**; and

(d) **Danger Notices Shall** be attached, on or adjacent to **Apparatus** containing **Live Conductors** at the limits of the zone of work.

5.4.2 Earthing

(a) Where practicable the section of busbar on which work is to be carried out **Shall** be checked by means of an **Approved** voltage testing device to verify that it is not **Live**. The checking with the voltage testing device **Shall** be done on the panel at which the **Circuit Main Earth** is to be applied.

(b) **Circuit Main Earths** of **Approved** type **Shall** be applied at a panel, other than that at which work is to be undertaken, on the **Isolated** section of busbars. The insertion of the hand or any tool into contact spouts for this purpose is forbidden.

5.4.3 A **Permit-to-Work** or **Sanction-for-Test Shall** be issued in accordance with Rules 4.6 or 4.7.

5.4.4 Work

Before obtaining the receipt signature on the **Permit-to-Work** the **Senior Authorised Person** who is issuing the **Permit-to-Work Shall**, at the point of work, satisfy themselves that the recipient is aware of the location of all adjacent **Live High Voltage Apparatus** and of the safety precautions to be taken by the recipient. This shall be duly and sufficiently detailed in the **Permit-to-Work.**
Immediately after the **Senior Authorised Person** has obtained the receipt signature on the **Permit-to-Work** and before any work is carried out, then:

(i) Where work is to be carried out on busbar spouts it **Shall** be carried out under the **Personal Supervision** of the **Senior Authorised Person** who **Shall** identify the busbar spouts to be worked on and where necessary provide access by removing any locks applied to such spout shutters. They **Shall** then prove that each spout is **Dead** by means of an **Approved** voltage testing device or other **Approved** means before any work is undertaken on the spout.

(ii) Where work is to be carried out on busbars or busbar connections the **Senior Authorised Person Shall** identify in an **Approved** manner where access is to be made. Access **Shall** then be made, by the removal of the appropriate cover plates, under the **Personal Supervision** of the **Senior Authorised Person** who **Shall** not leave site until they are satisfied that no further access is required to complete the work and that they have taken such action to prove, where practicable, that each busbar or busbar connection in the working area is **Dead** by means of testing with an **Approved** voltage testing device or other **Approved** means. No further access **Shall** be made to other parts of the switchboard during the course of the work.

5.5 Feeder Spouts and Connections, Voltage Transformer Spouts and Connections and Single Panel Busbar Spouts and Connections

5.5.1 Isolation

When work is to be carried out on feeder and voltage transformer spouts or connections, or on the busbar spouts or connections of a single panel, the following procedures **Shall** be carried out:

(a) The spouts or connections on which work is to be carried out **Shall** be **Isolated** from all points of supply from which they can be made **Live**;

(b) The isolating arrangements **Shall** be locked so that they cannot be operated and the shutters of **Live** spouts **Shall** be locked shut;

(c) **Caution Notices Shall** be attached at all points where the circuit can be made **Live**; and

(d) **Danger Notice**s **Shall** be attached, where applicable, on or adjacent to the **Apparatus** containing **Live Conductors** at the limits of the zone of work.

5.5.2 Earthing

(a) Where practicable the spout contacts or connections **Shall** be checked by means of an **Approved** voltage testing device to verify that they are not **Live**.

(b) The circuit **Shall** be **Earthed** with **Approved** earthing equipment at the point of work and, where reasonably practicable, at all points of isolation from the supply.

Any special appliances used for the purposes of earthing metal-enclosed switchgear **Shall** also be **Approved** but the insertion of the hand or any tool into contact spouts for this purpose is forbidden.

(c) Where the spouts are connected to an overhead line circuit a **Circuit Main Earth** or **Additional Earth Shall** be applied at a point nearest to the point of work where access to the **Conductors** can safely be obtained.

5.5.3 A **Permit-to-Work** or **Sanction-for-Test Shall** be issued in accordance with Rules 4.6 or 4.7. Where the work to be done requires removal of the **Circuit Main Earths** at the point of work the **Permit-to-Work Shall** state how this is permitted under Rule 5.5.4(i).

5.5.4 Work

Before obtaining the receipt signature on the **Permit-to-Work**, the **Senior Authorised Person** who is issuing the **Permit-to-Work Shall**, at the point of work, satisfy themselves that the recipient is aware of the location of adjacent **Live High Voltage Apparatus** and of the safety precautions to be taken by the recipient. Immediately after the **Senior Authorised Person** has obtained the receipt signature on the **Permit-to-Work**, and before any work is carried out, then:

(i) Where the work is to be carried out on the feeder, voltage transformer or busbar spouts on a single panel unit, it **Shall** be carried out under the **Personal Supervision** of a **Senior Authorised Person** who, notwithstanding the requirements of Rule 4.3.4.(a) may, where necessary, remove the **Circuit Main Earths** at the point of work and provide access by removing any locks applied to such spout shutters. They **Shall** then prove that each spout is **Dead** by means of an **Approved** voltage testing device or other **Approved** means before any work is undertaken on the spout. On completion of the work, the **Circuit Main Earths Shall** be re-applied, if necessary, before the **Permit-to-Work** is cancelled. If the only earthing devices that can be applied to the circuit are those applied to the spouts and are **Circuit Main Earths** then, while the work is in progress no other work **Shall** be carried out to the circuit connected to those spouts.

(ii) Where work is to be carried out on feeder or voltage transformer connections and single panel busbars or connections the **Senior Authorised Person Shall** identify in an **Approved** manner where access is to be made. Access **Shall** then be made by the removal of the appropriate cover plates under the **Personal Supervision** of the **Senior Authorised Person** who **Shall** not leave site until they are satisfied that no further access is required to complete the work and that they have taken such action to prove, where practicable, that each connection or busbar in the working area is **Dead** by means of testing with an **Approved** voltage testing device or other **Approved** means. No further access **Shall** be made to other parts of the switchboard during the course of the work.

5.6 High Voltage Apparatus and Plant Operated by or Containing Compressed Air or Other Gases or Operated by Hydraulic Power

5.6.1 Compressed Air

All the following precautions **Shall** be taken before any work other than operating adjustments is carried out:

(a) if the work area includes the compressor **Plant**, then the supply to the prime mover of the compressor **Shall** be switched off and any such switch and/or control handle operating the

switch **Safety Locked** in the off or neutral position as appropriate, and a **Caution Notice Shall** be attached at each such position;

(b) all valves positioned between the part of the **System** to remain in service and the work area **Shall** be closed and locked in the closed position by **Safety Locks**, and a **Caution Notice Shall** be attached at each position. In addition, the supply to any such valve that is power operated **Shall** be rendered inoperative and where the facility exists, the power supply **Safety Locked** in the off position;

(c) the compressed air in any work area **Shall** be released before work commences, and **Approved** methods **Shall** be used to ensure that the equipment or pipes concerned **Shall** remain open to atmosphere for the duration of the work;

(d) all keys for **Safety Locks** fitted under the provisions of this Rule **Shall** be placed in a **Key Safe** if provided, in the possession of a **Senior Authorised Person** or in accordance with an **Approved** procedure.

5.6.2 Operating Adjustments

Notwithstanding the requirement of Rule 5.6.1, operating adjustments on equipment operated by or containing compressed air which require the normal air supply, may be carried out but only under the **Personal Supervision** of an **Authorised Person**.

5.6.3 Equipment Containing SF6

Access to or work on equipment containing SF6 **Shall** be carried out in accordance with an **Approved** procedure.

5.6.4 Where the additional safety precautions required for work on associated **Apparatus** are not detailed on a **Permit-to-Work**, then in addition, a **Limitation-of- Access Shall**, where necessary, be used in accordance with Rule 4.8.

5.7 Transformers

5.7.1 Isolation

(i) When work within the terms of Rule 4.1 is to be carried out on the connections to or the windings of a transformer, the switchgear or fuse gear controlling all windings **Shall** be opened or the windings or connections **Isolated** by other **Approved** means from **Live Conductors**.

(ii) Additionally, to prevent the possibility of the transformer being made **Live** by back-feed, all **Low Voltage** fuses or links on associated voltage and auxiliary transformers **Shall** be withdrawn and the fuse and link carriers **Shall** be locked where reasonably practicable or the voltage and auxiliary transformers **Isolated**. And **locked** where reasonably practicable to do so.

(iii) The transformer **Shall** be **Isolated** from all common neutral earthing equipment from which it may become **Live**. Except for the isolation of transformers supplying traction loads, which **Shall** be in accordance with an **Approved** procedure, this does not require the disconnection of solidly **Earthed** neutrals or neutral equipment connected solely to the transformer on which work is to be done.

(iv) Where work is to be carried out on a **High Voltage** to **Low Voltage** transformer and the **Low Voltage** windings of the transformer are controlled by a switch or isolator, the switch or isolator **Shall** be secured open in an **Approved** manner.

In other cases arrangements **Shall** be made to ensure that the **Low Voltage** windings are **Isolated** from all sources of **Low Voltage** supply.

(v) Before any withdrawable voltage transformer is **Isolated** or re-connected the associated **High Voltage** connections **Shall**, where reasonably practicable, be made **Dead**. If it is suspected that a voltage transformer is faulty the associated busbars or feeder connections **Shall** be made **Dead** before it is **Isolated**.

(vi) **Caution Notices Shall** be attached at all points of isolation including those of **Low Voltage**.

(vii) All keys for **Safety Locks** fitted under the provisions of this **Rule Shall** be placed in a **Key Safe** if provided, in the possession of a **Senior Authorised Person**, or in accordance with an **Approved** procedure.

5.7.2 Earthing

The transformer **Shall** be **Earthed** in accordance with Rules 4.1.1 (c) or in accordance with an **Approved** procedure.

5.7.3 Before a **Permit-to-Work** or **Sanction-for-Test** is issued the **Senior Authorised Person Shall**, at the point of work, identify the transformer to be worked on in accordance with an **Approved** procedure.

5.7.4 A **Permit-to-Work** or **Sanction-for-Test Shall** be issued in accordance with Rules 4.6 or 4.7.

5.8 High Voltage Static Capacitors

5.8.1 Isolation

Static capacitors **Shall**, in accordance with Rule 4.1.1, be **Isolated** from all **Live Conductors**, locked off where practicable and **Caution Notices** fixed.

5.8.2 Earthing

After the **Circuit Main Earths** have been applied**,** the following earthing operations **Shall** be carried out under the **Personal Supervision** of a **Senior Authorised Person** in the following sequence:

(i) apply **Approved** capacitor earthing devices to the capacitor frames;

(ii) apply **Approved** capacitor earthing devices to the common connections of each group of capacitors. (See Rule 5.8.4(b).)

5.8.3 A **Permit-to-Work** or **Sanction-for-Test Shall** then be issued in accordance with Rules 4.6 or 4.7

5.8.4 Work

(a) **Approved Additional Earths Shall** then be applied to the capacitor units at the point of work. These **Earths Shall** be applied or removed only under the **Personal Supervision** of a **Senior Authorised Person**.

(b) Capacitor units **Shall** be short-circuited and remain short-circuited when removed from the circuit or in cases where earthing in accordance with Rule 5.8.2(ii) is impracticable.

5.9 High Voltage Cables

5.9.1 All cables **Shall** be treated as **Live** (especially cables which are either damaged, or have exposed **Conductors**), until proved **Dead** by an **Approved** procedure. No person **Shall** touch the insulation which covers any **Conductor** subject to **High Voltage** unless the **Conductor** has been made safe in accordance with Rule 4.1.1

5.9.2 Before issuing a **Permit-to-Work** for work on a **High Voltage** cable, the **Senior Authorised Person**, in addition to the procedure of Rule 4.1.1 **Shall**, at the point of work, in accordance with an **Approved** procedure identify the cable to be worked on, then by the use of an **Approved** spiking procedure, or other **Approved** means, prove it **Dead**.

5.9.3 Where work is to be carried out on the insulated sheath **System** of a **High Voltage** cable route, additional precautions to prevent **Danger** from any sheath voltages **Shall** be taken in accordance with **Approved** procedures.

5.9.4 Where work is to be carried out on any cable or ancillary equipment associated with a **High Voltage** cable route which may be subjected to induced voltages from other **Live** circuits in their proximity, then such work **Shall** only be carried out in accordance with **Approved** procedures. (See also Rule 8.3.2)

5.9.5 A **Permit-to-Work** or **Sanction-for-Test Shall** be issued in accordance with Rules 4.6 or 4.7.

5.10 High Voltage Overhead Lines – General

Before issuing a **Permit-to-Work** for work on a **High Voltage** overhead line, in accordance with Rule 4.1.1, the **Conductors Shall** be bonded together and connected to **Earth**. Where **Earthed** metalwork is present, it **Shall** be bonded to the **Earthed Conductors**.

No **Person Shall** climb or remain on any pole, tower or structure subject to a **Safety Document** unless:

(i) They have confirmed that the poles, towers or supports are those detailed on the **Safety Document**;

(ii) They have also identified the pole, tower or support by the additional means provided e.g. circuit designation colours;

(iii) The circuit as defined within the **Safety Document** at the intended point of work can be seen from ground to be connected to **Earth** with **Approved** earthing equipment. If not, then before work commences the line **Shall** be proven **Dead** and an **Additional Earth Shall** be applied in accordance with 5.10.3; and

(iv) they are instructed to do so by the recipient of the **Safety Document**. All instructions given by the recipient **Shall** be in the presence of the **Person** who is accompanying the climber who **Shall** remain in visual contact for the duration of the work.

Lines In Proximity

If there are other overhead lines in proximity to the one to be worked on, the issuer and recipient of the **Safety Document Shall** ensure that the climber and the person accompanying the climber are warned of the additional **Danger**.

5.10.1 Safe Access

(a) Access arrangements **Shall** be in accordance with rule 3.3.

(b) Where ladders are used they **Shall** be of an **Approved** type.

(c) **Caution Notices**, **Danger Notice**s, barriers and screens **Shall** be fixed or moved only under the **Personal Supervision** of an **Authorised Person**.

(d) No **Person Shall**, at a point more than 3.7 metres from ground level, touch any unearthed pole or structure supporting **Live High Voltage Apparatus** unless adequate precautions have been taken to prevent **Danger** from leakage currents in accordance with an **Approved** procedure.

5.10.2 Use of Circuit Colours, Numbers or Symbols

When circuit colours, numbers or symbols are used as part of the identity of a circuit the following rules **Shall** apply.

(a) The **Senior Authorised Person Shall** inform and agree the circuit colours, numbers or symbols.

(b) The **Senior Authorised Person Shall** write the circuit colours, numbers or symbols on the **Safety Document**. The recipient of the **Safety Document Shall** check that they are the correct colours, numbers or symbols and initial the statement of circuit colours, numbers or symbols in the presence of the **Senior Authorised Person** issuing the **Safety Document**. The **Senior Authorised Person Shall** provide the recipient of the **Safety Document** with sufficient numbers of wristlets or identification marker tags; and

(c) Each **Person** who will work on **Apparatus** for which a **Permit-to-Work** bearing circuit colours or symbols has been issued **Shall** be provided with a wristlet or identification marker tags marked with the circuit colours or symbols and **Shall** wear it in such a manner that it will be readily visible to the user during the whole period that they are engaged on the work. On conclusion of the work the wristlets or identification marker tags **Shall** be returned by the recipient of the **Permit-to-Work** to the **Senior Authorised Person**.

5.10.3 Additional Earths

(i) When required, and before work commences on a **High Voltage** overhead line, **Additional Earths Shall** be applied at or as near as practicable to the points of work. And shall not be beyond the line of sight from the point of work, and be in accordance with an **Approved** procedure. All **Conductors Shall** be bonded together and connected to **Earth**. Where **Earthed** metalwork is present it **Shall** be bonded to the **Earthed Conductors**.

(ii) The number and position of **Additional Earths** applied after a **Permit-to-Work** is issued **Shall** normally be the responsibility of the recipient of the **Permit-to-Work**. Where special precautions have to be taken the point of application of **Additional Earths Shall** be specified by the **Senior Authorised Person** in accordance with an **Approved** procedure.

An **Earth Shall** be applied between any **Live** overhead line crossing and the point of work and **Shall** remain in place whilst any **Permit(s)-to-Work** are in place for that point of work.

(iii) Where line **Conductors** are to be disconnected **Approved** earthing devices **Shall** be applied on each side of the intended break before the **Conductors** are disconnected. Where **Conductors** are to be reconnected across an existing break, **Approved** earthing devices **Shall** be applied on each side of the break before the **Conductors** are reconnected.

(iv) **Additional Earths** may only be applied by the recipient of a **Permit-to-Work** or **Sanction-for-Test** or by a **Competent Person** under their **Personal Supervision**.

(v) The **Additional Earths Shall** remain in position during the progress of the work and may only be removed by a **Competent Person** after all other members of the **Working Party** have descended the pole or tower on completion of the work.

(vi) When painting towers the **Additional Earths** and pennants may be removed by a **Competent Person** in sequence as work proceeds down the tower.

(vii) **Additional Earths** used by a **Working Party Shall** be issued by and **Shall** be returned to the recipient of the **Permit-to-Work** who **Shall** ascertain that all the **Additional Earths** issued have been returned, or accounted for, before the **Permit-to- Work** is cleared.

5.10.4 Suspension of Work

If a **Working Party** leaves a line at any time then, before work is restarted, the **Competent Person** in receipt of the **Permit-to-Work Shall** re-identify the line in accordance with Rule 5.11.1, **Shall** verify that all **Earths** adjacent to the point of work are still in position and **Shall** re-instruct the **Working Party** on the work covered by the **Permit-to-Work**.

5.10.5 Work on Overhead Lines Carrying Live High Voltage Conductors

5.10.5.1 Live Line Work on High Voltage Overhead Lines

High Voltage Live Line Work, connections to or disconnections from a **High Voltage** overhead line or **Live** line testing may be carried out with the **Conductors Live**, but only in accordance with Section 6 of these Rules.

5.10.5.2 Access to Poles or Towers by a Competent Person

General access below any **Conductor** may be permitted to a **Competent Person** on any pole or tower supporting **Live High Voltage Conductors** provided that the requirements of Rule 5.10.1 (d) is observed, and the work takes place at least 1m outside the **Working and Access Clearance**. Where appropriate, a marker or markers **Shall** be placed on the pole or tower as an indication of the safe **Working and Access Clearance** (see also Appendix F -Diagrams 2 and 3).

5.10.6 Work on Upper Portions of Towers Carrying Live Conductors

(a) When work is to be carried out on towers with all **Conductors Live**, above the position specified in Rule 5.10.5.2, the work area and/ or route for climbing **Shall** be established by a **Senior Authorised Person** and a **Limitation-of-Access Shall** be issued.

(b) Where reasonably practicable, work **Shall** be carried out from within the body of the tower where the design of the tower permits. Work and climbing on the outside faces of a tower **Shall** be in accordance with an **Approved** procedure. No part of a **Persons** body or tool that is being carried or used **Shall** at any time encroach the **Safety Distance** surrounding a **Live Conductor**.

(c) **Danger Notices**, barriers and screens **Shall** be fixed or moved only under the **Personal Supervision** of an **Authorised Person**.

5.10.7 Running Out or Lowering of Overhead Conductors

When any overhead line **Conductor** is to be raised or lowered or otherwise held on temporary supports/connections, **Approved Procedures Shall** be followed to ensure that no **Danger** is caused at locations such as road/railway crossings, etc. where other **Persons** may be present. When work is taking place on the pole, clearances **Shall** be determined in accordance with rule 4.4.4.

Where the overhead line **Conductors** pass over or under, or are in close proximity to a **High Voltage** overhead line, a **Senior Authorised Person Shall** determine whether the overhead line is to be made **Dead** or whether other **Approved** procedures are to be applied to adequately avoid **Danger**.

When the **High Voltage** overhead line is to be made **Dead** the requirements of Rule 4.1.1 **Shall** apply and a **Permit-to-Work Shall** be issued. When other **Approved** procedures are to be applied the work **Shall** either be supervised by a **Senior Authorised Person** or a **Limitation of Access Shall** be issued. In all instances the **Senior Authorised person** responsible for the existing overhead line **Shall** be informed of the work and where appropriate, auto-reclosing facilities on the circuit concerned **Shall** be temporarily suspended.

5.10.8 Work on Auxiliary Cables Suspended on a Catenary Below High Voltage Overhead Lines

Where work is to be carried out on auxiliary cables suspended on a catenary below a **Live High Voltage** overhead line, the same clearances as specified in Rule 4.4.4 must be observed and the work must not be carried out at a distance of more

5.10.9 Adverse Weather Conditions

On the near approach of a lightning storm all work on overhead lines **Shall** cease immediately and the **Senior Authorised Person Shall** be informed.

5.11 Single or Multiple Circuit High Voltage Overhead Lines Without Keyed Flag Brackets and with all Conductors Dead

5.11.1 Preparation for a Permit-to-Work

The **Senior Authorised Person**, in addition to the procedures of Rules 4.1.1 and 5.10 **Shall** ensure that the line to be worked upon is identified in an **Approved** manner at the point of work and, where practicable, he **Shall** ensure that the line is checked by means of an **Approved** voltage testing device or other **Approved** means to verify that the line is not **Live**. If from the point of work the **Conductor** can be seen to be **Earthed**, the use of a voltage testing device may be dispensed with.

5.11.2 A **Permit-to-Work Shall** be issued.

5.12 Double Circuit High Voltage Overhead Lines Without Keyed Flag Brackets and with One Circuit Live

5.12.1 Preparation for a Permit-to-Work

(a) Where work is to be carried out on double circuit overhead lines with one circuit **Live** the following precautions in addition to the provisions of Rules 5.10 and 5.11 **Shall** be taken.

(b) The **Senior Authorised Person** in charge **Shall** ensure that at the point of work the circuit to be worked upon is identified in an **Approved** manner.

5.12.2 A **Permit-to-Work Shall** be issued.

5.12.3 Work

(a) Before commencing work and during the course of the work, the **Senior Authorised Person** in charge **Shall** at the point of work take steps in accordance with an **Approved** procedure to avoid **Danger** from steelwork being **Live** or becoming **Live**.

(b) A green flag **Shall** be affixed near ground level on the **Dead** circuit side of the pole or tower under the **Immediate Supervision** of the **Senior Authorised Person**. Similarly, a **Danger Notice Shall** be affixed on the **Live** circuit side. Before any **Person** is allowed access, a **Competent Person** or **Competent Persons** at the point of work **Shall** climb the pole or tower on the **Dead** side, check that the overhead line is not **Live** using an **Approved** voltage testing device or other **Approved** means, and **Shall** connect to **Earth** all three **Conductors** on that side. Red pennants or **Danger Notices Shall** be affixed by a **Competent Person** to the crossarms drawing attention to the **Danger** of the **Live** circuit and, in the case of lattice steel towers, **Shall** be affixed at the junction of the tower with the crossarms carrying the **Live** circuit.

(c) The **Conductors Shall** remain **Earthed** and the green flags, **Danger Notice**s and the red pennants **Shall** remain in position throughout the progress of the work. All **Earths**, **Danger Notices** and pennants **Shall** be removed by a **Competent Person** or **Competent Persons** only after all other members of the **Working Party** have descended the pole or tower on completion of the work.

5.13 Single Circuit High Voltage Overhead Lines with Keyed Flag Brackets

5.13.1 In addition to the requirements of Rules 4.1.1 and 5.10 the following Rules **Shall** also apply.

5.13.2 The recipient of the **Permit-to-Work** who is also in charge of the **Working Party Shall** personally identify at the point(s) of work the circuit to be worked upon by reference to the route identification, the circuit colours and pole or tower number(s).

5.13.3 The recipient of the **Permit-to-Work Shall** be provided with green flag(s) that fit the keyed flag bracket(s) for the circuit on the pole or tower on which work is to be done, and **Shall** place the green flag in position on the tower before allowing any **Person** to climb the pole or tower. The recipient of the **Permit-to-Work** or the **Competent Person** who is to apply the **Additional Earths Shall** then climb the tower and apply **Additional Earths** in accordance with Rule 5.10.3.

5.14 Double Circuit High Voltage Overhead Lines with Keyed Flag Brackets and with one Circuit Live

5.14.1 In addition to the requirements of Rules 5.10 and 5.13, the following Rules **Shall** also apply.

5.14.2 The recipient of the **Permit-to-Work** or the **Competent Person** who is to apply the **Additional Earths Shall** then climb the pole or tower on the side indicated by the green flag, applying **Additional Earths** in accordance with Rule 5.10.3 and then affix red pennants to the crossarms supporting the circuit not being worked on. The red pennants **Shall** be positioned at the junction of the crossarms and the pole or tower body. The **Person** doing this **Shall** be under **Personal Supervision** of the document recipient or another **Competent Person** who is a member of the **Working Party** from ground level. Pennants **Shall** be removed by a **Competent Person** only after all other members of the **Working Party** have descended the pole or tower on completion of work.

5.14.3 When work is to be done on terminal, tee-off or large angle poles or towers of a double circuit line with one circuit **Live**, **Danger** may occur due to reduced clearances. The work **Shall** be done under the **Personal Supervision** of a **Senior Authorised Person** at ground level unless special precautions are taken in accordance with an **Approved** procedure.

5.15 High Voltage Overhead Lines With More Than Two Circuits with One or More Circuits Live

5.15.1 When work is to be done on multiple circuit **High Voltage** overhead lines with one or more circuits **Live** Rules 4.1.1, 5.15.2, 5.15.3 and 5.15.4, in addition to either Rules 5.10 and 5.12 or 5.13 and 5.14 **Shall** apply.

5.15.2 Preparation For A Permit-to-Work
The **Senior Authorised Person** in charge of the work **Shall** at the point of work identity the circuit to be worked on.

5.15.3 A **Permit-to-Work Shall** be issued after the **Zone of Work** has been checked and the precautions to be observed have been verified with the recipient of the **Permit-to-Work**. The Permit-to-Work shall clearly document the limits of the **Zone of Work.**

5.15.4 Work
Work on one circuit of multiple circuit lines with one or more other circuits still **Live Shall** not be carried out except under the following conditions:

(a) Separate means of access **Shall** be provided to the circuit to be worked on;

(b) the **Conductors** of each circuit **Shall** be either adequately screened to prevent **Danger** or the **Working and Access Clearance**s from the nearest point of work to the remaining **Live** circuits **Shall** be those specified in Rule 4.4.4;

(c) Rule 5.12 **Shall** apply where appropriate. The fixing of green flags or red pennants and **Additional Earth** connections **Shall** be carried out under the **Personal Supervision** of a **Senior Authorised Person** from ground level.

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Section 6

Section 6

Safety Precautions for High Voltage Live Line Work on High Voltage Overhead Lines

High Voltage Live Line Work on High Voltage Overhead Lines Is Not To Be Carried Out by any Employee or by any employed subcontracting organisation working for and on behalf of Leep Utilities under these DSRs. Under any circumstances what so ever.

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Section 7

Section 7

Safety Precautions for the Testing of High Voltage Apparatus

7.1 General

Testing of **High Voltage Apparatus** may involve a change of state from a condition of **Dead** to **Live Conductor**, possibly involving the issue and cancellation of a **Permit-to-Work** prior to the issue of a **Sanction-for-Test**. It is the duty of the issuer of the **Sanction-for-Test** to avoid **Danger** during the testing by undertaking a risk assessment and identifying appropriate hazards and control measures including:

(a) The need for a second **Person** if the circuit is to be tested at **High Voltage**, and

(b) Personal Protective Equipment in accordance with an **Approved** procedure

This should take due account of the types of test being carried out, the route and location of the **Apparatus** being tested and its accessibility to **Leep Utilities's** staff, contractors, members of the public, etc. To allow reasonable flexibility during testing and, at the same time, to ensure the maintenance of appropriate safety standards, the following Rules of this Section require that an **Authorised Person Shall** assume special responsibility in this respect.

7.2 Work Under the Terms of a Sanction-for-Test

Any **Apparatus** which has been **Isolated** and **Earthed** for testing under the terms of a **Sanction-for-Test Shall** not be connected to the **System** until such **Apparatus** has passed the **Approved** tests and then connected only with the sanction of the **Senior Authorised Person.** The recipient of the **Sanction-for-Test Shall** be responsible for co-ordinating all testing operations on the **Isolated** equipment and for ensuring safety during the tests. They may, without further reference, remove and replace **Circuit Main Earths** as necessary and carry out tests including making **Live** the **Apparatus** concerned from a **Testing supply**. The recipient of the **Sanction-for-Test Shall** either make the tests personally or such tests **Shall** be carried out under their **Personal Supervision** so as to ensure the tests are carried out in a safe manner. The re-application of **Circuit Main Earths** at the end of testing may not be necessary. If an **Approved** procedure applies, the **Circuit Main Earths** can be left removed and reported to the **Senior Authorised Person**, as exceptions on the **Sanction-for-Test**. Otherwise, each **Circuit Main Earth** removed by the recipient of the **Sanction-for-Test Shall** be replaced before the signing of the clearance section of the **Sanction-for-Test**.

7.3 Testing of High Voltage Apparatus

7.3.1 When any **High Voltage Apparatus** is to be subjected to test voltage before being connected or reconnected to the **High Voltage System**, the **Authorised Person** responsible for applying the **Test Voltage Shall** ensure that such **Apparatus** and the associated test equipment, leads and connections are adequately guarded to prevent **Danger**. **Danger Notices Shall** be attached in conspicuous positions, including normal access and egress routes. During the period the **Apparatus** may be subject to voltage. All cables and capacitors **Shall** be discharged before and after the application of test voltage.

7.3.2 Temporary **Conductors** used for testing purposes **Shall** be of an adequate size and be easily identifiable from normal systems cables and may also be readily visible to the working party.

7.3.3 Test connections **Shall** not be applied in a cell or compartment in which there is any **Live** exposed metal at **High Voltage**. (This Rule does not preclude the use of **Approved** voltage testing devices or other **Approved** devices for testing and phasing out circuits in an **Approved** manner).

7.3.4 The requirements of Rule 4.4 **Shall** be observed in respect of access or work in the proximity of **Live** test leads and connections and in respect of testing in the vicinity of **Live Conductors**.

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Distribution Safety Rules
2022 Edition

Section 8

Section 8

Safety Precautions and Procedures Applicable to Low Voltage Systems

8.1 General

8.1.1 The term **Low Voltage System** and this section of the safety rules applies to **Leep Utilities Private Networks** distributing **Systems** as defined in an **Approved** procedure.

8.1.2 When work or testing is carried out on or near Low Voltage **Apparatus** and **Conductors**, precautions **Shall** be taken to prevent **Danger** from burn injury due to electric arc and from electric shock if the **Conductors** are exposed. These precautions are necessary to prevent **Danger** to **Competent Persons** and, so far as reasonably practicable, **Danger** to **Third Parties,** i.e. **Persons** that may not have sufficient technical knowledge and/or experience to enable them to maintain safety from the **System**. If the **Conductors** are covered with insulation and screening, the adequacy of these materials to prevent **Danger Shall** be assessed by a **Competent Person** with regard to the nature of the work or testing. Where necessary the precautions appropriate to work on or near exposed **Conductors Shall** be applied.

Danger may arise in the following circumstances:

(a) A **Person** confuses **Apparatus** and **Conductors** which have been made **Dead** with those which remain **Live**.

(b) **Dead Apparatus** and **Conductors** are accidentally or inadvertently made **Live**.

(c) A **Person** accidentally or inadvertently makes contact with adjacent **Live Conductors** or

(d) Inadequate precautions are taken during testing.

8.1.3 The term '**Earthed**' when applied to the **Low Voltage System** will mean the bonding of the phase **Conductors** (including any switch or **Earth** wire) to the neutral **Conductor** by means of an **Approved** device or **Approved** leads.

8.1.4 Control, isolation and operation of **Low Voltage Systems Shall** be in accordance with an **Approved** procedure. Only **Competent Persons** appointed in accordance with an **Approved** procedure **Shall** have authority to carry out activities such as **Switching** and the **Live** testing of **Low Voltage Systems**.

8.1.5 Work or testing of **Low Voltage Apparatus** and **Conductors Shall** only be carried out by a **Competent Person.** Where working arrangements so require, **Approved** procedures for the control of work, including the issue of a **Safety Document**, **Shall** apply.

8.1.6 Where work or testing involves the initial connection, or the re-arrangement of **Conductors** to a customer. supply **Shall** not be commenced or recommenced to that customer until checks to ensure correct polarity at supply terminals and earthing arrangements are in line with an **Approved** procedure and in the case of three-phase supplies, the phase rotation **Shall** also be checked.

8.1.7 No **Low Voltage** overhead line **Shall** be erected or dismantled under a **Live High Voltage** overhead line without the authority of a **Senior Authorised Person** who **Shall** ensure that when necessary for example because of insufficient clearance the **High Voltage** line is made **Dead** and a **Permit-to-Work** issued. The **Permit-to-Work Shall** detail the **Low Voltage** work to be carried out. When a **Low Voltage** overhead line **Conductor** is to be raised or lowered or otherwise held on temporary supports/ connections **Approved** procedures **Shall** be followed to ensure that no **Danger** is caused at locations such as road/rail crossing etc. where other **Persons** may be present.

8.1.8 When work or testing on the **Low Voltage System** is planned, precautions **Shall** be taken to safeguard the integrity of the **Low Voltage System** and in the process prevent, so far as reasonably practicable, **Danger** to Third Parties, i.e. **Persons** that may not have sufficient technical knowledge and/or experience to enable them to maintain safety from the **System**.

8.2 General Requirements for Work on Dead Low Voltage Apparatus and Conductors

8.2.1 When work is to be carried out on **Dead** Low Voltage **Apparatus** the **Conductors Shall** be **Isolated** from all sources of supply from the **System** in line with **approved** procedures. Where the **Isolating Devices** are lockable, **Safety Lock**s **Shall** be applied. If components such as fuses and links are removable they **Shall** be removed. **Caution Notices Shall** be securely fixed at all points of isolation. Keys and removed components **Shall** be kept in a secure place.

8.2.2 The **Conductors Shall** be **Earthed** where an earthing device or earthing leads are **Approved** for use on the **Conductors** concerned.

8.2.3 when work on a **Low Voltage System** is being carried out as part of **High Voltage Work** the following requirements **Shall** apply:

(a) If it is appropriate to establish a point of **Isolation** on **High Voltage Apparatus** in order to make **Low Voltage Apparatus Dead** for work to take place on that **Low Voltage Apparatus**, a **Limitation-of-Access Shall** be issued by a **Senior Authorised Person**.

(b) If the work requires a **High Voltage System** to be made **Dead**, **Isolated** and **Earthed**, a **Permit-to-Work Shall** be issued; or

(c) If work is to be carried out on **Low Voltage Apparatus** in conjunction with work on **High Voltage Apparatus** which has been made safe in accordance with Rule 4.1.1, then unless the **Low Voltage** work is included on the **Permit-to-Work** issued for the **High Voltage** work, a separate **Permit-to-Work** for the **Low Voltage** work **Shall** be issued by a **Senior Authorised Person**.

8.2.4 Suitable precautions **Shall** be taken by **Approved** screening or other **Approved** means to avoid **Danger** from inadvertent contact with adjacent **Live Conductors** including, where necessary, the fixing of **Danger Notices** to **Apparatus** containing **Live Conductors**, adjacent to other **Live Conductors** and at the limits of the zone of work.

8.2.5 Where **Conductors** may become **Live** due to the operation of a customer's generator one or more of the following precautions **Shall** be taken to prevent **Danger**:

(a) The **Conductors Shall** be **Isolated** from the customer's **System**.

(b) The **Conductors Shall** be **Earthed** or an **Earth** provided between the point of work and the customer's **System**

(c) The work **Shall** be carried out in accordance with rule 8.5 and rules 8.6 or 8.7 as appropriate.

8.2.6 Before work is commenced the **Apparatus** and **Conductors Shall** be identified and proved **Dead** at the point of work by means of an **Approved** voltage testing device.

8.3 ADDITIONAL PRECAUTIONS FOR WORK ON DEAD LOW VOLTAGE CABLES

8.3.1 The cable to be worked on **Shall** be identified in accordance with an **Approved** procedure which **Shall** include the following:-

(a) All damaged cables **Shall** be treated as **Live** until identified and proved **Dead** by an **Approved** procedure;

(b) Unless the point of work can be physically traced from a point where the **Conductors** are accessible and have been proved **Dead** at that point, it will normally be necessary to open the cable as if it is **Live** and test each **Conductor** with an **Approved** voltage testing device; or

(c) If the cable has been damaged or is faulty this test **Shall** be made at a safe distance from the suspected point of damage/fault, unless an **Approved** procedure has specific provisions which allow testing at the point of damage. The cable **Shall** then be physically traced from the point of test to the suspect point of damage / fault. Appropriate precautions **Shall** be taken to avoid **Danger** from electric shock and explosive arcing until the point of damage / fault is located and the cable made **Dead**.

8.3.2 When work is to be carried out on an auxiliary cable which may be subject to induced voltage from a **High Voltage** circuit, additional precautions to prevent **Danger** from these voltages **Shall** be taken in accordance with **Approved** procedures.

8.4 ADDITIONAL PRECAUTIONS FOR WORK ON DEAD LOW VOLTAGE OVERHEAD LINES

8.4.1 Bare open-wire **Low Voltage Conductors Shall** be **Earthed** using **Approved** earthing leads. Where insulated but unscreened **Conductors** are present the requirements for **Live** working **Shall** be observed until the **Conductors** have been proved **Dead**.

8.4.2 Any unearthed steelwork such as an offset bracket or the upper portion of a stay above the insulator **Shall** be treated as **Live** until it or the **Conductors** have been proved **Dead**.

8.5 WORK ON LIVE LOW VOLTAGE APPARATUS AND CONDUCTORS

8.5.1 No **Low Voltage Live** work **Shall** be carried out except in accordance with an **Approved** procedure. This **Approved** procedure **Shall** adequately prevent **Danger** from electric shock and inadvertent short-circuiting of the **Conductors**.

8.5.2 Where **Live** work is to be carried out under an **Approved** procedure, the **Competent Person** in charge of the **Working Party Shall** make an assessment of the site conditions. **Live** work **Shall** only be

commenced where site conditions enable the work to be done safely. If the site conditions become unfavourable **Live** working **Shall** be suspended. In particular the following requirements **Shall** be assessed:

(a) the **Apparatus** to be worked upon **Shall** be visually inspected to see that it is in a satisfactory condition;

(b) there **Shall** be adequate working space and safe means of egress,

(c) the working space and the **Apparatus** to be worked on **Shall** be adequately illuminated; and

(d) if the work is outdoors the weather conditions **Shall** not be unduly adverse. All persons who carry out **Live** working **Shall** be **Competent Persons** and **Shall** have received appropriate training in the particular **Approved** procedure. They **Shall** be adequately instructed by the **Competent Person** in charge of the **Working Party**.

8.5.3 Only tools and equipment **Approved** for that purpose **Shall** be used for work on, or the testing of, **Low Voltage Apparatus** and **Conductors**.

8.5.4 No person **Shall** carry out work which involves, or is equivalent to, the manipulation of bare **Live Conductors** unless accompanied by another person who **Shall** be available to render or obtain assistance in an emergency.

8.6 ADDITIONAL PRECAUTIONS FOR WORK ON LIVE LOW VOLTAGE CABLES

8.6.1 The cable to be worked on **Shall** be identified by an **Approved** means. All metalwork adjacent to the point of work **Shall** be adequately shrouded with approved insulating material to prevent inadvertent contact. The metallic sheaths of the cable **Shall** be boned to each other with an approved insulated **Condutor** before jointing and before cutting to ensure continuity of the electrical circuit through the sheath.

8.6.2 Unless alternative **Approved** procedures allow, during all work including the change of cut-outs, only one conductor **Shall** be bared at a time, and as a minimum **Approved** insulating gloves Shall be used.

8.7 ADDITIONAL PRECAUTIONS FOR WORK ON LIVE LOW VOLTAGE OVERHEAD LINES.

8.7.1 Where work is carried out on **Live** overhead lines any unearthed steelwork such as an offset bracket or the upper portion of a stay above the insulator **Shall** be proved **Dead** using an **Approved** voltage testing device.

8.7.2 When work is carried out on insulated but unscreened **Low Voltage Conductors Approved** insulated gloves **Shall** be worn and **Approved** insulated tools used to prevent **Danger** that may arise if the insulation has deteriorated or is damaged.

8.8 APPLICATION OF HIGH VOLTAGE RULES TO WORK ON LOW VOLTAGE APPARATUS AND CONDUCTORS

8.8.1 Where these **DSRs** are applicable to work on **High Voltage Systems, Apparatus** and **Conductors** are applied to **Low Voltage Systems, Apparatus** and **Conductors**, this **Shall** be in accordance with **Approved** procedures.

8.9 TESTING AND ADJUSTMENT OF LIVE LOW VOLTAGE APPARATUS

8.9.1 Testing and adjustment, including functional testing, may be made with **Low voltage Apparatus Live** provided that **Approved** insulated tools and instruments are used.

8.9.2 If the testing or adjustment requires covers to be removed so that terminals or connections that are **Live**, or can be made **Live**, are exposed or temporarily disconnected, then precautions **Shall** be taken to prevent unauthorised access to or interference with the **Apparatus**. Such precautions **Shall** include, where necessary, **Personal Supervision** and/or erection of suitable barriers or screening and the display of **Danger Notices**.

8.9.3 If the **Conductors** are to be made **Dead** in order to avoid **Danger**, then the requirements of safety rules 8.2, 8.3 and 8.4 **Shall** be applied.

Distribution Safety Rules
2022 Edition

Section 9

Section 9

Responsibilities of Persons

9.1 General

9.1.1 It is the duty of all **Persons** who may be concerned with the control, operation, work or testing, on or in the near vicinity of **Apparatus** and **Plant** to which these Safety Rules apply, to implement the Safety Rules and to comply with them and with related Codes and procedures. Ignorance of the relevant legal requirements, Safety Rules, Codes or procedures **Shall** not be accepted as an excuse for neglect of duty.

9.1.2 The responsibilities placed upon **Persons** may include all or part of those detailed in this section, depending on the role and **Authorisation** of those **Persons**.

9.1.3 Any written **Authorisation** given to **Persons** to perform their designated role in implementing the Safety Rules **Shall** indicate the class or operation and/or work permitted and the section of **System** to which the authorisation applies.

9.1.4 **Persons** involved in achieving safety from the inherent **Dangers** of the **System** to allow work or testing to commence on **Apparatus** and **Plant** and its subsequent restoration to service, will be concerned in separate broadly identifiable areas of responsibility, as follows:

(i) **Standard Field Control** - including (before work commences) instructing actions to implement precautions and sanctioning the issue of **Safety Documents** and (after completion of work) acknowledging cancellation of **Safety Documents** and instructing actions to restore **Apparatus** and **Plant** to service;

(ii) Making safe or restoration of **Apparatus** and **Plant** - including (before work commences) taking action to make **Apparatus** and **Plant** safe for work and issuing **Safety Documents** and (after completion of work) cancelling **Safety Documents** and taking action to restore **Apparatus** and **Plant** to service;

(iii) Work - which includes receipt of a **Safety Document**, execution of the required work to its completion or termination and clearance of the **Safety Document**.

(iv) **Enhanced Field Control -** in addition to the responsibilities of the role for **Standard Field Control, under 9.1.4 (i);(ii); (iii)** above. The **Enhanced Field Control Engineer** will also be directly responsibility for the whole of the **Network** or **System** and as required the control of other **Senior Authorised Persons** and **Authorised Persons**, assisting with the network configuration, including switching, and the issue of **Safety Documentation**, all whilst working under the **Enhanced Field Control Engineer.**

9.2 Competent Persons

9.2.1 The responsibilities of **Competent Persons** include those specified below. **Competent Persons** must ensure that their responsibilities are implemented.

9.2.2 **Competent Persons Shall** comply with these Safety Rules when carrying out work whether instructions are issued orally or in writing.

9.2.3 **Competent Persons Shall** use safe methods of work, safe means of access and the personal protective equipment and clothing provided for their safety.

9.2.4 **Competent Persons** when responsible for the Supervision of a **Working Party Shall**:

(i) Be responsible for establishing and maintaining the **General Safety** of the **Working Party**.

(ii) Be fully conversant with the nature and the extent of the work to be done;

(iii) Read the contents and confirm to the **Person** issuing any **Safety Document** that they are fully understood;

(iv) During the course of the work, adhere to, and instruct others under their charge to adhere to, any conditions, instructions or limits specified on any **Safety Document**;

(v) Retain any **Safety Document** and (where appropriate) keys in safe custody and correctly implement any Company procedure to achieve this;

(vi) Provide **Immediate** or **Personal Supervision** as required; and

(vii) Warn all **Persons** as quickly as possible to withdraw from and not work on the **Apparatus** and **Plant** concerned until further notice, if during the course of work a hazard which could result in **Danger** arises or is suspected. The situation **Shall** be reported immediately by the **Competent Person** to a **Senior Authorised Person** or **Designated Engineer**.

9.2.5 **Competent Persons Shall** not start or restart work under a **Safety Document** issued to another **Competent Person** without the permission of that other **Competent Person**.

9.2.6 **Competent Persons** clearing a **Safety Document Shall** do so only after all **Persons** working under the **Safety Document** have been withdrawn from, and warned not to work on, the **Apparatus** and **Plant** concerned. Where appropriate, they **Shall** ensure that all tools, gear and loose material have been removed, guards and access doors replaced and the workplace left tidy. Where appropriate they **Shall** also return, or account for, the correct number of **Additional Earths**, circuit identification flags and wristlets and associated keys and documents.

9.3 Authorised Persons

9.3.1 In addition to responsibilities as **Competent Persons**, **Authorised Persons Shall** have some or all of the following responsibilities within the limits imposed by their Certificates of Authorisation.

9.3.2 When participating in achieving safety from the inherent **Dangers** of the **System**, **Authorised Persons Shall** correctly implement specified procedures before work commences, including all of the following:

(i) The keeping of a proper record of all verbal messages, passed by telephone or otherwise, relating to the operation of the **High Voltage System**;

(ii) The reading back to the sender of every such message relating to the operation of the **High Voltage System** to ensure that the message has been accurately received; and

9.3.3 As the recipient of a **Sanction-for-Test** an **Authorised Person** is responsible for all of the following:

(i) Meeting the particular requirement of Section 7 of these Rules;

(ii) Being present during the testing, being responsible for co-ordinating all testing operations on the **Isolated** equipment and for ensuring safety during the tests. Such tests may include making **Live** the **Apparatus** and **Plant** from a testing supply; and

(iii) carrying out the temporary removal and re-application of **Earths** as necessary without further reference to the **Senior Authorised Person**.

9.3.4 When given the authority to issue and cancel a **Limitation of Access**, to ensure:

(i) That the recipient of the **Limitation-of-Access** understands the nature and extent of the work to be undertaken and the safety precautions to be taken; and confirms this by repeating the scope of the **limitation-of-Access** and placing their signature on the document.

(ii) Where and if applicable, the authority of the **Senior Authorised Person** has been obtained for the issue of the **Limitation-of-Access**.

9.4 Senior Authorised Persons

9.4.1 In addition to responsibilities as **Authorised Persons**, **Senior Authorised Persons Shall** have some or all of the following responsibilities.

9.4.2 Correctly implementing **Approved** procedures to ensure that all precautions to achieve safety from the inherent **Dangers** or the **System** are completed, including:

(i) Confirming that safety precautions at all locations are complete; and

(ii) Meeting the requirements of the relevant sections of these Rules.

9.4.3 Prior to the issue of a **Safety Document**, deciding where appropriate:

(i) Whether **Additional Earths** are required, and if so, the number and points of application;

(ii) Whether any action is required to contain or dissipate stored energy;

(iii) Whether any additional precautions are necessary;

(iv) Whether **Personal Supervision** is required, and also ensuring that:

(v) Safety from the inherent **Dangers** of the **System** has been achieved and will be maintained when the requirements of the **Safety Document** are completely implemented;

(vi) The contents of the **Safety Document** to be issued are correct and unambiguous;

9.4.4 When issuing a **Safety Document**:

(i) Fully explaining the contents of the **Safety Document** to the recipient and ensuring that the recipient understands the nature and extent of the work or testing to be done and the safety precautions to be taken;

(ii) Issuing the **Safety Document** together with (as appropriate) any keys, circuit identification flags and wristlets and noting all **Additional Earths**, where additional precautions have to be taken at the time of issue.

9.4.5 When cancelling a **Safety Document**:

(i) Ensuring that the requirements of the clearance section have been completed correctly;

(ii) Checking that all items issued with the **Safety Document** have been returned or accounted for;

(iii) Checking the operational state of the **Apparatus** and **Plant**;

(iv) And where applicable informing the **Standard or Enhanced Field Control Engineer** of the cancellation of the document and confirming the operational state of the **Apparatus** and **Plant**.

9.4.6 When a **Senior Authorised Person** is in control of a **System** then their responsibilities will be extended to embody those of a **Standard Field Control Engineer** as set out in Rule 9.5 whilst they have control of that **System**.

9.5 Field Control Engineers

9.5.1 **Standard Field Control Engineer -** The responsibilities of within their sphere of operation which arise from the implementation of these Safety Rules include the following:

(i) Giving authority for the release of **Apparatus** and **Plant** from service once the network has been transferred into **Leep Electrical Networks** Operational Ownership.

(ii) Giving authority for all **High Voltage Switching** except in cases of emergency or in other **Approved** cases;

(iii) Communicating directly or via **Approved** means with further **Authorised Persons** who are to assist with carrying out **Switching**;

(iv) Consulting with an **Enhanced Field Control Engineer or other Senior Authorised Persons** of other **Systems,** to agree and initiate **Switching** where there is interconnection across control boundaries; also agreeing responsibility for control of circuits in the **Isolated** state preparatory to sanctioning the issue of **Safety Documents**;

(v) Before giving authority for the issue of a **Safety Document** to ensure that the necessary operations to obtain safety from the inherent **Dangers** of the **System** are carried out;

(vi) Giving authority for the issue, and acknowledging cancellation of, **Permits-to-Work** and **Sanctions-for-Test**; and

(vii) maintaining a record of all **High Voltage Switching**, application and removal of **Circuit Main Earths** and the issue and cancellation of **Permits-to-Work**, **Sanctions-for-Test** and, where applicable, **Limitations-of-Access**.

9.5.2 Enhanced Field Control Engineer The responsibilities of the whole of the local network & its operations which arise from the implementation of these Safety Rules & include aspects such as the following:

(i) Having the authority and responsibility of a **Standard Field Control Engineer** and duties covered of **9.5.1.** Plus in addition to take responsibility for the whole **Network** including the responsibility for other **Field Control Engineers** and or **SAPs/APs,** working as part of the Leep Electrical Networks control, of that network.

(ii) Having overall authority for the **sanction of release** of **Apparatus; Plant,** and or parts of the **network** from service. Once the **Network** has been transferred into Leep Electrical Networks Operational Ownership.

(iii) Having and maintaining the overall **sanction of authority** for all **High Voltage Switching** on the **network,** except in cases of emergency

(iv) Take senior **system authority** for Communicating directly or via **Approved** means with other **Authorised Persons; Senior Authorised Persons; or Field Control Engineers** who are to carry out **Switching** on the **Network**;

(v) Overall Leep Electrical Networks of duty of care for responsibility for Consulting with **Standard Field Control Engineers,** of other **Systems Operators** to agree and initiate **Switching** where there is interconnection & across control boundaries; also agreeing responsibility for control of circuits in the **Isolated** state, preparatory to sanctioning the issue of **Safety Documents** by others;

(vi) Before giving overall **Authority** for the issue of a **Safety Documents** by others**,** to ensure that the necessary operations to obtain safety from the inherent **Dangers** of the **System** are carried out;

(vii) Giving overall **Authority** for the issue, and acknowledging cancellation of, **Permits-to-Work** and **Sanctions-for-Test**; or **Operation Isolation & Earthing Certificate** or **Transfer of Control**, by others within the safe system of works, and in,

(viii) Controlling and ensuring that the maintaining a records of all **High Voltage Switching**, application and removal of **Circuit Main Earths** and the issue and cancellation of **Permits-to-Work**, **Sanctions-for-Test** and, where applicable, **Limitations-of-Access** are adhered to as the most senior person and point of control, for the **Network** as a whole.

Appendix A

Permit-to-Work (front)

Leep Utilities Distribution Safety Rules

PERMIT-TO-WORK

Document No: .....

Key Safe No: .....

Cross Reference Docs.....

1. **ISSUE**
To: .....
The following High Voltage Apparatus has been made safe in accordance with the Distribution Safety Rules for the work detailed on this Permit-to-Work to proceed:
.....
.....
.....

Single Line Diagram

TREAT ALL OTHER APPARTUS AS LIVE

2. **The points of isolation are:**
.....
.....
.....
.....
.....
.....
.....

3. **Circuit Main Earths are Applied at:**
.....
.....
.....

4. Further precautions to be taken during the course of the work to avoid system derived hazards
.....
.....

5. The following work is to be undertaken (narrative and/or drawing):
.....
.....
.....

6. **ISSUE**
Sign: ..... Print Name: ..... Time: ..... Date: .....
Being the Senior Authorised Person responsible for the issue of this Permit To Work.

7 **RECEIPT** I have read this Permit-To-Work and fully understand the details of work to be completed, associated risks and necessary control measures specified on it. I accept responsibility for carrying out this work and will ensure that I and those in my working party are adequately briefed and adhere to any conditions, instructions or limits that are required.

PLEASE REFER TO SHAREPOINT TO ENSURE YOU ARE USING THE LATEST VERSION OF THIS DOCUMENT
THIS DOCUMENT IS UNCONTROLLED ONCE PRINTED
Document Number FO/HS/TED/131/002 Parent Document Number SSOW/HS/TED/131/001
Created Date 04/09/2020 Next Review Date 04/09/2020
Page 1 of 2

Appendix A

Permit-to-Work (back)

Sign: ..... Print Name: ..... Time: ..... Date: .....

8 Working Party

Members of the working party are to print and sign names to show they understand the precautions taken and the apparatus to be worked on and the work required.

Print Name	Signed	Print Name	Signed

Additional Information (If Required)

.....

.....

.....

.....

9 CLEARANCE

All members of the working party have been withdrawn and informed that it is no longer safe to work on Apparatus detailed on this Permit to Work.

THE WORK IS NOW COMPLETE*/INCOMPLETE*

All GEAR AND TOOLS NOW HAVE*/HAVE NOT*/N/A* BEEN REMOVED

All ADDITIONAL EARTHS HAVE*/HAVE NOT*/N/A* BEEN REMOVED

*** Delete words not applicable**

Additional earths remain at:

.....

.....

.....

.....

Additional Information (if required):

.....

.....

.....

Sign: ..... Print Name: ..... Time: ..... Date: .....

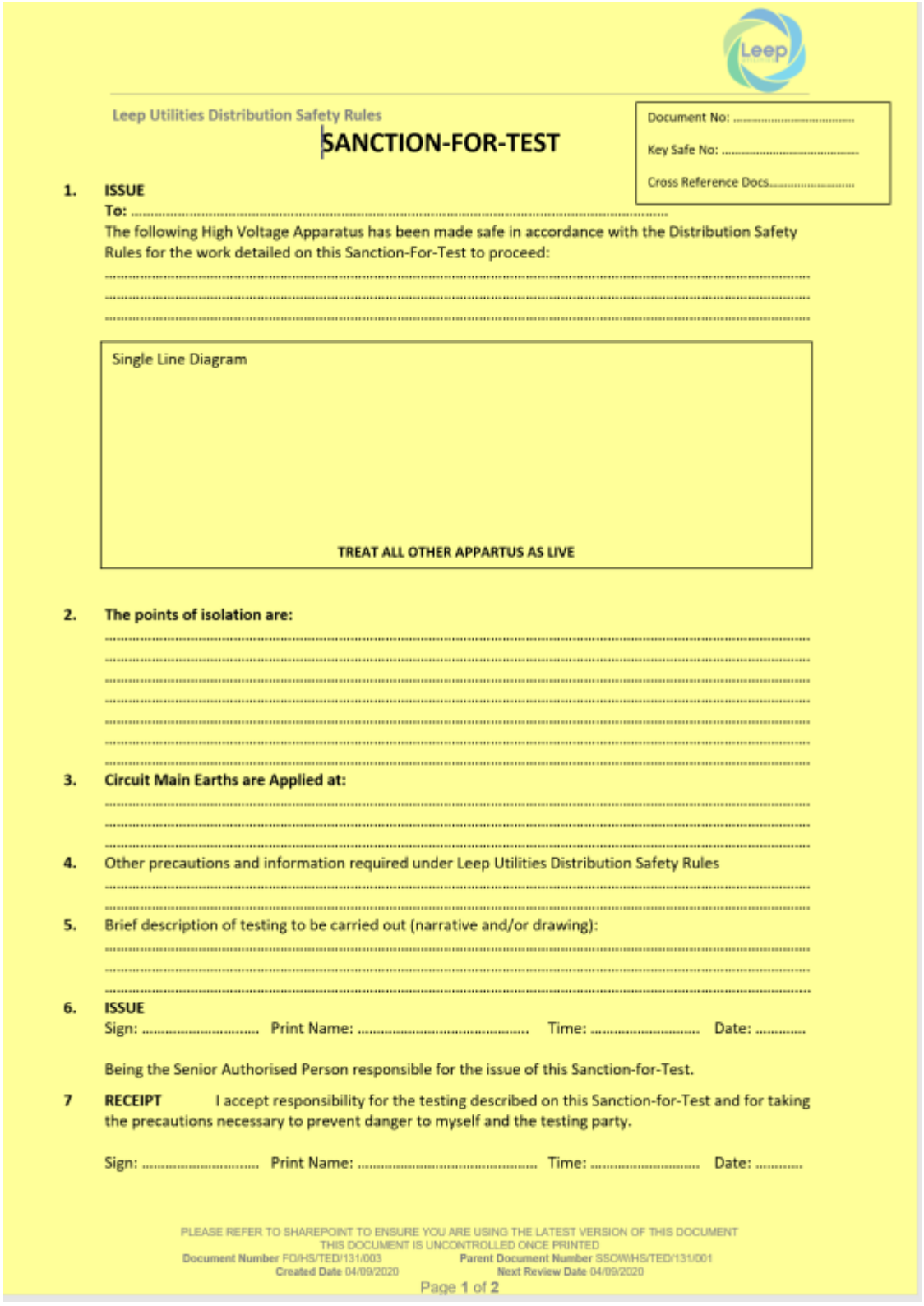
10 CANCELLATION

This Permit-to-Work is cancelled with the consent of the Senior Authorised Person:

Sign: ..... Print Name: ..... Time: ..... Date: .....

Appendix B

Sanction-for-Test (front)



Leep Utilities Distribution Safety Rules

SANCTION-FOR-TEST

Document No: .....

Key Safe No: .....

Cross Reference Docs.....

1. **ISSUE**
To: .....
The following High Voltage Apparatus has been made safe in accordance with the Distribution Safety Rules for the work detailed on this Sanction-For-Test to proceed:
.....
.....
.....

Single Line Diagram

TREAT ALL OTHER APPARTUS AS LIVE

2. **The points of isolation are:**
.....
.....
.....
.....
.....
.....
.....

3. **Circuit Main Earths are Applied at:**
.....
.....
.....

4. Other precautions and information required under Leep Utilities Distribution Safety Rules
.....
.....

5. Brief description of testing to be carried out (narrative and/or drawing):
.....
.....
.....

6. **ISSUE**
Sign: ..... Print Name: ..... Time: ..... Date: .....

Being the Senior Authorised Person responsible for the issue of this Sanction-for-Test.

7 **RECEIPT** I accept responsibility for the testing described on this Sanction-for-Test and for taking the precautions necessary to prevent danger to myself and the testing party.

Sign: ..... Print Name: ..... Time: ..... Date: .....

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Appendix B

Sanction-for-Test (back)

8 Testing Party

Members of the testing party are to print and sign names to show they understand the precautions taken and the apparatus to be worked on and the work required.

Print Name	Signed	Print Name	Signed

Additional Information (If Required)

.....

.....

.....

.....

9 CLEARANCE

All members of the working party have been withdrawn and informed that it is no longer safe to work on Apparatus detailed on this Permit to Work.

THE WORK IS NOW **COMPLETE*/INCOMPLETE***

All GEAR AND TOOLS NOW **HAVE*/HAVE NOT***/N/A* BEEN REMOVED

All ADDITIONAL EARTHS **HAVE*/HAVE NOT***/N/A* BEEN REMOVED

*** Delete words not applicable**

The operational state of the apparatus is the same as at the time of issue of this Sanction-for-Test apart from the exceptions noted below:

Exceptions (if none, state "none")

.....

.....

.....

.....

Sign: ..... Print Name: ..... Time: ..... Date: .....

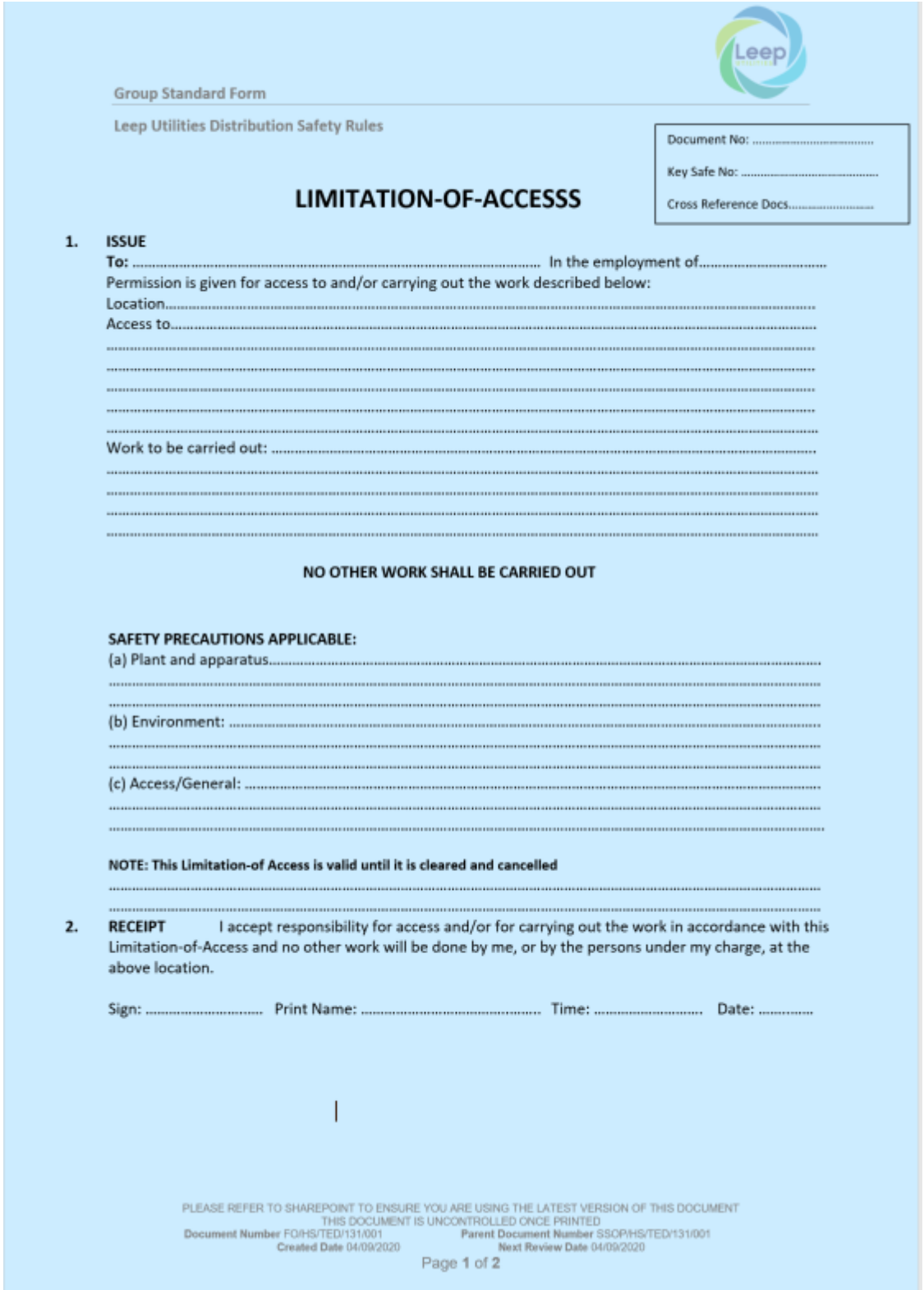
10 CANCELLATION

This Sanction for Test is cancelled with the consent of the Senior Authorised Person:

Sign: ..... Print Name: ..... Time: ..... Date: .....

Appendix C

Limitation-of-Access (front)



Group Standard Form

Leep Utilities Distribution Safety Rules

Document No: .....

Key Safe No: .....

Cross Reference Docs.....

LIMITATION-OF-ACCESSS

1. **ISSUE**

To: ..... In the employment of.....

Permission is given for access to and/or carrying out the work described below:

Location.....

Access to.....

.....

.....

.....

.....

.....

Work to be carried out: .....

.....

.....

.....

.....

NO OTHER WORK SHALL BE CARRIED OUT

SAFETY PRECAUTIONS APPLICABLE:

(a) Plant and apparatus.....

.....

.....

(b) Environment: .....

.....

.....

(c) Access/General: .....

.....

.....

NOTE: This Limitation-of Access is valid until it is cleared and cancelled

.....

.....

2. **RECEIPT** I accept responsibility for access and/or for carrying out the work in accordance with this Limitation-of-Access and no other work will be done by me, or by the persons under my charge, at the above location.

Sign: ..... Print Name: ..... Time: ..... Date: .....

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Appendix C

Limitation-of-Access (back)

3. Working Party

The recipient of this Limitation-of-Access shall ensure that all members of the working party sign below to show they understand the apparatus that has been made safe to work on, or the safe working zone and the safety precautions to be taken.

Print Name	Signed	Print Name	Signed

4.. Additional Information (If Required)

5. CLEARANCE

All persons under my charge have been withdrawn and warned that it is no longer permitted to have access or to carry out the work specified on this Limitation-of-Access.

THE WORK IS COMPLETE* / INCOMPLETE*

*** Delete words not applicable**

Sign: ..... Print Name: ..... Time: ..... Date: .....

6. CANCELLATION

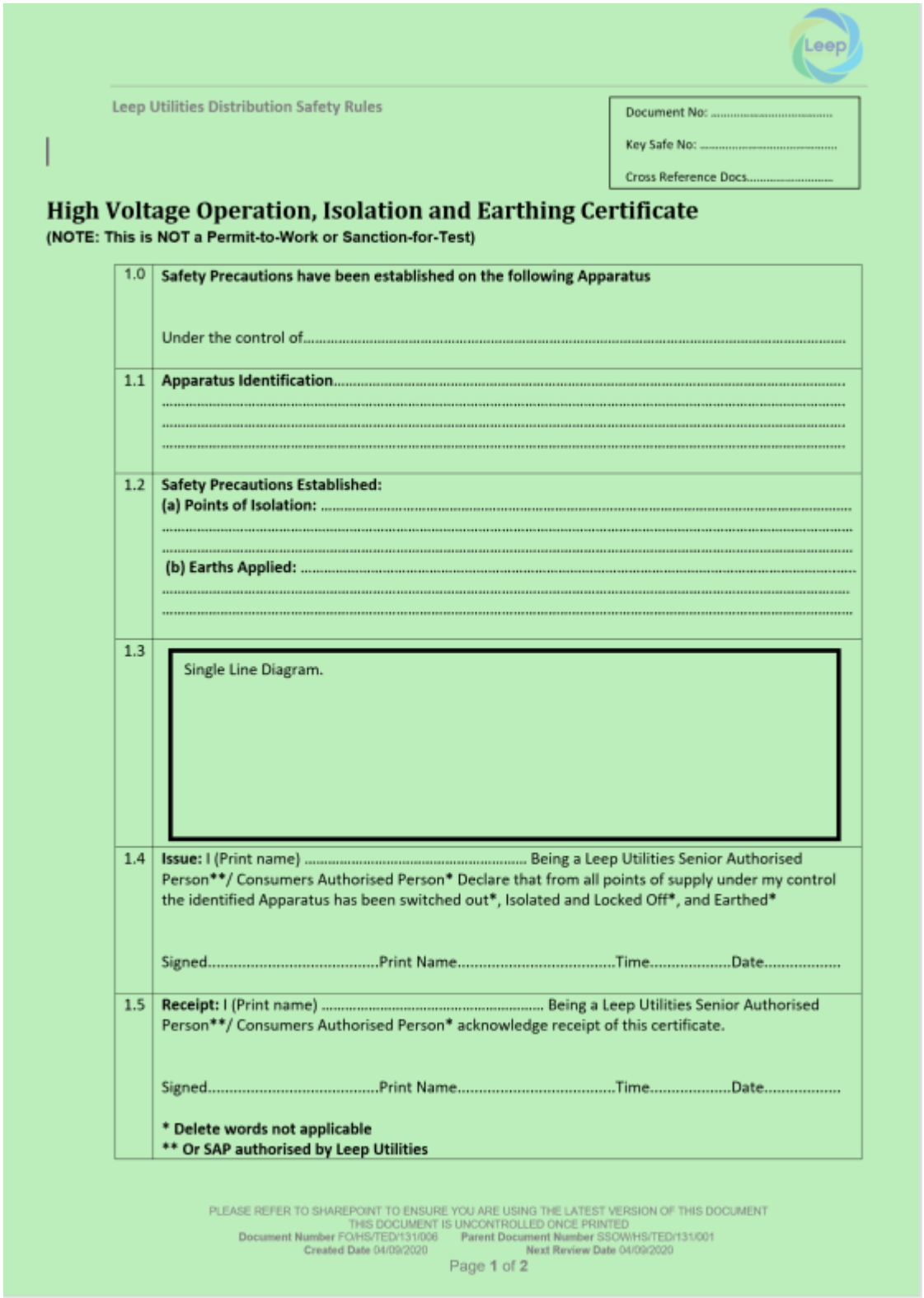
This Limitation-of-Access is cancelled with the consent of the Authorised Person:

Sign: ..... Print Name: ..... Time: ..... Date: .....

ON THE STOPPAGE OR COMPLETION OF THE WORK THE HOLDER MUST SURRENDER THIS LIMITATION-OF-ACCESS AS DIRECTED FOR CANCELLATION, AFTER WHICH NO WORK SHALL BE DONE.

Appendix D

High Voltage Operation, Isolation and Earthing Certificate (Front)



Leep Utilities Distribution Safety Rules

Document No: .....
Key Safe No: .....
Cross Reference Docs.....

High Voltage Operation, Isolation and Earthing Certificate

(NOTE: This is NOT a Permit-to-Work or Sanction-for-Test)

1.0	**Safety Precautions have been established on the following Apparatus** Under the control of.....
1.1	**Apparatus Identification**.....
1.2	**Safety Precautions Established:** **(a) Points of Isolation:** ..... **(b) Earths Applied:** .....
1.3	Single Line Diagram.
1.4	**Issue:** I (Print name) ..... Being a Leep Utilities Senior Authorised Person**/ Consumers Authorised Person* Declare that from all points of supply under my control the identified Apparatus has been switched out*, Isolated and Locked Off*, and Earthed* Signed.....Print Name.....Time.....Date.....
1.5	**Receipt:** I (Print name) ..... Being a Leep Utilities Senior Authorised Person**/ Consumers Authorised Person* acknowledge receipt of this certificate. Signed.....Print Name.....Time.....Date..... *** Delete words not applicable** **** Or SAP authorised by Leep Utilities**

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Created Date 04/09/2020 Next Review Date 04/09/2020
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Appendix D

High Voltage Operation, Isolation and Earthing Certificate (Back)

1.6	**Removal of Earths:** The above Earths may be removed and replaced for testing purposes by an Authorised person at the request of the recipient. This is recorded below. Signed by recipient Time Date I Acknowledge above earths removed .... I Acknowledge above earths removed .... I Acknowledge above earths removed .... I Acknowledge above earths removed .... I Acknowledge above earths removed .... I Acknowledge above earths removed ....
2.0	**Clearance** I (Print Name)..... Being a Leep Utilities Senior Authorised Person**. Consumer Authorised Person* Declare that all the relevant Safety documents have been cancelled: All gear and tools have*/ have not* been removed All additional earths have been removed*/ accounted for* The work is complete*/ Incomplete* And the points of Earthing and isolation declared on this certificate are no longer required by me. Signed..... Print Name..... Time..... Date.....
2.1	**Cancellation:** I (Print Name)..... Being a Leep Utilities Senior Authorised Person**/Consumers Authorised Person* Hereby declare this certificate is now cancelled. Signed..... Print Name..... Time..... Date..... *** Delete words not applicable** **** Or SAP authorised by Leep Utilities**

Document Number FO/HS/TED/131/006 Parent Document Number SSOW/HS/TED/131/001
Created Date 04/09/2020 Next Review Date 04/09/2020

Appendix E

Confined Space Permit-to-work (Front)

Leep Utilities Distribution Safety Rules

CONFINED SPACE PERMIT-TO-WORK

This permit must be used when entry into a confined space is required

Unique No: .....

Key Safe No: .....

Cross Reference Docs.....

1. **ISSUE To:** .....

1.The Work				
Site Name	Specific Location Required	Start Date ...../...../.....	Start Time	Finish Time .....
Description of Work				

2.The Controls	Associated Site Specific RAM's				
2.1 Atmosphere Test Details			Gas Meter Readings & Re-test Below		
Gas Meter Serial No			H2S		
Gas Meter Calibration Date			CO		
Date of Test	DD / MM /YYYY		O2		
Time of Test	Start :	Mid-Point :	LEL (Lower Explosive Limit)		
Details of Person Testing Atmosphere	Print Name Sign.				

	Yes	No	N/A
2.2 Does the working party consist of a minimum of three confined space trained operatives			
2.3 Has safe access/egress; traffic/pedestrian management been sufficiently defined and controlled			
2.4 Is all specifically supplied, PPE & GWO climbing equipment fit for purpose			
2.5 Is there an emergency suitable escape set with each operative entering the confined space.			
2.6 Equipment In the vicinity has been isolated and locked off.			
2.7 Is an emergency rescue man riding winch to hand\set up			
2.7 Plant and equipment has been drained and is vented			
2.8 Hazardous materials/substances have been removed from the working area			
2.9 Man riding winch to be used			
2.10 Life Line to be worn			
2.11 Breathing Apparatus Required			
2.12 Rescue Team Required			
2.13 Two way communications required			
2.14 Ongoing gas monitoring required			
2.15 Intrinsically safe tools required			
2.12 Forced ventilation required			
2.13 Other Controls Required			
List Other Controls Here			

ISSUE

Sign: ..... Print Name: ..... Time: ..... Date: .....

Being the Confined Space Authorised Person responsible for the issue of this Permit To Work.

RECEIPT I have read this Confined Space Permit-To-Work and fully understand the details of work to be completed, associated risks and necessary control measures specified on it. I accept responsibility for carrying out this work and will ensure that I and those in my working party are adequately briefed and adhere to any controls, instructions or limits that are required.

Sign: ..... Print Name: ..... Time: ..... Date: .....

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Appendix E

Confined Space Permit-to-work (Back)

Working Party

Members of the working party are to print and sign names to show they are fully trained in confined space working, that they understand the **Emergency Action Plan** the Controls taken and the apparatus to be worked upon.

Print Name	Signed	Print Name	Signed

Additional Information (If Required)

.....

.....

.....

.....

CLEARANCE

All members of the working party have been withdrawn and informed that it is no longer safe to access the confined space detailed on this Confined Space Permit to Work.

THE WORK IS NOW COMPLETE*/INCOMPLETE*

All EQUIPMENT NOW HAS*/HAS NOT*/N/A* BEEN REMOVED

All ADDITIONAL CONTROLS HAVE*/HAVE NOT*/N/A* BEEN REMOVED

*** Delete words not applicable**

Additional Information (if required):

.....

.....

.....

Sign: ..... Print Name: ..... Time: ..... Date: .....

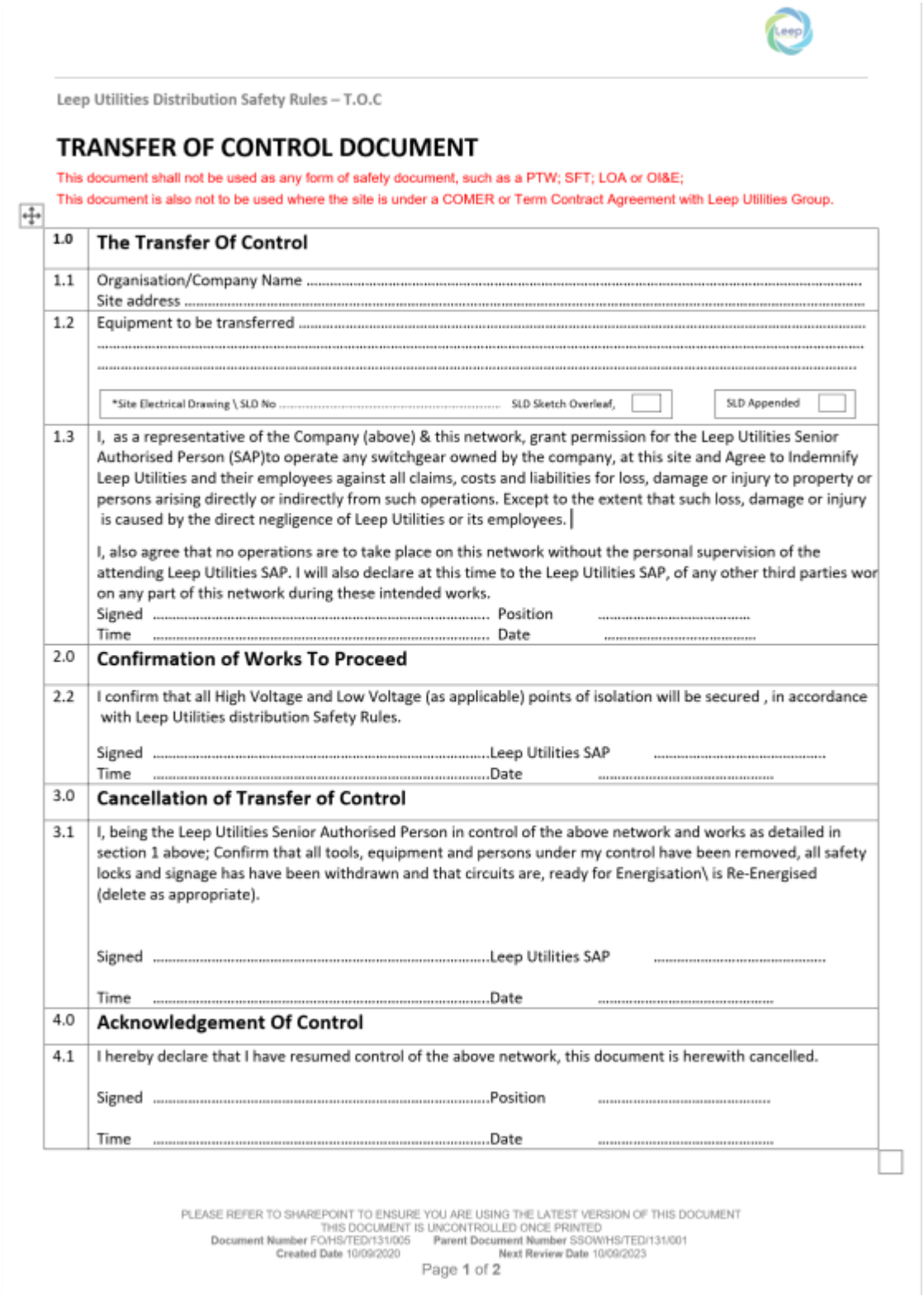
CANCELLATION

This Confined Space Permit-to-Work is cancelled with the consent of the Confined Space Authorised Person:

Sign: ..... Print Name: ..... Time: ..... Date: .....

Appendix F

Transfer of Control Document (Front)



Leep Utilities Distribution Safety Rules – T.O.C

TRANSFER OF CONTROL DOCUMENT

This document shall not be used as any form of safety document, such as a PTW; SFT; LOA or OI&E;
This document is also not to be used where the site is under a COMER or Term Contract Agreement with Leep Utilities Group.

1.0	**The Transfer Of Control**
1.1	Organisation/Company Name ..... Site address .....
1.2	Equipment to be transferred .... *Site Electrical Drawing \ SLD No ..... SLD Sketch Overleaf, ☐ SLD Appended ☐
1.3	I, as a representative of the Company (above) & this network, grant permission for the Leep Utilities Senior Authorised Person (SAP)to operate any switchgear owned by the company, at this site and Agree to Indemnify Leep Utilities and their employees against all claims, costs and liabilities for loss, damage or injury to property or persons arising directly or indirectly from such operations. Except to the extent that such loss, damage or injury is caused by the direct negligence of Leep Utilities or its employees. I, also agree that no operations are to take place on this network without the personal supervision of the attending Leep Utilities SAP. I will also declare at this time to the Leep Utilities SAP, of any other third parties wor on any part of this network during these intended works. Signed ..... Position ..... Time ..... Date .....
2.0	**Confirmation of Works To Proceed**
2.2	I confirm that all High Voltage and Low Voltage (as applicable) points of isolation will be secured , in accordance with Leep Utilities distribution Safety Rules. Signed .....Leep Utilities SAP ..... Time .....Date .....
3.0	**Cancellation of Transfer of Control**
3.1	I, being the Leep Utilities Senior Authorised Person in control of the above network and works as detailed in section 1 above; Confirm that all tools, equipment and persons under my control have been removed, all safety locks and signage has have been withdrawn and that circuits are, ready for Energisation\ is Re-Energised (delete as appropriate). Signed .....Leep Utilities SAP ..... Time .....Date .....
4.0	**Acknowledgement Of Control**
4.1	I hereby declare that I have resumed control of the above network, this document is herewith cancelled. Signed .....Position ..... Time .....Date .....

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Appendix F

Transfer of Control Document (Back)

TOC Document - Appendix – 01
Site Electrical Drawing \ SLD & Area under Leep Utilities Control
(To be detailed here)

Appendix G

Working and Access Clearances

1. The **Working and Access Clearances** contained in the following Diagrams are derived from the **Safety Distances** 'X' specified in Rule 4.4.1 (Table I) with the addition of "Application Factors" appropriate to the particular work activity.

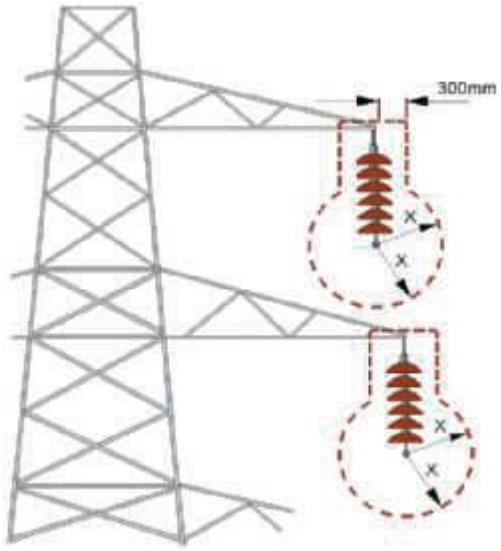
2. Diagram 1
Specifies the **Safety Distances** for Work on Overhead Lines Carrying **Live High Voltage Conductors** (Rule 4.4.1 refers).

3. Diagrams 2 and 3
Specify the **Working and Access Clearances** for work on overhead lines carrying **Live High Voltage Conductors.** (Rules 4.4.4 and 5.10.5.2 refer).

4. Diagram 4
Specifies **Working and Access Clearances** for work in substations and **Switching** stations containing exposed **Live High Voltage Conductors.** (Rules 4.4.4 and 4.5.3 refer).

Diagram 1 – Steel tower (a reminder of Safety Distances)

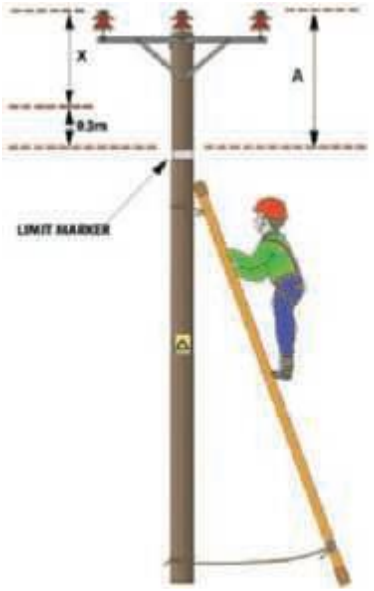
Safety Distances for Work on Overhead Lines Carrying **Live High Voltage Conductors,** (Rule 4.4.1).



Voltage	Safety Distance "X"
11kV	0.8 m
33kV	0.8 m
66kV	1.0 m
132kV	1.4 m
275kV	2.4 m
400kV	3.1 m

Diagram 2 – Ladders or climbing irons

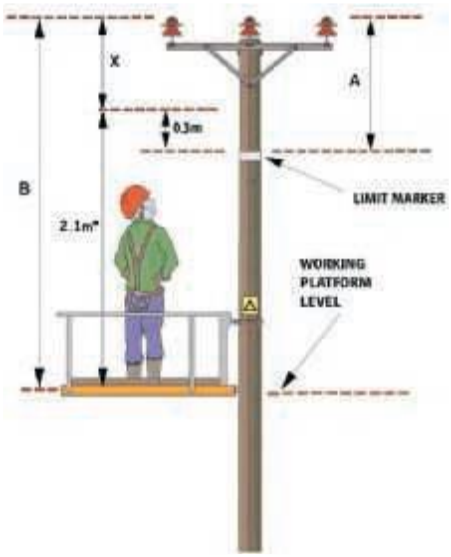
Working and Access Clearances for Work on Overhead Lines Carrying **Live High Voltage Conductors**, (Rules 4.4.4/5.10.5.2).



Voltage	Safety Distance "X"	Application Factor	Working and Access Clearance = "A"
11kV	0.8m	0.3m	1.1m
33kV	0.8m	0.3m	1.1m
66kV	1.0m	0.3m	1.3m
132kV	1.4m	0.3m	1.7m
275kV	2.4m	0.3m	2.7m
400kV	3.1m	0.3m	3.4m

Diagram 3 – Pole platform or scaffolding

Working and Access Clearances for Work on Overhead Lines Carrying **Live High Voltage Conductors**, (Rules 4.4.4/5.10.5.2).

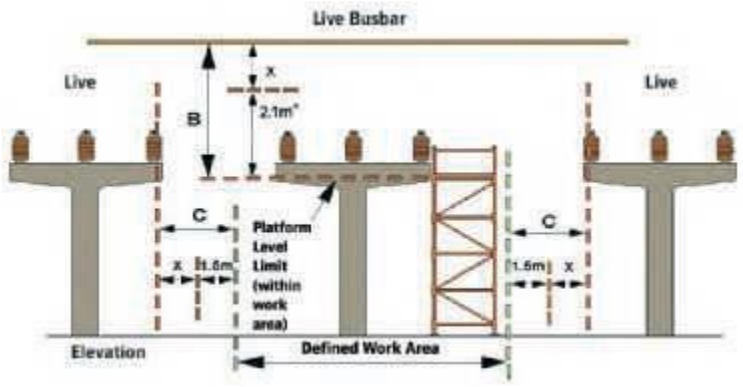


Voltage	Safety Distance "X"	Application Factor	Working and Access Clearance = "A"	Platform Clearance "B" = Safety Distance "X" + 2.1m*
11kV	0.8m	0.3m	1.1m	2.9m
33kV	0.8m	0.3m	1.1m	2.9m
66kV	1.0m	0.3m	1.3m	3.1m
132kV	1.4m	0.3m	1.7m	3.5m
275kV	2.4m	0.3m	2.7m	4.5m
400kV	3.1m	0.3m	3.4m	5.2m

* The Platform Application Safety Factor of 2.1m is an absolute minimum. The vertical **Working and Access Clearance**s from a platform below a **Live** conductor **Shall** be established such that the **Working and Access Clearance** "A" is always maintained below the conductor. This must take into account the height of the people doing the work, the tools used and the nature of the work.

Diagram 4 – Substations and Switching stations

Working and Access Clearances for Work on Overhead Lines Carrying **Live - High Voltage Conductors**, (Rules 4.4.4 / 5.10.5.2)

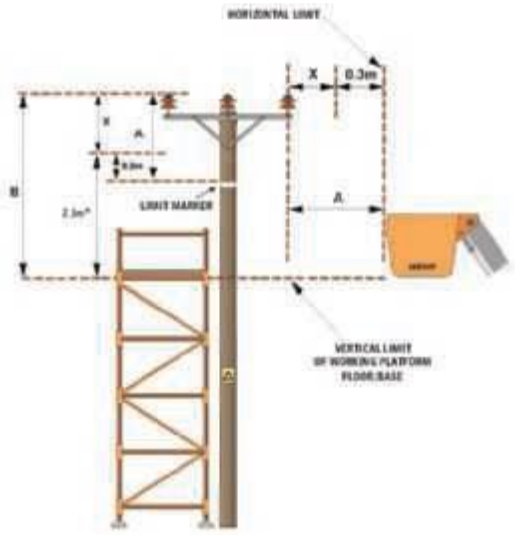


Voltage	Safety Distance "X"	Horizontal Application Factor	Working and Access Clearance = "C"	Platform Clearance "B" = Safety Distance "X" + 2.1m*
11kV	0.8m	1.5m	2.3m	2.9m
33kV	0.8m	1.5m	2.3m	2.9m
66kV	1.0m	1.5m	2.5m	3.1m
132kV	1.4m	1.5m	2.9m	3.5m
275kV	2.4m	1.5m	3.9m	4.5m
400kV	3.1m	1.5m	4.6m	5.2m

* The Platform Application Safety Factor of 2.1m is an absolute minimum. The vertical **Working and Access Clearance**s from a platform below a **Live** conductor **Shall** be established such that the **Safety Distance** is always maintained below the conductor. This must take into account the height of the people doing the work, the tools used and the nature of the work.

Diagram 5 – Scaffolding or mobile elevated working platform

Working and Access Clearances for work on overhead lines carrying **Live High Voltage Conductors** (rules 4.4.4 / 5.10.5.2).



Voltage	Safety Distance "X"	Vertical & Horizontal Application Factor	Working and Access Clearance = "A"	Platform Clearance "B" = Safety Distance "X" + 2.1m*
11kV	0.8m	0.3m	1.1m	2.9m
33kV	0.8m	0.3m	1.1m	2.9m
66kV	1.0m	0.3m	1.3m	3.1m
132kV	1.4m	0.3m	1.7m	3.5m
275kV	2.4m	0.3m	2.7m	4.5m
400kV	3.1m	0.3m	3.4m	5.2m

* The Platform Application Safety Factor of 2.1m is an absolute minimum. The vertical **Working and Access Clearance**s from a platform below a **Live** conductor **Shall** be established such that the **Working and Access Clearance** "A" is always maintained below the conductor. This must take into account the height of the people doing the work, the tools used and the nature of the work.

Appendix H

Approved Procedures

The Leep Utilities Approved Procedure are held on the company system where they are updated as required.