OXFORD BROOKES UNIVERSITY

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CODE OF PRACTICE FOR ELECTRICAL SAFETY ON LOW VOLTAGE SYSTEMS

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Revision History

	Revision	**Date**	**Prepared**	**Reviewed**	**Comments**
0	Initial	May 2015	M. Bolland	S. Holtom	Initial draft
1	A	August 2017	G. Adams	S. Holtom	General review & update
2	B	June 2018	G. Adams	S. Holtom	Contractor assessment process noted & responsible person certificate added

OXFORD BROOKES UNIVERSITY

CODE OF PRACTICE

ELECTRICAL SAFETY ON LOW VOLTAGE SYSTEMS

1 Introduction

This Code of Practice (C.o.P.) sets out rules and requirements for work on the University Low Voltage electrical systems that are the responsibility of the Director of Estates & Facilities Management. The C.o.P. also defines the extent of responsibilities for persons who have been authorised to carry out specific duties under the C.o.P.

The C.o.P. addresses issues of electrical safety for Oxford Brookes University (OBU) Electricians, departmental staff, contractors and contractor's employees with regard to responsibilities of Duty Holders, authorisation and working practice. A prime objective of the C.o.P. is to set out clear principles that are to be followed to ensure that electrical work is carried out safely, under the control of authorised competent persons to prevent risk of death or injury.

The aim throughout is to identify clear lines of demarcation and to recognise the extent of control of the electrical systems. The C.o.P. relates to working on low voltage systems (LV below 1000V AC). For clarity the upper voltage limit covered by the C.o.P. is 440 volts r.m.s 3 phase at 50Hz. In line with the Electricity at Work Regulations 1989 there is no lower limit. The C.o.P. is not intended to cover situations above the low voltage upper limit.

The C.o.P. must not be read in isolation and it should not be seen in any way as a means of relieving Duty Holders of their statutory obligations. All work must be carried out in full compliance with all related legislation, requirements established in University Health and Safety Notice 18 and relevant electrical regulations and safety standards. A library of relevant information will be held on the universities electrical data base TraQ-it. Access to this is available to all electricians and departmental staff.

2 Definitions

The Director	Shall be taken to read the University Director of Estates & Facilities Management.
OBU	The Oxford Brookes University.
OBU Electrical Section	Means OBU personnel who have been authorised in writing by the Authorising Officer to carry out specific duties.
Contractor	The term contractor applies to all parties involved in carrying out, or causing work to be done, on the system. It includes all approved contractors, consultants, designers and authorised departmental personnel.
Competent (Skilled) Person	Where competent person is referred to in the C.o.P. it shall be taken to mean a person who has: -

i) Adequate knowledge of electricity.
ii) Adequate experience of electrical work.
iii) Adequate understanding of the system to be worked on and practical experience on that class of system.
iv) Awareness of University Health and Safety Notice 18 and of current electrical regulations and requirements appropriate to the work in hand.

v) An understanding of the hazards that may arise during the work and the precautions to be taken to deal with them.

vi) The ability to recognise, at all times, whether it is safe for work to continue.

vii) Have in his/her possession the Handbook for "Electrical Safety" at all times when carrying out work on electrical systems as defined in the C.o.P or have access to an electronic version.

Instructed Person Where Instructed person is referred to in the C.o.P. it shall be taken to mean a person who is / has : -

i) Adequately advised or supervised by competent (skilled) persons to enable him/her to avoid dangers which electricity may create.
ii) An understanding of the hazards that may arise during the task being performed work and the precautions to be taken to deal with them
iii) Received training or a briefing on the task being asked to perform and been assessed performing the task.

Duty Holder The individual responsible under the Electricity at Work Regulations 1989 for ensuring danger does not arise from work being undertaken on the system/s under his/her control.

Electrical Systems Reference to system or systems in the C.o.P. shall be taken to mean those as being the responsibility of the Director.

These are:

Substations, switch rooms and all external electrical distribution services (excepting those provided by the utility companies) including mains supplies, lightning conductors, general and special earthing, lighting of roadways, car parks, cycle and pedestrian ways.

Fixed electricals installation up to and including socket outlets and isolators together with light fittings and associated lighting controls.

Authorising Officer Is the person or persons appointed by the Director to formally authorise OBU staff and Contractors to undertake work on the systems defined as being the responsibility of the Director.

Authorised Person Is a person authorised in writing by the Authorising Officer to undertake certain duties in respect to specified electrical systems. An Authorised Person will be suitably qualified and responsible for appointing, in writing, competent persons within their organisation and for ensuring their safety throughout all works. The Authorised Person is to have a sound understanding of the requirements of this C.o.P. and ensure all works are carried out in strict compliance to it. A certificate of appointment will define the extent of responsibilities of the Authorised Person.

The Authorised Person can be: -

1) A member of the OBU Electrical Section.
2) An electrical contractor from the OBU approved list.
3) An electrical consultant.

Responsible Person Is a person from either O.B.U Estates & Facilities Management department or an approved contractor who will be responsible for ensuring that an Instructed person has the necessary skills, knowledge and experience for the defined task that they will be authorised to carry out.
The Responsible Person will define the task for which the Instructed person will be authorised, shall ensure that the Instructed Person has been assessed for that task and that the task is carried out safely.

Departmental H&S Officer Is a person nominated by the Department to advise on matters of Health and Safety in respect of the works undertaken by the Estates & Facilities Management department.

Hazard Is something with the potential to cause an adverse affect.

3 Documentation and Appointments

Authorised Person The person who will be responsible for appointing Competent persons.

Authorised Person Certificate A document issued by the Authorising Officer setting out the extent of responsibility.

Competent (Skilled) Person To be appointed in writing by the Authorised Person.

Responsible Person The person who will authorise an Instructed person to carry out a defined task.

Instructed Person To be appointed in writing by the Authorised Person to carry out a certain task or duty, for example change a light bulb, reset an M.C.B or carry out a safe isolation of plant / equipment.

Limitation A certificate from a person authorised to give right of entry to

of Access	enable persons to undertake defined tasks in areas where there is a restriction on access; for example LV Switchrooms. E.g. install cables but not terminate, building repairs, painting, etc.
Transfer of System Control Certificate	Is a document designed to indicate that part, or all, of a system that has been put under the control of a contractor's Authorised Person. It is not used for OBU Electricians.
Hand-book for Electrical Safety	This is a document produced by the OBU that covers the key principles set out in this Code of Practice. A copy will be issued or made available to all Competent (Skilled) Persons who may undertake work on the OBU electrical system. The issue of any handbook will be recorded on the person's authorisation.
Permit to Work (Electrical)	Is a document prepared by an Authorised Person and given to a Competent Person in charge of the work to be done. Its purpose is to make the Competent Person, and everyone in the working party, aware of equipment that is safe to work on and the extent of work to be undertaken.
Switching Schedule	Is a schedule of the switching operations and safety procedures that are necessary to establish safe working prior to commencing work, and form part of the planning process.
Handbook Checklist	A checklist highlighting the key requirements of the Handbook for Electrical Safety on Low Voltage Systems produced by the University Estates Directorate.

NOTE: The Permit to work and Handbook checklist are not OBU documents: where required they are to be produced by the Contractor. To facilitate a standard approach, sample documents have been included in the appendix.

3.1 Suspension or Withdrawal of Authorisation

In the event that an accident or incident occurs or where unsafe working practices or conditions are indentified that result in, or have the potential for, injury to occur from the electrical system the Authorising Officer may take the following actions:

Request removal of the Competent Person or Instructed Person and subsequent return of the Handbook for Electrical Safety (where issued)

And/or:

Suspend or withdraw authorisation from an Authorised Person. Where that Authorised Person is a Contractor that organisation shall not be permitted to undertake work on the electrical systems until authorisation is reinstated.

They shall be informed in writing of the reasons for the suspension or withdrawal of authorisation and of any further action e.g. training considered necessary before re-appointment and the expected duration of suspension (if appropriate).

The Authorising Officer shall ensure that all members of the OBU Electrical Department are made aware of the suspension or withdrawal of the authorisation.

Suspension of authorisation shall be for a period determined by the Authorising Officer as appropriate for the circumstances leading to the suspension.

Reinstatement of authorisation will be subject to:

- Investigation by OBU and where appropriate the Contractor, resulting in a report detailing the causes of the accident, incident, or unsafe working practices/conditions and the steps to be taken to prevent a recurrence;
- Acceptance by the OBU of the Contractor's report; and
- Implementation by the Contractor of the actions to be taken to prevent a recurrence within agreed timescales.

Where authorisation is withdrawn the Authorised Person must return their original Authorised Person Certificate to the Authorising Officer who shall clearly mark this as "withdrawn" and hold this on TraQ-it under Oxford Brookes University Code of Practice.

Where the suspension or withdrawal involves a Contractor a record of the suspension/withdrawal and the reasons leading to it shall be maintained by OBU for future reference.

4 Principles for Safety in the Operation of the Universities LV Electrical Systems

Operation shall be taken to mean design, installation, modification, inspection, testing maintenance or repair of systems defined as being the responsibility of the Director.

It is the policy of the University that no person shall be engaged in any work activity on, or near, live conductors (other than those adequately covered with insulating material so as to prevent danger). Any system that is to be worked on must be isolated, the isolation secured and the system proved safe. Adequate working space, means of access and lighting must be provided. This policy relates to the preferred method of working that must be adopted wherever practical. It is recognised however that in certain situations testing and diagnostic work is required which may involve live work: in such circumstances the competent person in control of the work **MUST**:

(i) Determine in each case that it is unreasonable in all circumstances to work on conductors that are dead.

(ii) Carry out a risk assessment to identify the associated risks and to determine the safe method of working.

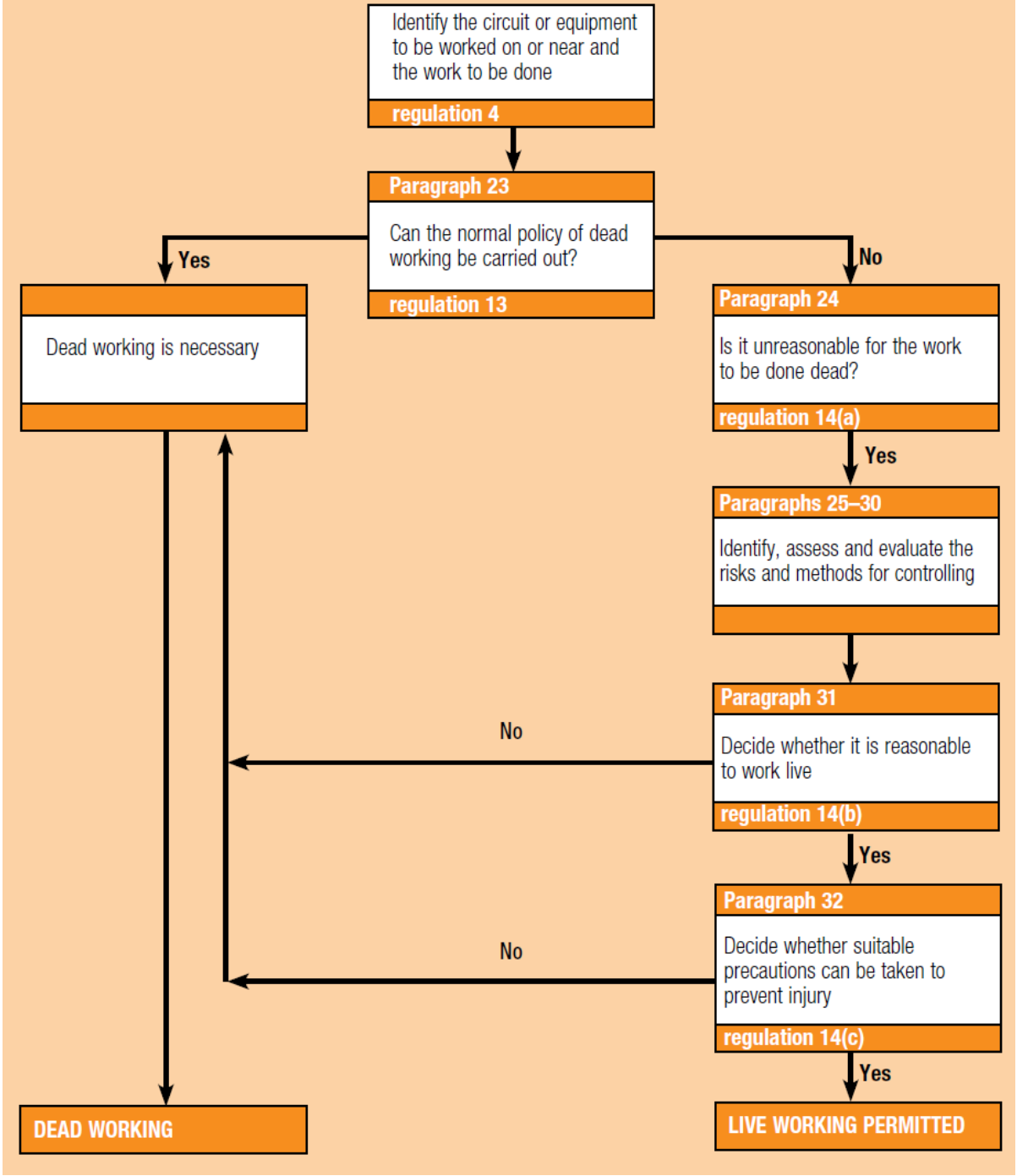
(iii) Decide whether it is reasonable to work on a system that is live.

It must be remembered that the Electricity at Work Regulations 1989 imposes an "absolute" duty in respect of "work on or near live conductors". An "absolute duty" is one that must be carried out without making the balance of risk against time, trouble or expense of eliminating or minimising that risk.

In the event of a criminal prosecution the defendant must demonstrate that he/she took all reasonable steps and exercised all due diligence to avoid the commission of the offence.

For further information please refer to H.S.E guidance document HSG85 – Electricity at Work; Safe Working Practices.

Figure 2 Deciding whether to work dead or live



(The flowchart above; figure 2, is reproduced from H.S.E guidance HSG85 – Electricity at Work; Safe Working Practices)

NOTE: After deciding to work live should a serious incident or accident occur because of live working, the Authorised Person must be able to prove that adequate precautions were adopted to prevent danger. After an incident/accident there is always a probability that a criminal prosecution may ensue.

5 General

The Policy is for work to be undertaken on systems that have been disconnected from all points of electrical energy. Isolation must be effective and secure and not capable of being defeated by inadvertent operation. Caution notices identifying the person responsible for the isolation should always be fitted. Self adhesive tape across a switch or MCB dolly is not acceptable. Effective isolation means disconnection of, and adequate separation between, all live conductors including the neutral conductor.

6 Planning

All work activities must be pre-planned and a suitable and sufficient risk assessment carried out. A safe system of work shall be developed to adequately cover the actions identified in the assessment. Clearly the extent of pre-planning needs to be relative to the nature of the work to be undertaken but the same principles apply in all cases. Prior to undertaking any work on the system, assessments shall be carried out to firstly identify related electrical risks and all measures required to control them. In addition attendant risks associated with the premises, the building user's activities and essential services shall also be identified and appropriate measures put in place.

For relatively minor works such as replacing, adding, or removing components on a final circuit, the risk assessment is likely to involve verification of the local system to establish the extent of control required: this should be accompanied by discussion with the Departmental Representative to determine user issues. For more complex works involving the Contractor taking control of large sections of the system in which shutdown and restoration of supplies are required, the OBU Electrical Services Manager who shall be consulted as well as Departmental Administration and Safety Representatives.

7 Control

Control of electrical danger is a fundamental element of any safety procedure and must be clearly understood by all parties involved, including OBU Electricians, Contractors, and Departmental Representatives. No person has authority to work on any of the systems, which are defined as being the responsibility of the Director, without written authorisation from a member of the OBU Electrical Section. In effect the control of all systems is with the OBU until it has been formally handed over.

7.1 Work on Low Voltage Systems by Oxford Brookes University Staff

Working Procedures

Adequate working space, means of access and lighting must be provided. To prevent danger of electric shock all circuits that are required to be worked upon shall be isolated and verified as dead by an appropriate test instrument.

These circuits shall be secured against resetting by a lock off hasp and personal lock or by the removal of fuse carriers. If fuse carriers are removed from the holders as a means of isolation they must be kept with the electrician carrying out the work. Suitable barriers and warning notices shall be prominently displayed at the point of isolation with a further label dated and signed by the electrician carrying out the work along with contact details and location
On completion of the work, the competent person will carry out all relevant tests prior to reinstating supply, restore the supply, undertake further live testing and then remove all warning notices and barriers and satisfy themselves no further danger exists

Live working criteria

Before commencing any Live working the following criteria MUST be justified:-

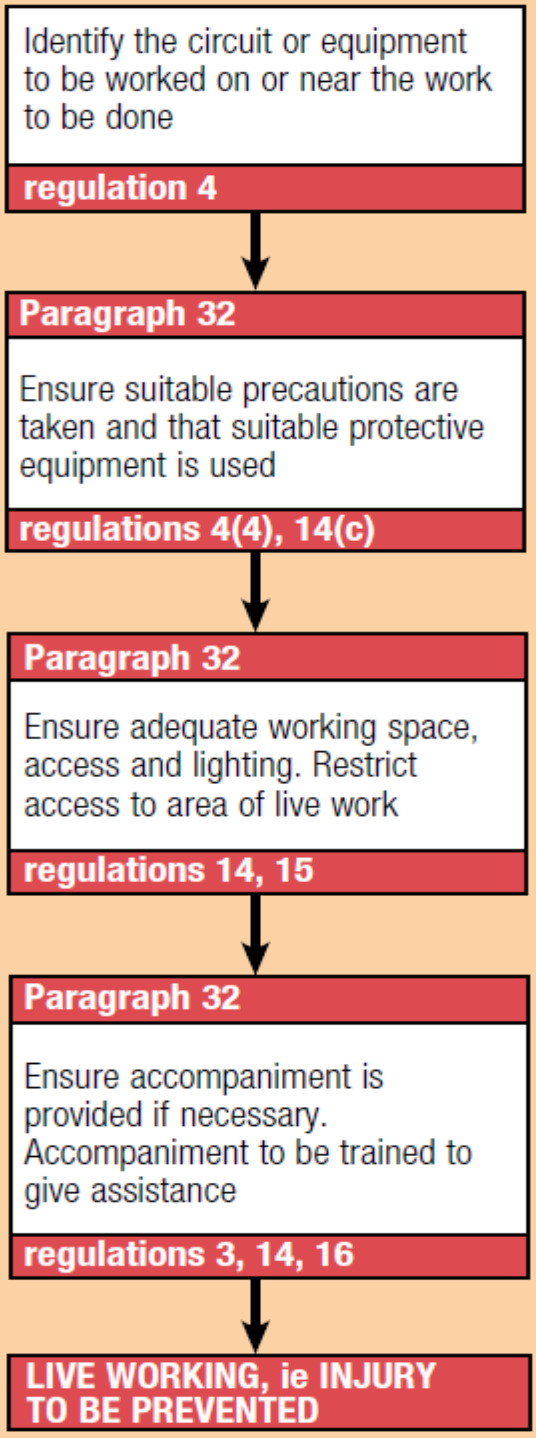
(i) …it is unreasonable to carry out the work with the power off;
(ii)…other hazards may be created by having the power off;
(iii)…there is a need to undertake testing and inspections including visual inspections and fault diagnosis.
(iv)…the electrical technician has sufficient skills, knowledge, training and experience to ensure the precautions taken are adequate to prevent danger from the electrical system.

If in any doubt regarding the correct procedure always contact the Electrical Services Manager, Lead Electrical Technician and / or the Estates Health and Safety officer and / or the University Health and Safety officer.

For further information please refer to H.S.E guidance document HSG85 – Electricity at Work; Safe Working Practices.

(The flowchart below; figure 5, is reproduced from H.S.E guidance HSG85 – Electricity at Work; Safe Working Practices)

Figure 5 Live working procedures



All Oxford Brookes University electricians are regarded as competent persons and are authorised to assess the risks of working on or near live conductors not exceeding 230v provided the following suitable precautions are taken:-

(a) The electrician has all the information regarding all of the associated system and has carried out a risk assessment and safe method of work.
(b) The use of 1000volt insulated tools, equipment, protective clothing and safety equipment is MANDATORY
(c) The use of suitable barriers or screens wherever possible will be used
(d) The area is adequately lit, preferably not from the same circuit as being worked on, but must be on the same phase
(e) Entry to the area where live working is taking place is to be restricted to authorised personnel only
(f) In the event of near or live working being undertaken in a confined area that may contribute to injury, the electrician MUST be accompanied by a suitably competent person adequately protected from the effects of electricity by insulated gloves, goggles, electrically resistant mats and competent to effect rescue in the event of an emergency
(g) Work will not take place near exposed connections or busbars, the competent person undertaking the works will assess that all live connections are adequately covered with insulting material so as to prevent any danger.

If in any doubt further consultation will be held with the Electrical Services Manager / Lead Electrical Technician

Working on or near live LV electrical systems exceeding 230volt across Oxford Brookes University Estate are to be authorised by the Electrical Services Manager and / or Lead Electrical Technician to assess the risk of working on or near live conductors

Refer to EFM Risk Assessment - Live Working on electrical installations for further information.

A risk assessment will be made with the Electrical Services Manager and / or the Lead Electrical Technician along with the electrician carrying out the work who together will agree a safe method of work. The Estates Safety Officer and / or the OBU Health and Safety Officer may also be involved with the assessment and advise on any additional precautions and safety measures to be taken. The safety precautions for working on or near live equipment not exceeding 230v will be followed along with the additional requirements;

(a) The electrician carrying out the work will be accompanied by the Electrical Services Manager / Lead Electrical Technician at all times along with an additional competent person if required
(c) Barriers and protective screens to be used
(d) 1000volt insulated tools MUST be used
(e) The maximum amount of load will be shed from the point of supply before work commences

On completion of any work the Electrical Services Manager / Lead Electrical Technician and the electrician will together inspect the work carried out, and once approved will make the

area safe before restoring the supply after all relevant testing, remove all barriers and warning notices and satisfy themselves that no danger exists.

7.2 Work on Low Voltage Systems by Contractors

Work on the electrical system must only proceed when it is clear as to who is in control of the electrical system or part thereof.

Handing over of control can take two forms. For relatively minor works as described earlier (which have been instructed by the OBU Electrical Section) the Contractor's risk assessment shall identify if effective isolation can be achieved on the final circuit from the local distribution board. If effective isolation can be achieved and following agreement with the Departmental Representative, work can proceed under the Contractor's control. If however effective isolation cannot be achieved by isolating at the local distribution board then it will be necessary for the contractor to take control of part or all of the system, in this case the matter must be referred back to the person in the OBU Electrical Section who instructed the works.

Transfer of Control

Control of distribution boards must be formally handed over in order that it is clearly understood as to who is in control of all or part of an electrical system. Covers that prevent exposure to live conductive parts must not be removed until the distribution board has been formally handed over by means of a Transfer of System Control Certificate **AND** isolated in accordance with the relevant isolation procedures. The extent of control required to ensure safe working must be agreed with the OBU Electrical Section. The nature of the work to be undertaken will, in the main, determine the level of control required. The handover may involve just a single distribution board; alternatively it could extend up to a complete installation.

The OBU Electrical Section will issue the Transfer of System Control Certificate to a Contractor together with sufficient records of the systems. On receipt of the Transfer of System Control Certificate, the Contractor shall install caution notices on equipment to clearly identify the extent of the transfer and fit locks as necessary to secure control. Caution notices shall identify the address and daytime telephone number of the Contractor together with 24 hour contact details in the event of an emergency. The Transfer of System Control Certificate will be displayed at the point of work with a scanned copy held on TraQ-it.

For the period of transfer, control of the system is with the Contractor. The Contractor is responsible for appointing a Duty Holder to set up safe working procedures and for ensuring competent persons are engaged for the duration of the works. The safe system of work shall recognise the need to use Permits to Work where appropriate. Where supplies have to be isolated to establish a safe site, the impact of such isolation must be assessed PRIOR to disconnection to avoid the risks associated with secondary dangers. The assessment must include the OBU Electrical Section and the Departments concerned. The Duty Holder must also take into account the provision of any temporary supplies for essential services to users and those associated with the works e.g. temporary lighting.

Where complex switching operations are required there may be a need for switching schedules. Procedures to be recognised in Switching Schedules include the receipt and clearing of Transfer of System Control Certificates, issue and cancellation of Permits to Work, identifying means of secure isolation and the fitting of caution notices, etc. Switching

Schedules shall be used for all works where 2 or more switching and restoration sequences are required. Switching Schedules will be prepared in advance of any work by the OBU electrical section.

Any defect identified which could affect the safety of a person, or the integrity of the system, must be brought to the attention of the OBU Electrical Section. It is anticipated that the initial report will be verbal: this may be followed up in writing giving full details of the defect and any remedial action taken.

On completion of the works, the Transfer of System Control Certificate must be cleared by the Contractor and returned to the OBU Electrical Section for cancelling. The clearance is to confirm that all caution notices, locks, equipment and tools have been removed and that it is safe to return the system to the control of the OBU. It is the responsibility of the Contractor to ensure that the certificate is cleared and to keep a record that it has been returned for cancellation. The OBU Electrical Section will provide confirmation to the Contractor that the Transfer of System Control Certificate has been cancelled and that the system has been returned to OBU control. Until the certificate has been cancelled the system will remain under the control of the Contractor. It is essential that all test data and drawings are updated and suitably annotated record information is available and returned with the Transfer of System Control Certificate. The provision of record information detailing the work carried out is a fundamental part of the process to enable systems to be taken back under OBU control.

7.3 **Issue of a Permit to Work on Electrically Disconnected Equipment (PTW)**

Where a permit to work on electrically disconnected equipment (PTW) is issued by an OBU Authorising Officer or Authorised Person to an electrical contractor this will only be to contractors appointed competent person. The competent person will have been issued with a current copy of the C.o.P handbook and not had their authorisation suspended or withdrawn.

Upon completing the isolation the OBU permit issuer will check at the point of work that the equipment is “dead” and that the isolation is secure with warning notices posted. He/she will then take the permit acceptor through the schematic diagram (if applicable) and show them the point(s) of isolation. Both the permit issuer and acceptor will go to the point of work and prove the circuit / equipment “dead” using an approved tester. Only when both parties are in agreement will the permit be issued and signed. The Permit to Work will be displayed at the point of work with a scanned copy held on TraQ-it

The use of multi-hasp padlocks will be considered in order to allow the permit acceptor to install their own padlock at the point of isolation.

Prior to completion of the works and cancellation of the permit; O.B.U will need to witness ‘dead’ tests in order to confirm the integrity of the installation.

Upon completion of the work the permit acceptor will complete their part of the cancellation paragraph and return the permit to the issuer with completed test document. The issuer will then check the work area and cancel the permit prior to removing the isolation. Checks will then be carried out to ensure that power is successfully restored.

With regards to test documentation it may be a requirement to carry out some tests when power is restored e.g. phase rotation. In this case the permit acceptor will identify a safe place to test and discuss this with the permit issuer Power will be temporarily restored and the test completed. Power will then be isolated to allow for completion of the work i.e. installation of covers etc. and the permit cancelled as above

7.3 Issue of a Limitation of Access (LOA) Certificate

A Limitation of Access (LOA) certificate is to be issued by an OBU Authorising Officer or Authorised Person for an activity where entry into a switchroom or work in close proximity to electrical equipment is required. E.g. installation of cable that are not being terminated, cleaning or painting of a swichroom; work on pipework in a plantroom; entry into an electrical riser cupboard.

Prior to the work the OBU issuer will check the work area and note any potential hazards that they need to make the contractor aware off. He/she will take the acceptor to the work area and go through the hazards, make them aware of any specific dangers and issue the LOA certificate. A signed copy will be left at the work area in order that it can be seen by anyone entering with a scanned copy held on TraQ-it

Upon completion of the work the acceptor will complete their part of the cancellation paragraph and return the certificate to the issuer. The issuer will then check the work area in order to confirm that it has been left in a tidy state and cancel the LOA.

8 Records

Oxford Brookes University has and maintains a comprehensive record of electrical systems under its control. These are held in an electronic data base referred to a TraQ-it.
In general records take the form of electrical schematics, Distribution Board schedules and building / room circuit identification including all DB locations and main earthing positions.
The records are in electronic format. It is imperative that all works undertaken by all Authorised Persons have all records undated detailing any changes to LV systems once works have been completed.

A Transfer of System Control Certificate will not be cancelled until all documentation has been received by the Estates & Facilities Management Department.

A Permit to Work on Electrically Disconnected Equipment will not be cancelled until all documentation has been received by the Estates & Facilities Management Department.

All new members of staff who join Oxford Brookes University Electrical Team and / or Electrical Contractors providing additional support and labour to the team will have their competency reviewed.. This will be undertaken on day one of employment and be recorded on “EFM Electrical Department Induction / Contractor Competency Assessment form”.

8.1 Assessment of Contractors

Oxford Brookes University maintains a record of approved contractors who are either authorised to work on the universities electrical systems or authorised to isolate plant / equipment for service, repair or maintenance.

Potential contractors shall be assessed for competence in terms of health and safety with regards to the works they will undertaken on the low voltage electrical systems operated by O.B.U.

Contractors will be assessed in one of the following categories:

Electrical Contractor – Installation, Testing and Inspection (Tier 1)
Electrical Contractor – Safe Isolation (Tier 2)

Potential and existing contractor will be issued with one of the following CoP Contractor questionnaires for completion:

CONTRACTOR CoP QUESTIONNAIRE Tier 1; Electrical Contractor
CONTRACTOR CoP QUESTIONNAIRE Tier 2; Safe Isolation

Upon return of the questionnaire, with the relevant supporting information, it will be assessed with the contractor either being approved or referred. Contractors that are referred will be provided with a summary sheet detailing the finding and they will be asked to re-submit the questionnaire.
When approved; contractor will be invited for a meeting with the O.B.U Authorising Officer.

9 Excavations

The areas in which the OBU has underground cables are heavily serviced and include; water, gas, drainage etc., as well as University and Electricity Company cables. No excavation works may be undertaken until records have been checked and the works approved by the OBU Electrical Section.

10 Key Safe / Additional Padlocks

Where there is a need for OBU to isolate a piece of plant or equipment for another department / section for example pump removal for repair or an electrician requires additional padlocks to secure multiple isolations a key safe with spare padlocks will be maintained in the electrical workshop.

Control and issue of spare padlocks from the key safe will be either by the Authorising Officer or an Authorised Person. At the planning stages jobs which will require additional padlocks will be noted.

Upon issuing a spare padlock the key safe log will be used to record the date, name of person who the padlock has been issued to, a note of the location and job / task being performed.

If the isolation is to remain for several days then upon completion of the isolation the electrician will return the key to the Authorising Officer / Authorised Person. The key will then be held in the key safe until the isolation is ready to be removed.

Upon return of the padlock the entry on the key safe log is to be signed off.

11 Working in University Buildings

On arrival all persons must report to the Departmental Representative who will be identified by the person in the OBU Electrical Section who instructed the works. All persons undertaking work need to be made aware of any hazards in the area of the work and agree procedures of putting controls in place where necessary. Additionally, persons need to be aware of departmental arrangements for booking in on entry as well as procedures for emergency such as fire alarms and evacuation.

12 Design

Those involved in the design of electrical systems must take into account the health and safety implications that may arise through their design. In addition to making provision for those who install the systems initially, designers must give due allowance to those who will use, maintain, repair, modify or remove any part of the system.

Under health and safety regulations the designer must have regard to a number of issues. Those issues may not be directly concerned with the system 'hardware' but may affect those working on the system. Matters to be considered are: - future use and maintenance, working space, means of access and lighting.

13 Test Equipment

The minimum standard for test equipment to be used by competent persons working on the electrical system is that set down by the Health and Safety Executive in their Guidance Series reference GS38. Anyone required to use test equipment must be familiar with GS38 and where necessary be adequately supervised.

It is an absolute duty under the Electricity at Work Regulations 1989 that protective equipment, which includes test equipment, must be (a) suitable for use, (b) maintained in a condition suitable for that use and (c) properly used.

14 Monitoring

The OBU Electrical Services Manager will make arrangements for the periodic monitoring of the activities of those undertaking work on the electrical systems that are the responsibility of the Director. It should be clearly understood that this is not a supervisory role: it is the duty of persons in control of the system to supervise those working upon it. These arrangements will include both OBU staff (Electricians, Handymen and "instructed persons") as well as contractors

Access shall be provided to members of the OBU Electrical Section to inspect the works: any unsafe working practice or unsafe condition observed will be brought formally to the contractor's attention. Copies of the inspection forms will be scanned and held on TraQ-it.

Any monitoring undertaken will be recorded on the following form:
OBU - Electrical Safe Working Site Inspections
OBU Contractors – OBU Electrical Inspection – Form EI01/Aug 2015

15 Request for Connection to OBU Electrical Systems

Infrastructure Item to be connected to/ worked on	**Estates & Facilities Management Member works to be agreed with**

LV Switchpanels/ Panel Boards.	Electrical Services Manager
LV Distribution Busbars.	Electrical Services Manager
HV Network	District Network Operator and Electrical Services Manager
Fire Alarm Network.	Building & Control Manager

16 Matrix of Isolation Responsibilities

Electrical Services

Service/ Works	Isolation By	Documentation Required	Work By
High Voltage Distribution, Works to cables, switchgear, transformers etc.	District Network Operator (DNO);- Senior Authorised Person	PTW by DNO	Contractor;- HV Contractor
	District Network Operator (DNO);- Authorised Person *Following switching schedule agreed by SAP.	PTW by DNO	Contractor;- HV Contractor
Low Voltage Distribution, Connection to existing LV Panels/ Panel boards (Suitable segregation from LIVE parts) and Distribution Busbars.	Oxford Brookes University;- Electrical Services Manager or Lead Technician	Transfer of System Control	Contractor;- Electrical Contractor
	Oxford Brookes University;- Authorised Person *For 2 or more isolations, switching schedule to be agreed with Authorising Officer.	Transfer of System Control	Contractor;- Electrical Contractor
Low Voltage Distribution, Connection of/ alteration of final circuits emanating from a Distribution Board.	Oxford Brookes University;- Electrician	Transfer of System Control not required.	Oxford Brookes University;- Electrician
	Contractors;- Competent Electrician	WHERE A final circuit Distribution board DOES NOT feed circuits outside of the area of works, a Transfer of System Control shall be issued, and the complete Distribution Board shall be under the Electricians control.	Contractor;- Electrical Contractor

This is not intended to be an exhaustive document setting out all requirements for every situation but more to identify general principles that are to be followed. In the event of doubt on any issue relating to electrical safety, the matter must be referred to the OBU

Electrical Section PRIOR to any work going ahead. In all cases there must be effective risk assessment of the activity along with clear understanding of who is responsible for the safety of those working on the system and for those who may be affected if the supply is lost either intentionally or unintentionally.

Appendix 1

Safety Requirements

This Code together with the Regulations listed below set out the minimum standards for safe working in the University:

i) The Electricity Safety, Quality and Continuity Regulations 2002.
ii) The Electricity at Work Regulations 1989.
iii) The Low Voltage Electrical Equipment (Safety) Regulations 1989.
iv) The Electrical Equipment (Safety) Regulations 1994.
v) The Construction (Design and Management) Regulations 2015.
vi) The Management of Health and Safety at Work Regulations 1999.
ii) The Health and Safety at Work etc. Act 1974.
viii) The Provision and Use of Work Equipment Regulations 1998.
ix) Requirements for Electrical Installations BS7671 (latest edition).

References

HSG85 – Electricity at Work; Safe Working Practices
GS38 – Electrical Test Equipment for Use by Electricians

Appendix 2

OBU Procedural Documents

Authorised Person Certificate
Responsible Person Certificate
Transfer of System Control Certificate
Limitation of Access Certificate

ISSUE No……

OXFORD BROOKES UNIVERSITY

APPOINTMENT OF AUTHORISED PERSON

1 ISSUE

Name: ..……..…
Is hereby appointed an Authorised Person in accordance with the OBU Code of Practice - Electrical Safety on LV Systems and is authorised to carry out work according to the schedule below.

THIS APPOINTMENT IS VALID FOR A MAXIMUM OF TWO YEARS BUT MAY BE CANCELLED AT ANY TIME BY THE AUTHORISING OFFICER

Signed……..Time……Date……

Authorising Officer

2 SCHEDULE

In respect of the following systems ……..…….
…….…….

a) To appoint in writing competent persons within their organisation to carry out work on University Fixed Electrical system as defined in the OBU Code of Practice.
b) To enter sub stations.
c) On own initiative to carry out emergency switching on LV systems.
d) To issue and cancel Transfer of System Control Certificates on LV systems.
e) To instruct and supervise competent persons to carry out work on the University Fixed Electrical system as defined in the OBU Code of Practice.
f) To issue Limitation of Access Certificates.

N.B. This is not an authority to carry out work or switching on any apparatus or switchgear belonging to Electricity Supply Company.

3 ACCEPTANCE

I hereby accept appointment as an Authorised Person and will carry out work listed in the Schedule above. I have read, understood and retain in my possession a copy of the Estates and Facilities Management Code of Practice for Electrical Safety on Low Voltage Systems and undertake, to the best of my ability, to carry out all work fully in accordance with the Electricity at Work Regulations 1989.

Print Name ……. Sign……. ……

Date …….. …… Time ……..…

4 CANCELLATION

This appointment is hereby cancelled and the Authorised Person has been instructed to carry out no further work on electrical systems until a new Certificate of Appointment has been issued.

Print Name ……Sign ……..

Date……..Time…….……

N.B: This document is not intended to be an exhaustive description of the work carried out by Authorised Persons nor should it be interpreted as such. Its purpose is to provide evidence of appointment as an Authorised Person.

Original – Authorised Person Scanned copy – Held on TraQ-it

ISSUE No……

OXFORD BROOKES UNIVERSITY

APPOINTMENT OF RESPONSIBLE PERSON

1 ISSUE

Name: ..……..…
Is hereby appointed a Responsible Person in accordance with the OBU Code of Practice - Electrical Safety on LV Systems and is authorised to carry out work according to the schedule below.

THIS APPOINTMENT IS VALID FOR A MAXIMUM OF TWO YEARS BUT MAY BE CANCELLED AT ANY TIME BY THE AUTHORISING OFFICER

Signed……..Time……Date……

Authorising Officer

2 SCHEDULE

In respect of the following systems ……..…….
…….…….

g) To appoint in writing instructed persons within their organisation to carry out limited work on University Fixed Electrical system as defined in the OBU Code of Practice.
h) To enter if required plant rooms / electrical distribution rooms in order to identify isolation points for plant / equipment.
i) To instruct and supervise instructed persons to carry out limited work on the University Fixed Electrical system as defined in the OBU Code of Practice.
j) When appointing an instructed person, the Responsible Person will ensure that the instructed person is able to carry out a safe isolation and understand the hazards and limitations of the appointment.

N.B. This is not an authority to carry out work or switching on any apparatus or switchgear belonging to Electricity Supply Company.

3 ACCEPTANCE

I hereby accept appointment as a Responsible Person and will carry out work listed in the Schedule above. I have read, understood and retain in my possession a copy of the Estates and Facilities Management Code of Practice for Electrical Safety on Low Voltage Systems and undertake, to the best of my ability, to carry out all work fully in accordance with the Electricity at Work Regulations 1989.

Print Name ……. Sign……. ……

Date …….. …… Time ……..….

4 CANCELLATION

This appointment is hereby cancelled and the Responsible Person has been instructed to carry out no further work on electrical systems until a new Certificate of Appointment has been issued.

Print Name ……Sign ……..

Date……..Time…….……

N.B: This document is not intended to be an exhaustive description of the work carried out by Responsible Persons nor should it be interpreted as such. Its purpose is to provide evidence of appointment as a Responsible Person.

Original – Responsible Person **Scanned copy – Held on TraQ-it**

ISSUE No……..

OXFORD BROOKES UNIVERSITY

Headington Campus, Gipsy Lane
Oxford, OX3 OBP

TRANSFER OF SYSTEM CONTROL CERTIFICATE

1. ISSUE

(a) I hereby declare that the control of the following part/s of the University electrical system ……..…….……
……..……..
……

(b) has been transferred to: ……..
Address ……..

(b) for the purpose of carrying out the following work……..……
……..……...……
……
……

The points of connection to the University electrical system are: ……..…….
……
……

Further information which may be required in order to establish a safe system of work……...
……
……

Print Name……Sign……
Time…….……Date ……...……....
Being the person authorised to issue a Transfer of System Control Certificate.

2 RECEIPT

I accept the responsibility on behalf of ……
as the Duty Holder for the electrical dangers on the system/s scheduled in Section 1(a) above. I also accept responsibility for the setting up and the enforcement of safe working procedures and the control of the dangers associated with the work detailed in Section 1(c) above and shall ensure that the works are carried out by competent persons having the necessary skills and experience and who have been made familiar with the 'OBU Code of Practice - Electrical Safety on LV Systems'

Before commencing any work on the transferred part of the system the Duty Holder shall post CAUTION LABELS at all points of connection of the electrical supply. In addition labels shall be placed on all distribution board included in the Transfer of System Control Certificate: these are to indicate the name and address from Section 1(b) above, the name of the Duty Holder as Section 2 and telephone number/s giving 24 hours emergency contact cover.

Print Name ……..…..Sign……..
Time …… Date ……

3 CLEARANCE

I hereby declare that the work for which this Transfer of System Control Certificate was issued is now suspended / completed, and that the persons under my charge have been withdrawn and will carry out no further work on the system and that all gear and tools are clear. I also declare that the transferred part of the electrical system has been tested and is safe to energise.

Signed …….……. Time …… Date ……....

4 CANCELLATION

This Transfer of System Control Certificate is now cancelled and that the parts of the University electrical system/s listed under 1(a) are now under OBU Electrical Section control.

Signed …….……. Time …… Date ……....

Being a person authorised to cancel Transfer of System Control Certificates.

Copy-Displayed at the Point of Work **Signed Copy held on TraQ-it**

ISSUE No……..

OXFORD BROOKES UNIVERSITY

Headington Campus,
Gipsy Lane,
Oxford, OX3 OBP

LIMITATION OF ACCESS CERTIFICATE

This form **MUST NOT** be used on apparatus for which an Electrical Permit-to-Work is required.

1. ISSUE

To……..….

In the employ of ……..……..….

Is hereby given permission to carry out the work described below:-

Location …….……...

Work ……

……...

NO OTHER WORK SHALL BE CARRIED OUT

Print Name…….Sign…….……..…

Time……..Date …….…….....

Being a person authorised to issue Limitations of Access.

2. RECEIPT

Print Name …...……..……..Sign……..

Time ……...……...…….Date ……

Being a person to whom this Limitation of Access is issued.

3. CLEARANCE

I hereby declare that the work for which this Limitation of Access was issued is now suspended / completed and that all persons and equipment under my control have been withdrawn.

Print Name…….Sign… ……

Time ……Date …….....

Being the person to whom this form was issued.

4. CANCELLATION

This Limitation of Access is hereby cancelled.

Print Name…….Sign ……...……...…….

Time…….……Date ……..……...……..

Being a person authorised to cancel this Limitation of Access.

N.B. On completion of the work the holder must surrender this Limitation of Access as directed for cancellation, after which no work shall be done.

Copy-Displayed at the Point of Work **Signed Copy held on TraQ-it**

Appendix 3

Sample Documents

Permit to Work on Electrically Disconnected Equipment
Switching Schedule
Handbook Checklist
EFM Electrical Department Induction / Contractor Competency Assessment form
OBU - Electrical Safe Working Site Inspections
OBU Contractors – OBU Electrical Inspection – Form EI01/Aug 2015

Permit No:……

PERMIT TO WORK ON ELECTRICALLY DISCONNECTED EQUIPMENT

1. DETAILS OF APPARATUS AND WORK/TEST TO BE CARRIED OUT.

…….. Contract No: ……...……

…….. Location: ……...……

PRECAUTIONS

1. DISCONNECTION (State where & how disconnected) ……...……..
   ……..…….....
   ……..
2. WARNING NOTICES AND ACCESS CONTROL (State where displayed)……...
   ……...
   ……...
3. PROVE APPARATUS DEAD (State what test made) ……...……..…….
   ……...
   ……...
4. EARTHING (If applicable state where apparatus earthed)…… ……
   ……...
   ……...
5. SAFETY LOCKS FITTED (Specify) ……..……
   ……...
   ……...

   OTHER PRECAUTIONS (Specify) ……..……

VALIDATION PERIOD

This permit is valid from …….. hours on ……

I hereby declare that the above precautions have been taken and made known to the Competent Persons in charge of the work. I consider that the equipment specified in Paragraph 1 is safe to work on.

Print Name……...Sign …… Authorised person

Date……..……... Time ……...…….

ACCEPTANCE AND RECEIPT BY A COMPETENT PERSON

I acknowledge receipt of this permit and understand the safety precautions described above. Neither I nor the persons under my control will work on any other electrically dangerous equipment. I will return this permit to the authorised person when work is complete.

Print Name……...Sign …… Competent person

Date……... Time …….. ……

CANCELLATION

I hereby declare that the work detailed in paragraph 1 has been completed/stopped, earths removed and tools/gear withdrawn. The apparatus is now in a safe condition.

Print Name……...Sign …… Competent person

Date……..……... Time ……...……...

I hereby declare this permit cancelled. The top copy has been returned to me by the Competent Person. The apparatus detailed in paragraph 1 may be reconnected for service.

Print Name……...Sign …… Competent person

Date……..……... Time ……..

Copy-Displayed at the Point of Work **Signed Copy held on TraQ-it**

SWITCHING SCHEDULE

1	**PURPOSE OF SWITCHING**	
2	**EQUIPMENT TO BE WORKED ON**	
3	**START DATE**	
4	**PREPARED BY** **PRINT** **SIGN** **DATE**	**CHECKED BY** **PRINT** **SIGN** **DATE**

SCHEDULE OF EVENTS					
Item	**Location**	**Operation**	**Equipment and/or special instructions**	**Date and time of operation**	**Operator**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

OXFORD BROOKES UNIVERSITY
HANDBOOK FOR ELECTRICAL SAFETY
LOW VOLTAGE SYSTEMS

The following checklist highlights the key requirements of the Handbook for Electrical Safety for Low Voltage Systems produced by the OBU.

The column on the left indicates the section in which further details of the requirement may be found.

Before going to site check the following requirements:-

Handbook clause Number	Requirement	Yes	No
4.1	Be in possession of the proper tools and equipment and the appropriate personal protective equipment.		
4.2	Have the name and location of the Departmental Representative/Contact with whom you are to meet and at what time.		
4.2	That you have sufficient details to safety carry out your work:- • Relevant risk assessments • Adequate record information • Permit to Work forms (where required)		
5.2	That you have details of the extent of the system control required to carry out your works safely.		

On arrival at site:-

Handbook clause Number	Requirement		
4.2	Report to reception and give the name of the Departmental Representative/Contact with whom you are to meet.		
4.2	Obtain from the Departmental Representative/ Contact details of:- • Signing in/out • Emergency evacuation • Accident/incident reporting • Hazards and risks on site		
4.2	Advise the Departmental Representative/ Contact of the affect of your works on the department.		
4.2	Give reasonable notice for the disconnection of electrical supplies required to achieve safe working. Obtain agreement from the Departmental Representative for the disconnections.		

Before commencing any work it must be clearly understood who has control of the electrical system to be worked on therefore:-

Handbook Page/ Ref	Requirement	Yes	No
5.2	Where appropriate take formal control of the system as Duty Holder by receipt of a Transfer of System Control Certificate.		
4.3	Isolate the system, secure the isolation and prove safe to work on.		
4.4	If you are carrying out diagnostics or testing follow the procedure in the handbook.		
5.2	Report any defect to the Authorised Person who instructed you to carry out the works.		
5.2	Remove caution notices, locks, tools and equipment and ensure the system is safe to return to OBU control.		
5.2	Upon completion of the works sign off the Transfer of System of Control Certificate as Duty Holder and return to the Authorised Person who issued it.		
5.2	Ensure that test certificates and amendments to record information are available to the OBU.		
6	Maintain a clean and tidy site and remove waste materials and redundant packaging on a regular basis.		
6	Before commencing any excavation work ensure that approval has been given by the OBU.		
7	Co-operate with the OBU Electrical Technicians in their monitoring role.		

If at any time you are unsure about what you are expected to do, or the circumstances in which you are working under to the extent that your health and safety, and/or that of others may be put at risk,

STOP WORK AND REPORT TO THE AUTHORISED PERSON WHO INSTRUCTED YOU.

EFM Electrical Department
Induction / Contractor Competency Assessment

Checklist to Confirm ongoing suitability of a *Skilled Person*

This is a formal record of a review of a '*Skilled Person'* by the appointed *Authorised Person* under the EFM Code of Practice for Electrical Safety. It is intended that this review is conducted in the form of an 'Interview' on day one of starting employment with Oxford Brookes University Electrical Team.

This document is to be used for all new members of staff who have joined Oxford Brookes University Electrical Team and / or Electrical Contractors providing additional support and labour to the team.

This form should be used for the demonstration and recording of the essential information required to support a claim on Competency in respect of works associated with electrical installation and maintenance activities.

Date of Review: ……..
Authorised Person: ……..
Name of *Skilled Person*: ……..

The *Authorised Person* (Electrical Department) should check that a copy of the *Skilled Person's* CV together with copies of all relevant training certificates and/or educational qualifications are held within the organisation's Competency Management System (CMS) and /or TraQ-it CoP Electrical Safety.

The *Authorised Person* (Electrical Department) should establish answers to the following:

1. How long has the *Skilled Person* been employed by the company? (If a new member of staff please provide previous company details)…….. Years

2. Is the *Skilled Person* able to demonstrate suitable qualifications? ……. Yes/No

3. Is the *Skilled Person* experienced in the type of work in which they are engaged? ..Yes/No

4. Is the *Skilled Person* likely to be engaged in 'other' work, which may impact Competence?..... Yes/No
(If 'Yes' please annotate below in observation/restrictions/further actions).

5. Is there evidence of formal relevant training for the work in which they are engaged?... Yes/No

6. Is additional training required? ….. Yes/No (If yes, give details below)

7. Has instruction in Emergency First Aid been received in the last 3 years? ….Yes/No

8. Has the *Skilled Person* undertaken Asbestos Awareness training in the past 12 months?..... Yes/No
(Give details)
……

9. Has the *Skilled Person* undertaken Manual Handling training?..... Yes/No
(If no, *Authorised Person* should make arrangements with EFM H&S Officer prior to any start of works on site, and obtain a signed record using the appropriate paperwork and file with the other training information)

10. Is the *skilled person* Confined Space trained?.....Yes/No?

11. Has the *skilled person* has an introduction, including the provision of log in details, to TraQ-it?.....Yes/No?
The *Authorised Person* should now establish the *Skilled Person's* level of technical knowledge and understanding of the safe system of work and the dangers associated with electrical installation and maintenance works. This can be brief and should be appropriate to the work being undertaken. *(Separate notes/evidence should be recorded in support of justification or claim to technical knowledge and understanding).*

12. Is the technical knowledge of the employee satisfactory? ……Yes/No
The *Authorised Person* should inspect the *Skilled Person's* toolkit, e.g. insulated tools, to ensure that all equipment is available, in good repair and calibrated (where appropriate). Supplementary asset inventory details should be provided on a continuation sheet, where necessary, annotated with any comments or observations.

13.Is the tool kit of a suitable standard for the works to be carried out? Yes/No
(If 'No' Please define)

14.Is the *Skilled Person* undertaken the EFM Contractor Induction ?.....Yes/No
(If 'No', the *Authorised Person* should make arrangement with EFM H&S Officer prior to any start of works on site, and obtain a signed record using the appropriate paperwork and file with the other training information)
The *Authorised Person* should inspect the *Skilled Person's* PPE, where provided, to ensure that all safety equipment is available and in good repair. Where felt necessary by the *Authorised Person*, the *Skilled Person* should be asked to demonstrate the pre-use check and assessment process. PPE should only be used as a last resort and the Risk Control Hierarchy must be properly adhered to. The *Authorised Person* should review task related Risk Assessments if the use of PPE appears unrealistic or disproportionate to the tasks being performed.

15.Does the *Skilled Person* have suitable PPE and are they aware of how to properly use the PPE provided? …….Yes/No

16.List below locations and installations upon which work will be undertaken:

17.Is the *Skilled Person* familiar with the environment and aware of the location of First Aid and fire-fighting equipment at each location? Yes/No

The *Authorised Person* shall record here the reasons why the *Skilled Person* was unsuitable or any reservations or work restrictions, also, any further training or actions to be taken before work commences.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

Having interviewed the above named person I am satisfied as to their competence, subject to any restrictions recorded above, to undertake work on OBU LV Electrical Systems.
As the *Authorised Person* it is my assessment that this *Skilled Person* should be further reviewed at a maximum period of …… months or sooner should there be any material change that would impact upon the person being unable to discharge their responsibilities either competently or safely.

SIGNED:..... *Authorised Person* (Electrical Department)
DATE: .....

I confirm that I accept the review as detailed above as a *Skilled Person* (Electrical Systems) for the above sites/locations and that I will at all times comply with all statutory or other regulations, conditions and instructions, maintaining the required level of training/qualifications. Where I feel unable to exercise my responsibilities competently or safely I will advise my Line Manager or the *Authorised Person* immediately.

SIGNED:..... *Skilled Person* (Electrical)
DATE: .....

Completed forms and other evidence in support of this review and claim to competence shall be maintained within the EFM Competency Management System (CMS) and / or with TraQ-it Code of Practice for Electrical Safety. A copy will also be held locally as part of the Electrical Safety Document Register.

OXFORD BROOKES UNIVERSITY
ELECTRICAL SAFE WORKING SITE INSPECTIONS

Employee/s		Position:	
Name:		Site:	
Date:		Building:	

Description of works:

Overall assessment of inspection
Actions required before next inspection
Agreed date of next inspection:

Inspectors Name		**Date**	
Inspectors Signature		**Employee's signature**	

List of Inspections	YES / NO / N/A	Notes of Inspection
Permit to work present		
Transfer notice present		
Handbook present		
RAMS followed		
Estates sign/barriers present		
Adequate access / lighting / work conditions		
Phone present		
PPE, safety shoes, gloves, eye protection etc...		
Multimeter		
Locking off kit in tool bag		
Voltage tester on persons		
Work area clean and tidy		
Correct OBU work wear		
Van clean and tidy		
Vehicle log book up to date		

OXFORD BROOKES UNIVERSITY

Headington Campus, Gipsy Lane
Oxford, OX3 OBP

Inspection by:	Date:
Location: Site: Building: Further details:	Details of who is on site:

	Element	Satisfactory Y/N	Comments
1	Has the contractor or Technician reported to the Departmental contact and advised them of the work to be carried out? Estates / Projects Manager: Name & Contact details:		
2	Does the contractor or Technician have their Handbook for Electrical Safety in their possession? Are they aware of the purpose of the Handbook?		
3	Is there a Transfer of System Control in place where a contractor is undertaking the work? Record the details of the Transfer Certificate with date / reference no.		.
4	Is the contractor or Technician in possession of the risk assessment/method statement for their works and are the documents relevant to the works being carried out? Record the details of the document.		.
5	Are the control measures described in the risk assessment/method statement being implemented. Record what is in place or what is missing?		

6	Does the work involve functional or diagnostic testing? If yes, is there a risk assessment available for the testing including the 'live testing' element and are the control measures described adequate?		.
7	Does the work involve excavations? If yes is there a Permit to Dig in place together with documentary evidence that buried services have been located?		
8	Is the point of isolation locked off and secure with a sign displayed stating who is in control of the system? Record the details of date of transfer etc		
9	Is there evidence that the system being worked on has been proved dead? Record when and where and whom carried out the test		
10	Is the test equipment being used to GS 38 standard? Record the details of the equipment		
11	Is there adequate access, lighting and working space for the work being done? Record any deficiencies		
12	Where functional or diagnostic testing is being undertaken are there signs and barriers in place to segregate the test area?		

	Are they adequate?		
13	Is the work area clean and tidy? If not state what action is required.		
14	Does the contractor or Technician have the appropriate PPE in their possession and is it being used properly? Describe any omissions.		

	Print	Sign	Date
Inspector			
Estate / Project Manager			
Contractor or Technician sign:			
Date when actions to be complete by:		Actual completion date:	