



**Science and
Technology
Facilities Council**

Inspection and Testing of Electrical Equipment

Safety Code No 17

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Revisions

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3.2.3	Appendix 5 reviewed and updated and clarification on equipment used off site.	October 2022
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Inspection and Testing of Electrical Equipment

1. Purpose

Electrical equipment is used extensively throughout STFC and includes mobile, hand-held, stationary, built-in, and fixed equipment, along with extension leads, multiway adaptors, laptop power supplies and IT equipment. The purpose of this code and electrical legislation is to ensure that all electrical systems and equipment are maintained, inspected and tested to prevent danger. Electrical equipment should only be used for the purpose for which it was intended and in the environment for which it was designed and constructed.

Electrical maintenance is the subject of extensive and detailed legislation and guidance:

- Management of Health and Safety at Work Regulations 1999
- Provision and Use of Work Equipment Regulations 1998 (PUWER)
- Electricity at Work Regulations 1989
- Electrical Equipment (Safety) Regulations 2016
- Supply of Machinery Regulations 2008
- Waste Electronic and Electrical Equipment Regulations 2006 (WEEE directive)
- Code of Practice for In-service Inspection and Testing of Electrical Equipment (IET)
- Machinery Directive
- HSE publication, INDG236, 'Maintaining portable electrical equipment in low-risk environments.'

This code outlines STFC policy for the periodic inspection and testing of electrical equipment to determine whether it is fit for continued service or if maintenance or replacement is necessary.

2. Scope

This code is applicable to all electrical equipment used by staff, users, visitors, contractors and tenants whilst working on STFC sites or engaged on STFC business, irrespective of location.

It clarifies the demarcation between in service electrical equipment connected to a fixed electrical installation and the electrical installation itself. Generally fixed wiring electrical inspections will verify the installation as far as the connection point for equipment. This can leave many items of permanently installed electrical equipment failing to be checked, as they neither come under portable appliance testing regime or under the fixed wire inspection and testing programme.

Consequently, this code reinforces the need to include all electrical equipment that does not come under fixed wire inspection and testing programmes.

All contractors, users and tenants are responsible for ensuring that their electrical equipment brought on to STFC sites is suitably inspected and tested, presenting evidence as such prior to use.

This code applies to purchased or hired electrical equipment and electrical equipment constructed / manufactured in-house. All electrical equipment designed and constructed / manufactured in-house must comply with appropriate Standards.

The electrical equipment covered by this code includes but is not limited to:

- Mobile equipment such as desk lights, toasters, mobile phone chargers and fan heaters;
- Stationary equipment such as workshop equipment (for example welders, bench grinders and mills) IT racks and server bays and vending machines;
- Fixed equipment, such as lighting, hand driers, boilers, alarm or security panels, electric towel rails and fixed audio visual (AV) equipment such as monitors and projectors;
- Hand-held equipment, such as hair dryers, floor polishers and power tools;
- Built-in appliances or equipment, such as dishwashers and refrigerators;
- IT equipment, such as laptop power supplies, monitors, computers, and printers;
- Extension leads, RCD extension leads, multiway adapters, RCD adapters and electrical vehicle charging leads;
- Electric vehicle charging equipment (not coming under another maintenance regime: see also the IET code of practice for electric vehicle charging equipment installation);
- Electric heating equipment (for example storage heaters, immersion heaters, etc) and
- Electrical installations in office furniture and similar (see also BS6396 Electrical systems in office furniture and educational furniture-specification).

The safety and proper functioning of electrical equipment depends on the integrity of the fixed installation. A system for inspection and testing of the fixed installation shall be established, see Appendix 5 and should be verified in accordance with BS7671 – Requirements for Electrical Installations.

Fixed electrical equipment directly coupled to the electrical system (such as through a connection unit or spur) should be considered as part of this code.

Installations of a temporary nature may require additional testing to comply with BS7909 - Temporary Electrical Systems for Entertainment and Related Purposes.

3. Definitions

- 3.1. Electrical Equipment** any item for such purposes as generation, conversion, transmission, distribution or utilisation of electrical energy, such as machines, transformers, equipment, measuring instruments, protective devices, wiring systems, accessories, appliances and luminaires.
- 3.2. Programme Manager** is an individual whose role is to manage Inspection and Test Operatives and control risks associated with electrical equipment, as describe in this code.
- 3.3. Fixed Electrical Equipment** are designed to be permanently fastened or otherwise secured in a specific location. Such equipment is not typically connected to the installation via plug and socket outlet.

- 3.4. Classification** of electrical equipment is classified in terms of the method of protection the equipment construction provides against electric shock. Class I, II and III are common equipment categories, see Appendix 2 for more detail.
- 3.5. Electric Vehicle** is any vehicle that uses stored electrical energy including, but not restricted to electric bicycles.
- 3.6. Frequency of Inspection and Testing** depends on likelihood of maintenance being required and the consequences of lack of maintenance. A robust risk assessment should be carried out in all cases, to evaluate the frequencies between inspection and testing. Risk encompasses many factors, such as environment, construction, equipment type frequency of use and installation method.
- 3.7. In-Service Electrical Equipment** is any electrical equipment covered in IET code of practice that does not come under any other established electrical safety management process in the workplace.
- 3.8. STFC Business** is any activity whilst under the employment of STFC, irrespective of location, including working remotely.
- 3.9. Test Operative** is a person competent to inspect and test electrical equipment and based on the results; state that the equipment is safe or otherwise for continued use. Training and experience will both be necessary. HSE guidance HSG107 Maintaining Portable Electrical Equipment recognises two levels of competency for test Operatives:
- 3.9.1. **Level 1:** A person not skilled in electrical work who routinely uses a simple 'pass/fail' type of test instrument where no interpretation of readings is necessary. The person would need to know how to use the equipment correctly. Providing the appropriate test procedure is rigorously followed and acceptance criteria are clearly defined.
- 3.9.2. **Level 2:** A person with appropriate electrical skills, who uses a more sophisticated instrument that gives readings requiring interpretation. Such a person would need to be competent through technical knowledge or experience related to this type of work.
- 3.10. Schedule A** electrical equipment must be tested and inspected at least annually. In general schedule A equipment are usually hand-held or moveable equipment that are operated in an arduous environment, frequently used and of class 1 or 11 construction. See Appendix 6 for examples of Schedule A equipment.
- 3.10.1. All new internally supplied IT equipment shall be visually inspected on arrival and then tested within 12 months, then in accordance with Schedule A or B as appropriate.
- 3.10.2. Electrical power leads shall be tested to the schedule at which the equipment they supply is tested. Power leads not connected to equipment at the time of testing must be tested when brought into services to appropriate Schedule.
- 3.11. Schedule B** electrical equipment must be tested and inspected at least every four years. In general schedule B equipment is usually fixed, stationary or built-in appliances used in benign environments, frequency of use can vary and of class 1 or 11 construction. See Appendix 6 for examples of Schedule B equipment.

4. Responsibilities

4.1. Estates Services - Electrical Equipment Inspection and Test Programme Manager shall:

- 4.1.1. Organise and execute an inspection and testing programme for Schedule A and B - electrical equipment, according to the schedule defined in 3.10 & 3.11 using electrical equipment inspection and test operatives, see Appendix 1. Disposal or repair of faulty electrical equipment is the responsibility of the Department / User in consultation with Estates Services.
- 4.1.2. Ensure that all companies contracted to perform inspection and testing supply risk assessment, method statements and staff competencies prior to work commencing.
- 4.1.3. Based upon the results of the inspection and testing programme ensure that a register of electrical equipment, its name and location, and a database of test results is established and retained in a shared location according to the schedule detailed in Appendix 9.
- 4.1.4. Provide an ad hoc inspection and testing service for electrical equipment from departments where local test operatives have not been appointed and provide advice on electrical equipment safety as required.
- 4.1.5. Consult with the department electrical equipment liaison officers as recorded on SHE Directory.
- 4.1.6. Produce an annual report summarising the results and recommendations from the inspection and testing programme for review by the STFC electrical safety committee.

4.2. Authorising Engineers (Electrical) shall:

- 4.2.1. Appoint in writing sufficient competent STFC staff or contractors as electrical equipment inspection and test operatives within Estate Services to undertake annual inspection and testing programmes, see Appendix 6, ensuring that they are suitably trained and experienced, recording names in the STFC SHE Directory.
- 4.2.2. Appoint, or nominate others to appoint in writing sufficient competent electrical equipment inspection and test operatives to support departments, see Appendix 6, to compliment the annual inspection and testing programmes ensuring that they are suitably trained and experienced, recording names in the STFC SHE Directory.

Note: Departmental test operatives may be required in departments where:

- Large numbers of external/facility user equipment are receipted;
- Electrical equipment is in-house designed and constructed;
- Equipment cannot be made available for annual inspections due to operational constraints for example within radiation areas.

4.3. Departmental Electrical Equipment Inspection and Test Operative shall:

- 4.3.1. Be suitably trained in accordance with Appendix 7.
- 4.3.2. Complement the inspection and testing programme, undertake inspection and test of electrical equipment as required by departmental staff, to the schedule defined in 3.9 & 3.10.

4.4. Departmental Electrical Equipment Inspection and Test Programme Manager or Operative shall:

- 4.4.1. Maintain a register of inspected and tested electrical equipment, recording the date and results of the equipment tested, see Appendices 1 and 9.
- 4.4.2. Ensure that departmental electrical equipment test records are retained according to the schedule detailed in Appendix 9 and are available for review.
- 4.4.3. Produce an annual report summarising the results and recommendations from the inspection and testing records for review by the STFC electrical safety committee.

4.5. Managers and Supervisors shall:

- 4.5.1. As appropriate nominate sufficient staff to be appointed as electrical inspection and test operatives and liaison officers.
- 4.5.2. As appropriate, ensure that all electrical equipment is inspected and tested in accordance to this code.
- 4.5.3. Ensure that staff are aware of their responsibilities with regards to the selection and use of electrical equipment, see 4.6, and that items of electrical equipment, including extension leads, are only used for the purpose for which they are intended and in the environment for which it was designed and constructed, see Appendix 2.
- 4.5.4. Ensure that all persons bringing electrical equipment onto STFC sites can demonstrate that it has been inspected and tested prior to use. Including scientific equipment and travel adapters.
- 4.5.5. Ensure, directly or through their staff, that all electrical equipment for which they are responsible is safe to use, ensuring that when faults or defects are found, or suspected, they are taken out of service, and as appropriate reported as a Learning Opportunities (hazardous conditions/near misses), see SHE code 5, "Incident Reporting and Investigation".

4.6. Staff, users, visitors, tenants and contractors shall:

- 4.6.1. Ensure that items of electrical equipment are only used for the purpose for which it was intended and in the environment for which it was designed and constructed, see Appendix 2.
- 4.6.2. Ensure that all new electrical equipment is procured from a reputable retailer / manufacturer with an approved quality certificate. E.g. Approved CE mark and is Inspected and tested prior to use.

- 4.6.3. Any electrical equipment brought onto site by contractors, tenants or visitors must display a valid test label and have a recognised accreditation (i.e. Approved CE mark), this equipment may be used without a further test being required. When IT equipment is brought on to STFC sites for up to 2 days, a visual inspection of the equipment by the host is sufficient to allow the temporary use of the IT equipment, see Appendix 2.
- 4.6.4. Check integrity of equipment, by visually inspecting all electrical equipment prior to use, to check for damage, loose cables, etc. See Appendix 2.
- 4.6.5. Do not use electrical equipment without a test label verifying when the inspection / test took place (for new equipment see 3.10.1 – IT Equipment only). Each label will display the recommended frequency of test; this will be either 1 Year or 4 Years. If this period has expired, then such equipment should be considered unsafe and reported to line management.
- 4.6.6. Identify and report faulty electrical equipment and withdraw it from service, by ensuring it cannot be used and/or is marked faulty, and as appropriate report it as a Learning Opportunity (hazardous condition) see SHE code 5, “Incident Reporting and Investigation”.
- 4.6.7. Where Residual Current Devices (RCD's) are fitted to equipment) it is the user's responsibility to test the device using the Test button (T) prior to each period of use.

4.7. Directors shall:

- 4.7.1. As appropriate, ensure there are sufficient departmental electrical equipment liaison officers to provide local contacts for the annual electrical equipment inspection and testing programme, recording their names in the STFC SHE Directory.
- 4.7.2. Appoint Authorising Engineers in accordance with SC34 Electrical Safety.
- 4.7.3. Nominate as required suitable Electrical Equipment Inspection and Test Programme Managers.

4.8. Departmental Electrical Equipment Liaison Officers (EELO) shall:

- 4.8.1. Establish a thorough understanding of the location of all electrical equipment within the scope of their appointment and any accessibility constraints due to operational activities. Identify and locate any sensitive electrical equipment for whom specific care needs to be observed when undertaking inspection and testing.
- 4.8.2. Ensure Estates Services are informed of their appointment as an electrical equipment liaison officers and areas of responsibilities.
- 4.8.3. Act as the primary contact for the areas defined in their scope of appointment, for test operatives managed by Estate Services. Ensure that test operatives are directed to all locations and make sure electrical equipment is available. Highlight the location of sensitive electrical equipment before inspection / testing undertaken.

- 4.8.4. Report to Estate Services the effective completion of inspection and testing within their area of responsibility and as appropriate report to Estate Services instances where the performance of test operative falls below contracted performance or expectations.
- 4.8.5. Where local operational constraints have prevented the completion of inspection and testing in all or part of their area of responsibility, make alternative arrangements for inspection and testing to be completed by Estate Services, or where appointed a departmental test operative.
- 4.8.6. Successfully complete and refresh as required the Bitesize SC17 training.

Appendix 1 Inspection and Testing Procedure

The Institution of Engineering and Technology (IET), 'Code of Practice for In-service Inspection and Testing of Electrical Equipment' gives guidance on inspection and testing:

- (a) **User checks:** Faults are reported and logged, and faulty equipment should be removed from service. No record is required if no fault is found.
- (b) **Formal visual inspections:** Conducted by a competent person, the results of which, satisfactory or unsatisfactory, are recorded.
- (c) **Electrical tests:** Conducted by competent person in the safe use of the test instrument and knows how to interpret results, which are recorded.

Electrical testing are means of determining whether maintenance is required.

Frequency of inspection and testing will depend upon the likelihood of maintenance being required and the consequences of lack of maintenance.

To comply with legal requirements a suitable and sufficient risk assessment should be carried out by the Electrical Equipment Inspection and Test Programme Manager on all electrical equipment to evaluate the frequencies between inspections and testing, as defined in schedules A and B.

User Checks

The most important check that can be carried out on a piece of equipment, particularly hand-held tools, is a visual inspection carried out by the user, each and every time the equipment is used.

User checks are limited to an external visual inspection without dismantling equipment or removing cover plates etc. User checks, before use, should as a minimum focus on looking for:

- No signs of overheating
- No damage to the cable and/or plug
- No damage to the body of the equipment
- No signs of exposed conductors.
- Not operated in a location that could cause damage to the equipment.
- Operation of RCD (where fitted) by using the in-built test facility.
- A within date test label
- No damage to socket outlet or fused connection unit

Refer to Appendix 3 for a comprehensive check list.

Formal Inspections and Electrical Tests

All electrical inspection and testing should be performed by a person who is competent in the safe use of the test equipment and who knows how to interpret the results obtained, see Appendix 7 for training requirements.

The following steps shall be undertaken:

Equipment being employed to undertake electrical equipment inspection and testing must be suitably maintained and calibrated according to the manufacturer's guidelines.

In-service testing must be preceded by a preliminary visual inspection, see Appendix 3, as described in the IET Code of Practice for In-Service Inspection and Testing of Electrical Equipment.

Testing will involve the following:

- Earth continuity test (Class I – earthed equipment only)
- Insulation resistance test. (Class I and Class II with unearth metal)
- Protective conductor / touch current measurement (if required)
- Functional check.
- Operation of RCD (where fitted).

Special care must be taken not to damage sensitive equipment during testing. In these cases, 'soft' earth continuity test and a reduced voltage or 'soft' insulation resistance test must be completed. Where possible, use labels as defined in Appendix 4, if not available a test label complying with IET code of practice may be used

On completion of the equipment inspection and testing a durable, adhesive label of sufficient size will be fixed preferably to the lead near the plug or on the equipment to be visible and clearly indicate pass or fail, the date of test, validity period and individual identifier, plus a method of identifying test operative. All old labels must be removed from cables and equipment.

All equipment and test results will be held on an Electrical Equipment shared register held by the responsible Estate Services or Departmental Inspection and Test Programme Manager.

In the event of any item being found to be defective, it must be clearly marked with an adhesive red label, with a white cross and the wording "FAIL" or "FAILED". The equipment shall be immediately withdrawn from use for repair or disposal, and the electrical equipment liaison officer and user informed of the reason for its withdrawal. See label example in Appendix 4.

Items that are purchased or manufactured in-house must be identified, registered and inspected / tested as appropriate, as defined in see 3.10 & 3.11.

It is the duty of the user to ensure that these inspections or tests have been carried out prior to use.

Some equipment may be difficult to inspect and test for operational reasons. Where this is the case, special arrangements need to be made by the Equipment Liaison Officer with the appropriate Estate Services / Department Programme Manager or Test Operative.

The frequency of inspection and testing, either schedule A or B, will be determined through a suitable and sufficient risk assessment of each electrical item, but factors influencing the decision will include the following:

- (a) **The environment:** Equipment installed in a benign environment, such as offices, will suffer less damage than equipment in an arduous environment, such as construction sites;

- (b) **The users:** If the users of equipment report damage as and when it becomes evident, hazards will be avoided. Conversely, if equipment is likely to receive unreported abuse, more frequent inspection and testing is required;
- (c) **Equipment type:** Hand held equipment is more likely to be damaged than fixed equipment. If such equipment is also Class 1 the risk of danger is increased because safety depends upon the continuity of the protective conductor from the plug to the appliance.
- (d) **Equipment Construction:** The safety of Class I equipment is dependent upon a connection with earth of the fixed electrical installation. If the flexible cable is damaged, the connection with the protective earthing arrangements can be lost. The safety of Class II equipment is not dependent upon the integrity of the electrical installation.
- (e) **Frequency of Use:** Frequency of use of equipment is important, particularly where, mobile or hand-held equipment is concerned, because this may have implications for service life and exposure to possible damage.
- (f) **Type of Installation Method:** Installation methods should be taken into account especially when assessing fixed equipment, because for example the isolator position and cable management can be important factors when assessing for risk. The type of protective device fitted in the distribution will also have a bearing..
- (g) **Previous Records** where applicable, previous records of inspection, testing and maintenance should be used to evaluate the frequency of subsequent inspections and tests. These records will provide a history of the environment and user and how this affects the condition of the equipment within the environment,

More information on inspection and testing is available through the HSE publication, INDG236, 'Maintaining portable electrical equipment in low risk environments.

Appendix 2 Guidance on the selection and use of Electrical Equipment (including extension leads)

There are a number of electrical equipment construction types that are referred to within the Standards. These are important because they determine how the user is protected against electric shock and describe tests appropriate to apply when assessing safety.

Reducing the voltage, using RCDs and selecting the appropriate equipment class (Class I, II or III) taking the task and environment into account, are primary method of risk reduction.

The following points are listed in priority order and should be considered when procuring and using electrical equipment:

- Can the requirement to use electrical equipment be eliminated, such as extension leads.
- Battery operated and Class III equipment – should be used whenever possible.
- 110v equipment – is suitable for building and construction work, outdoor use in good weather, and in workshop type environments.
- Class II 230V double insulated (and fully insulated) equipment - suitable for use in benign, low risk areas should be employed in preference to Class I equipment.
- Class I 230v earthed equipment – only to be used if double insulated and 110V equipment is not available following a suitable and sufficient risk assessment.
- Consideration should be given to the use of a Residual Current Device (RCD) with 30mA protection when the operating environment or task poses an elevated risk of injury. Such as when using hand-held and portable equipment. Functionality shall be checked prior to use.
- All 230V electrical equipment, including extension leads, used outdoors must be protected with a 30mA RCD. Functionality shall be checked prior to use.

Class I electrical equipment includes appliances and tools, and for such equipment, protection against electric shock is provided by both the provision of basic insulation and connecting metal parts to the protective conductor in the connecting cable and plug and hence via the socket outlet to the fixed installation wiring and the means of earthing.

Class II electrical equipment is equipment in which protection against electric shock is provided by basic insulation and an additional safety precaution such as supplementary insulation, or reinforced insulation.

Class III electrical equipment relies for protection against electric shock on supply from a Separated Extra-Low Voltage (SELV) source. However, SELV is also described as Safety Extra-Low Voltage in appliance standards and Separated Extra-Low Voltage in installation standards such as BS7671. As defined in the IET Code of Practice.

Class O and Class OI equipment must not be used.

Extension Leads

The use of 230V extension leads should be avoided wherever possible – and they should not be connected in series (“Daisy Chained”). These should not be considered as a method for permanent supply and may only be used for short duration. Extension leads for temporary systems should be designed, tested and installed to BS7909.

If used, they should be tested as electrical equipment and have three core leads (including a protective earthing conductor).

The length of any extension lead should not exceed the following unless it is protected by an RCD with a rated residual current not exceeding 30mA. The RCD should, preferably, form part of the fixed installation: Functionality shall be checked prior to use.

Core area:	Maximum length:
1.25 mm ²	12 metres
1.5 mm ²	15 metres

Care must be taken when using cable reels. For short period low load applications, it is not necessary to fully uncoil extension leads. However, where long period and/or high load usage is required, leads should always be fully unwound. Some reels are protected with thermal trips and may state a maximum load when coiled, however, if in doubt, always uncoil the cable.

Microwave Ovens

Microwave leakage testing is excluded from this code but should be included in the Estate Services inspection and test programme, this can be included in the annual electrical equipment inspection and test programme.

Appendix 3

Table of User Checks

Plug	Free from cracks or damage Free from any sign of overheating Flexible cable secure in its anchorage If the plug is not re-wirable or moulded, the cable grip should be checked by pulling and twisting. No movement should ensue Pins not bent or damaged Live pins should be sleeved The plug is not loose in the socket and can be easily removed
Flex or cable	Is it in good condition Does not show fraying, cuts and damage Not in an area where it could be damaged Not too long or short No joints or connections Only one flex connected to the plug Not bent too tightly Not a trip hazard Not run under a carpet or floor covering Unwind an extension lead fully to inspect its full length Suitable in-date test label
Socket outlet or flex outlet	Free from cracks or other damage. No signs of overheating. Pin shutter mechanism functions. Socket is not loose. If a switch is fitted, it operates correctly.
Adapter or extension lead fitted with RCD	Inspect device and make sure the operating current is not above 30mA. Check the device by plugging in and pushing the test button, the RCD should operate and turn off.
Appliances or items of equipment (includes ELV)	Free from cracks, chemical or corrosion damage to case or access to live parts. Equipment is operated with protective covers in place and doors closed. Equipment can be used safely. Equipment switches on and off correctly. Equipment works properly. There is sufficient space to allow cooling, not too close to walls to inhibit good ventilation. Free from excessive dust / debris build up which may affect cooling Not likely to overheat due to obstructions and items hanging over equipment. Correct lamp rating for luminaires. No liquid items are placed on top of the equipment.
Environment	Equipment suitable for its environment. Extension leads and multi way adapters are not being used incorrectly. Where possible, equipment is not left on overnight, should this be necessary then suitable control measures must be identified and implemented. Suitably ATEX rated for expected environment.
Suitability	The equipment is suited to the work it is required to carry out (fit for purpose)

Appendix 4 Label Examples

DANGER DO NOT USE	FAIL  SAFETY CHECK
Date of check _____	
Initials _____	
Appliance number _____	

	PASS  SAFETY CHECK
Date of check _____	
Initials _____	
Appliance number _____	

Appendix 5 Fixed Electrical Installations and Equipment

Fixed Electrical Installation

Every electrical installation, shall, during erection and on completion, before being put into service, be inspected and tested to verify, so far as is reasonably practicable, that the requirements of the Regulations have been met. All fixed electrical installations should be verified in accordance with BS 7671 and an Electrical Installation Condition Report (EICR) issued.

Periodic inspection and testing is necessary because all electrical installations deteriorate due to a number of factors such as damage, wear and tear, corrosion, excessive electrical loading, ageing and environmental influences

Periodic inspection and testing of every electrical installation must be carried out in order to determine, as far as reasonably practicable, whether the installation is in a satisfactory condition for continued service. Wherever possible, the documentation arising from the initial certification and any previous periodic inspection and testing shall be considered. Where no previous documentation is available, investigation of the electrical installation shall be undertaken prior to carrying out the periodic inspection and testing.

Guidance on the initial frequency and subsequent frequencies at which periodic inspections should be performed are given in the IET's Guidance Note: 3 (GN3) Inspection and Testing. It also provides information on the necessary competence of those carrying out the inspections and any testing.

Several factors need to be considered when determining the time interval between periodic inspection and testing of an electrical installation. These include the type of installation and equipment, its use and operation, any known maintenance and the external influences to which it is subjected. These time intervals can be set and/or amended by the Authorising Engineer after a formal risk assessment of the electrical installation has been completed.

Fixed Electrical Equipment

All fixed electrical equipment and appliances are included in this code and should be verified in accordance with the IET Code of practice for in-service inspection and test of electrical equipment.

It is possible to test fixed electrical equipment during the EICR (as part of the fixed installation inspection and testing). EICR testing does not normally include this type of equipment, but as the testing requires the isolation of circuits it is sensible to combine the two together. An EICR is usually carried out every 3 - 5 years, so a risk assessment should be carried out first to determine if the test intervals are appropriate. The person or department responsible for the equipment will need to request that the work is carried out as an addition to the standard EICR.

For the inspection and testing to take place, the fixed equipment must be isolated from the mains supply. For equipment connected via a plug this is straightforward, it can simply be unplugging from the socket.

Staff appointed as electrical equipment test operatives are not approved to isolate fixed electrical equipment, unless formally appointed to do so.

Appendix 6 Schedule A and B – Examples of Electrical Equipment

Schedule A:

Example of types of equipment. including but not limited to are extension leads; laptop power leads; kitchen appliances; mobile water coolers; electric heaters; handheld electrical tools and equipment e.g. mains powered drills; soldering irons, laboratory-based equipment, mobile phone chargers, etc.

Schedule B:

Example of types of equipment, including but not limited to are 'standard' office equipment and their power leads, for example: PCs; monitors; printers; scanners; desk lamps; fans; electric staplers; shredders; battery chargers; fixed electronics racks.

Appendix 7 Training Requirements

All roles to have a suitable knowledge and understanding of the systems and environment included in their area of appointment.

Role	Initial Training	Refresher	Frequency
Level 1 Electrical Equipment Inspection and Test Operative	Minimum 3 day	Minimum 1 day	Every 5 years or at discretion of AE
Suitable course:	Initial training: (As required dependent on competence) Certificate in Electrical Equipment Maintenance - City & Guilds 2377-77 or course recommended by STFC SHE Group. Refresher: A course recommended by STFC SHE Group		
Level 2 Electrical Equipment Inspection and Test Operative	Minimum 1 day	Minimum 1 day	Every 5 years or at discretion of AE
Suitable course:	STFC Staff - A course recommended by STFC SHE Group (Competent Person with technical knowledge or experience related to this type of work). External / Others – Competency and training must be assessed by Programme Manager.		
Departmental Electrical Equipment Liaison Officer	No specific training required for this role except a thorough understanding of this SHE Code and completion of the Code's BiteSize SHE training.		

Appendix 8 Audit Checklist

Ref	Item	Rating	Comments
1 (Section 4.3.2)	Does all electrical equipment have dated test labels?		
2 (Section 4.1.1)	Are Estates Services portable electrical equipment test operatives suitably qualified and competent?		
3 (Section 4.1.2)	Does the SHE Directory contain the names and appointment letters for Departmental inspection and test operatives and Electrical Equipment Liaison Officers. Are the Test and Inspection operatives suitably qualified and competent?		
4 (Section 4.1.4)	Is site register of electrical equipment up to date?		
5 (Section 4.1.3)	Has annual Schedule A test been undertaken?		
6 (Section 4.1.3)	Has 4 yearly Schedule B test been undertaken?		
7 (Section 4.3.4)	Is a process in place to remove faulty or unsuitable portable electrical equipment to a secure location awaiting repair or disposal?		
8 (Section 4.6.1)	In discussion with Estate Services have sufficient Electrical Equipment Liaison Officers been appointed to cover the scope of the Department's electrical equipment.		

Appendix 9 Record Retention Policy

Records Established	Minimum Retention Period	Responsible record keeper	Location of Records	Comments/Justification
Site inspection and testing records	Current + 8 years	Estate Services Programme manager	Shared Drive	A copy of test records must be held by STFC
Local inspection and testing records	Current + 8 years	Department Programme Manager	Shared Drive	A copy of test records must be held by STFC
Appointments:				
Electrical Equipment Inspection and Test Operative	Most recent	Electrical Authorising Engineers or Nominated Deputy	SHE Directory	Appointment letter
Electrical Equipment Liaison Officer	Most Recent	Director or Nominated Deputy	SHE Directory	Appointment letter