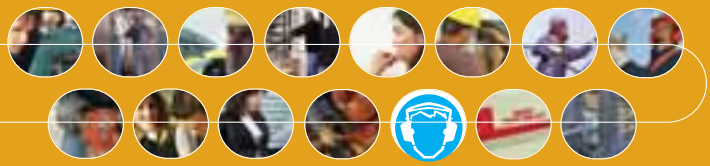
Safety Toolkit and Short Guide to General Application Regulations 2007
Electricity Section

Electricity

Introduction



Safety Toolkit

The objective of the Toolkit is to provide guidance on the prevention of accidents or ill health at work and to provide a practical tool towards a safer workplace. It covers requirements of the Safety, Health and Welfare at Work (General Application) Regulations, 2007 as amended and is aimed specifically at small and micro businesses. It is not intended as a legal interpretation of the legislation. Legal advice should be sought where required.

Checklists provided are non-exhaustive and in no particular order

How do I use the Toolkit?

The Toolkit is intended to assist you to monitor and improve standards of safety, health and welfare. It will assist you towards complying with the law.

1. Use the checklists to monitor how you're doing.
2. Make any required improvements.
3. If necessary, investigate further to find out what you need to do and set a timescale for achieving it.
4. Use the Action Date column to show when action taken.

Checklists provided are non-exhaustive and in no particular order.

At the end of each point in the check list reference is made to the corresponding part of the Regulations, for example (r51) indicates Regulation 51.

Where can I get further advice?

The Health and Safety Authority's website www.hsa.ie contains a large amount of additional information. Most of the information on the website can be accessed free-of-charge. The website has detailed guides on each section of these Regulations. Each guide contains advice on where to find further information.

The Health and Safety Authority's Workplace Contact Unit (WCU) is a helpdesk resource for employers, employees and the public. You can contact the WCU through

- Locall: 1890 289 389 (Monday to Friday, 9am to 5pm)
- Fax: 01 614 7125
- Email: wcu@hsa.ie
- Write to: Workplace Contact Unit, Health and Safety Authority, Metropolitan Building, James Joyce Street, Dublin 1



Electricity

In general the higher the supply voltage the higher the risk. However, electricity at all voltages, if not managed in a safe way, can present significant hazards.

Electrical hazards include:

- electrical shock
- burns sustained at the point of contact, or due to arcing
- fires caused by overheating or ignition of explosive atmospheres
- injuries due to muscle spasm causing for example a fall from a ladder

What does this section deal with?

This section deals with safe use of electrical equipment and installations and work on or near electrical equipment. It also imposes duties on persons who design, install, maintain, use or are in control of electrical networks.

Does this section apply to all electrical equipment?

This section **does not apply** to

- any electrical equipment or installation exclusively for electrical testing or research
- medical electrical equipment
- issues associated with radiation from electric sources or interference effects

Some Important Points

- Do not work with electricity unless you are qualified and have sufficient practical experience in the work
- Ensure electrical equipment is properly installed and kept in good condition
- Connections such as plugs and at portable equipment should be checked and maintained
- Ensure equipment is tested as needed by a competent person and any necessary work safely completed by a competent person

Electricity Checklist

Interpretation	Yes	No	N/A	Action Date
See Regulation 74 for definitions of authorised person, circuit, circuit breaker, conductive part, conductor, danger, earthing, electrical equipment, electrical installation, higher voltage, live, medical electrical equipment, overcurrent, overhead line, portable equipment, residual current device, substation, switch room and underground cable *(r74)*				
Is the equipment				
▲ electrical equipment or installation exclusively for electrical testing or research (r75) or	❍	❍	❍	
▲ medical electrical equipment (r75)	❍	❍	❍	

If YES, do not proceed because this part does not apply.

Requirement	Yes	No	N/A	Action Date
Are all electrical equipment and electrical installations				
▲ designed *(r76)*	❍	❍	❍	
▲ constructed *(r76)*	❍	❍	❍	
▲ installed *(r76)*	❍	❍	❍	
▲ maintained *(r76)*	❍	❍	❍	
▲ protected *(r76)* and	❍	❍	❍	
▲ used so as to prevent danger *(r76)*	❍	❍	❍	
Electrical equipment and installations protected from ingress of moisture or particles and foreseeable impacts *(r76)*	❍	❍	❍	

Requirement	Yes	No	N/A	Action Date
Electrical equipment is safe in regard to exposure to adverse or hazardous environments, including				
▲ mechanical damage *(r77)*	❍	❍	❍	
▲ weather, natural hazards, temperature or pressure *(r77)*	❍	❍	❍	
▲ wet, dirty, dusty or corrosive conditions *(r77)* and	❍	❍	❍	
▲ flammable or potentially explosive atmosphere	❍	❍	❍	
All electrical equipment suitably identified where necessary *(r78)*	❍	❍	❍	
All electrical equipment, other than cables and overhead lines, display the maker's name with all ratings necessary *(r78)*	❍	❍	❍	
All electrical circuits suitably identified at source to allow circuits to be de-energised and isolated *(r78)*	❍	❍	❍	
All live parts suitably covered with insulating material or suitably placed for protection *(r79)*	❍	❍	❍	
Precautions by earthing and automatic disconnection or other suitable means to prevent danger where exposed conductive part may become live *(r80 amended)*	❍	❍	❍	
RCD's (residual current devices) fitted on circuits supplying showers or other similar water heating devices *(r80)*	❍	❍	❍	
Portable equipment maintained fit for safe use *(r81)*	❍	❍	❍	
RCD's fitted to circuits supplying portable equipment operating above 125 volts A.C.*(r81)*	❍	❍	❍	
Portable equipment exposed to deterioration and exceeding 125 volts alternating current is				
▲ visually checked by the user before use *(r81)*and	❍	❍	❍	
▲ periodically inspected by a competent person, appropriate to the nature, location and use *(r81)*	❍	❍	❍	

Requirement	Yes	No	N/A	Action Date
A competent person tests and certifies portable equipment exposed to deterioration and exceeding 125 volts alternating current *(r81)*	❍	❍	❍	
Portable equipment certified as not safe not used *(r81)*	❍	❍	❍	
Portable equipment, other than transformers and generators, exceeding 125 volts alternating current not used in				
▲ construction work *(r81)*	❍	❍	❍	
▲ external quarrying activities *(r81)* or	❍	❍	❍	
▲ damp or confined locations, unless its rating exceeds 2 kilovolt amperes *(r81 amended)*	❍	❍	❍	
Electrical joint and connection of adequate construction to prevent danger *(r82)*	❍	❍	❍	
Cable in construction or external quarrying appropriately protected and insulated *(r82)*	❍	❍	❍	
Effective means suitably located to protect from overcurrent (e.g. fuses,circuit breakers) *(r83)*	❍	❍	❍	
Appropriate precautions taken with auxiliary batteries or generators, and *(r84)*	❍	❍	❍	
Appropriate precautions taken where risks to persons working on external network supplying an installation *(r84)*	❍	❍	❍	
Suitable means provided to switch off electricity and isolate equipment *(r85)*	❍	❍	❍	
Every switch, circuit breaker or other control device				
▲ clearly marked “ON” and “OFF” unless self-evident (r85) and	❍	❍	❍	
▲ readily accessible and adequately lit *(r85)*	❍	❍	❍	
Before work is carried out on live electrical equipment, it is made dead *(r86)*	❍	❍	❍	

Requirement	Yes	No	N/A	Action Date
Precautions to prevent danger from				
▲ equipment made dead becoming live while work carried out *(r86)* and	❍	❍	❍	
▲ any electrical equipment inadvertently becoming live *(r86)*	❍	❍	❍	
No work on or near live parts, other than one suitably covered, unless				
▲ unreasonable for it to be dead *(r86)*	❍	❍	❍	
▲ live work reasonable in the circumstances *(r86)* and	❍	❍	❍	
▲ precautions taken, including protective equipment *(r86)*	❍	❍	❍	
Protective equipment for worker protection near live electrical equipment is suitable, maintained and properly used *(r86)*	❍	❍	❍	
Adequate working space, access, egress and lighting at all electrical equipment *(r87)*	❍	❍	❍	
Emergency lighting in all switchrooms *(r87)*	❍	❍	❍	
No person in any electrical or related work activity unless competent or under appropriate supervision *(r88)*	❍	❍	❍	
New installation and major alteration or extension inspected and tested by a competent person and report verifying compliance *(r89)*	❍	❍	❍	
Existing electrical installation tested from time to time having regard to the nature, location and use or if inspector so requires, and a report of the test is completed *(r89 amended)*	❍	❍	❍	
Advice of inspector, or competent person, on further testing acted upon *(r89)*	❍	❍	❍	
All defects found during testing and inspection rectified promptly *(r89)*	❍	❍	❍	
Effective means provided to every higher voltage circuit to prevent danger from leakage currents to earth *(r90 amended)*	❍	❍	❍	

Requirement	Yes	No	N/A	Action Date
Substation or a main switch room				
▲ suitably constructed *(r91)*	❍	❍	❍	
▲ arranged so no access otherwise than intended entrance *(r91)*	❍	❍	❍	
▲ arranged so a person cannot interfere with equipment or conductors from outside *(r91)*	❍	❍	❍	
▲ provided with efficient ventilation and kept dry if under cover	❍	❍	❍	
▲ under control of authorised person(s) *(r91)*	❍	❍	❍	
Only authorised person or person under supervision, can enter substation or switch room *(r91)*	❍	❍	❍	
Higher voltage transformer or switchgear not in a building adequately protected by				
▲ fencing not less than 2.4 m high *(r91)* or	❍	❍	❍	
▲ other means for preventing unauthorised access to equipment or conductor unless completely enclosed by *(r91)*	❍	❍	❍	
▲ a metal casing connected to earth *(r91)* or	❍	❍	❍	
▲ equally suitable non-metal casing *(r92)*	❍	❍	❍	
Overhead lines, their supporting structures and underground cables suitable for operating conditions *(r93)*	❍	❍	❍	
Underground cables in ducting, other than in concrete ducts or in floor voids or slabs *(r93)* are	❍	❍	❍	
▲ coloured red *(r93)*	❍	❍	❍	
▲ high resistance to impact *(r93)* and	❍	❍	❍	
▲ suitable warning tape embedded in the ground above duct *(r93)*	❍	❍	❍	

Requirement	Yes	No	N/A	Action Date
Overhead lines and connected current-carrying parts arranged so that adequate clearance from the ground or other accessible place *(r93)*	❍	❍	❍	
Are means provided to prevent danger				
▲ in the event of live conductor falling *(r93)* and	❍	❍	❍	
▲ from excessive voltage due to accidental contact or leakage from other overhead line *(r93)*	❍	❍	❍	
Where excavation in the proximity of a known or suspected underground cable *(r93)*				
▲ where reasonably practicable, supply to underground cable isolated *(r93)*	❍	❍	❍	
▲ position of underground cable accurately determined, so far as is reasonably practicable *(r93)* and	❍	❍	❍	
▲ material immediately surrounding cable excavated using safe system *(r93)*	❍	❍	❍	
Person in control to ensure work in proximity of live overhead lines not carried out until				
▲ supply to overhead line isolated *(r93)*	❍	❍	❍	
▲ if isolation not practicable, overhead line diverted *(r93)*	❍	❍	❍	
▲ if isolation or diversion is not practicable, adequate barriers *(r93)*	❍	❍	❍	
▲ protective measures *(r93)*	❍	❍	❍	
▲ warnings *(r93)* or	❍	❍	❍	
▲ other suitable means *(r93)*	❍	❍	❍	
Owner of new or known underground cable, where practicable, shall determine position of cable and record on a plan *(r93)*	❍	❍	❍	

This is a guidance document and using the checklist should help you comply with the Regulations. The checklists are non-exhaustive and in no particular order. Further guidance can be found at www.hsa.ie