

News for the industry from Electrical Safety First

£5.00

# Switched On

Issue 34 Autumn 2014

**Electrical  
Safety First**

The UK's electrical safety experts



» Targetting electrically unsafe rented homes

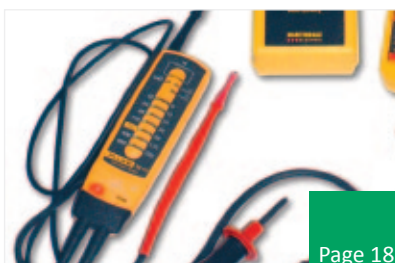




Page 15



Page 10



Page 18

## News

- 3 From the DG's desk. Also, Switching on to the digital world!
- 4 Firm fined after trainee receives shock and burns  
Also, Safe start for young Scottish electricians
- 5 New Mark launched to counter concerns about unregistered electricians
- 6 Firm prosecuted after a labourer is severely burned  
Also, Success at Trading Standards Conference
- 7 Changes to how lamp ratings are described
- 8 Electrical Safety First wins its first major video award
- 9 Wholesaler prosecuted for selling unsafe phone chargers  
Also, Electrical safety success in Scotland
- 12 Inadequate safety advice lands thousands of gardeners in hospital each year
- 13 Product safety focus: Roundtable discussion and Product Safety Conference
- 14 Prosecutions follow falls by solar panel installers
- 15 Top tips for safer home improvements
- 20 Company prosecuted after a child's head is trapped by an electric gate

## Feature

- 10 Electrical Safety First teams up with Shelter to tackle electrically unsafe rented homes

## Technical

- 17 New requirement for supporting cables in escape routes
- 18 Have you ever been asked..?

## Letters

I'm sure that there are many within the electrical industry who will have strong feelings about some of the issues raised in *Switched On*. So feel free to shout about them.

Please email your letters to the Editor of *Switched On* at:  
mcswitchedon@gmail.com

## Published by:

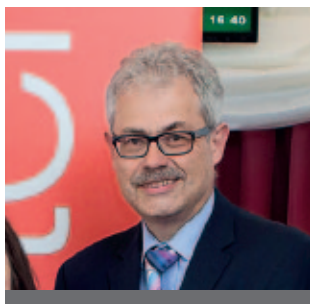
**Electrical Safety First**  
The UK's electrical safety experts

Electrical Safety First  
Unit 331  
Metal Box Factory  
30 Great Guildford Street  
London SE1 0HS

[www.electricalsafetyfirst.org.uk](http://www.electricalsafetyfirst.org.uk)  
[www.twothirtyvolts.org.uk](http://www.twothirtyvolts.org.uk)  
[www.switchedonkids.org.uk](http://www.switchedonkids.org.uk)

T: 0203 463 5100  
E: [switchedon@electricalsafetyfirst.org.uk](mailto:switchedon@electricalsafetyfirst.org.uk)

# From the DG's desk



» It's been a successful period at Electrical Safety First since the previous issue of *Switched On*, during which we've secured major legislative success in Scotland and been officially recognised for our wider campaigning work.

In July, the charity was honoured with the Corporate Communications magazine Digi Award for 'Best Use of Video', awarded for our 'Beauty Burns' campaign.

Beating off stiff competition from the likes of Adidas and O2, we were recognised for our bold and innovative video promoting the dangers that hair straighteners can pose to children – with the footage depicting what damage they can do to a plastic doll.

The award demonstrates that our new consumer-facing brand and the campaigning methods associated with it are hitting the right notes with the communications industry and helping us engage more with the general public. I hope this is the first of many such successes to come.

Whilst it is fantastic that our efforts have been recognised by the communications industry, it's important not to lose sight of what our campaigning is really about: results.

Ultimately, we still pride ourselves on making people safer from the dangers that electricity can pose, and I'm

delighted to announce that we've secured a major success in Scotland resulting from our campaign for a safer private rented sector.

The *Housing (Scotland) Bill 2013*, which became the *Housing (Scotland) Act 2014* in August, includes a requirement for mandatory, five-yearly electrical checks for private rented property. Hopefully, this major step forward will pave the way for similar outcomes in England and Wales.

Based on this legislative success in Scotland, we continue to work hard to improve the standard of electrical safety in the private rented sector in England and Wales.

An example of this is our recent report on the state of the sector, produced in conjunction with Shelter and British Gas. Entitled *Home Improvement: Tackling poor electrical safety in the private rented sector*, the report was launched at the House of Lords.

The event was attended by MPs, peers and key stakeholders, and included a moving speech from Jane Andain, whose daughter Thirza Whittall had suffered a fatal electric shock in her rented home.

The event was well received by all who attended and served to put the issue of electrical safety in the private rented sector firmly on the agenda in Westminster.

Our efforts to improve the lot of tenants in the private rented sector in England and Wales continued when we attended the Conservative and Labour party conferences in September, where we hosted fringe events to discuss with politicians the need for better regulation in the sector.

Other efforts to keep the public safe have also enjoyed success in recent weeks. Electrical Safety First was pleased to help support the recently-launched 'Registered Competent Person Electrical' Mark, a single Mark for registered electricians that's supported by all government-authorised scheme operators.

I'm delighted that the industry is working together to help better protect the public, and the campaign has already reached thousands of people via social media.

The charity's desire to promote the use of registered electricians is also evident in our latest campaign to help reduce accidents in the garden by encouraging the greater use of RCD protection.

With over 300,000 people requiring hospital treatment every year as a result of garden accidents, Electrical Safety First is asking the public to ensure they have some form of RCD protection when using mains-powered gardening equipment, and also calling on the manufacturers of such equipment to improve safety messaging on their packing and in user instructions.

All in all, this has been a period in which the charity has gone from strength to strength, balancing our campaigning strategies with robust technical knowledge in order to fulfil our objective of keeping people safe from the dangers that electricity can pose.

As always, we would welcome feedback on the content of *Switched On*. Please email [feedback@electricalsafetyfirst.org.uk](mailto:feedback@electricalsafetyfirst.org.uk)

**Phil Buckle**  
Director General

## Switching on to the digital world!

**Unless you're reading a printed copy, welcome to the sixth issue of the digital page-turning version of *Switched On*.**

» As previously announced, the paper version is now only available by individual subscription.

For an annual subscription costing only £18 including postage, you can continue to have four quarterly issues of *Switched On* delivered straight to your door.

Subscriptions for the paper version can be taken out at any time. However, as we're usually unable to supply paper copies of back issues, the sooner you subscribe, the better if you don't want to miss too many.



**Whilst stocks last, those subscribing in time to receive the winter issue will also receive a printed copy of the previous four issues free of charge.**

Should you wish to subscribe, please send us an email at [enquiries@electricalsafetyfirst.org.uk](mailto:enquiries@electricalsafetyfirst.org.uk)

For further information about subscribing, please go to [www.electricalsafetyfirst.org.uk/switchedon](http://www.electricalsafetyfirst.org.uk/switchedon), where the digital version of the past three years' issues can also be found.

# Firm fined after trainee receives shock and burns

**In January this year, an electrical equipment manufacturer was prosecuted at Leeds Magistrates' Court for a series of safety failures relating to the provision and use of electrical test equipment and working practices, after a trainee technician received an electric shock and electrical burns.**

» The 22 year-old trainee electrical test technician was testing a transformer in February last year when he came into contact with an exposed live conductor.

The Health and Safety Executive (HSE) investigation found that test equipment operating at a safer lower voltage could have been used, but was unavailable as it was broken at the time of the incident.

The HSE also found that the interlock mechanism to the

test enclosure in which the incident took place had been defeated, and so the supply to the location had not been disconnected. Additionally, the HSE found that emergency stop buttons were broken and unusable.

The HSE served a prohibition notice on the company, Wilson Power Solutions Ltd of Westland Works, Westland Square, Leeds, to halt similar work on the site until their safety measures and procedures were improved.

As a result of the incident, the trainee spent five days in hospital and had to undergo skin grafts to both hands. At the time of the prosecution he had not been able to return to work.

Wilson Power Solutions Ltd was fined £6,500 after admitting a breach of the *Health and Safety at Work etc. Act 1974*.\* The company also had to pay a £650 victim surcharge and £647 in costs.

Speaking after the case, HSE Inspector Julian Franklin said:

"This young trainee was given unsafe, inappropriate and poorly maintained equipment to test an electrical transformer, with no training or supervision. As a result he suffered a painful injury because his employer displayed a serious disregard for safety in what can be a hazardous working environment.

"We found a range of safety features had been defeated or fallen into disrepair, and that the system of work in place at Wilson Power Solutions Ltd was substandard. The firm failed to ensure that risks from a known hazard were controlled and allowed equipment to fall into disrepair, resulting in a potentially life-threatening incident."

\*Section 2(1) of the *Health and Safety at Work etc. Act 1974* states: "It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees."

# Safe start for young Scottish electricians

**The next generation of young Scottish electricians will have a safe start to their career - thanks again to Electrical Safety First and the Scottish Electrical Charitable Training Trust (SECTT)\*.**



» Following on from the 400 who benefitted last year, almost five hundred young trainees are being supplied this year with free lockout kits worth £30 by Electrical Safety First and SECTT.

These kits could potentially save their lives when correctly used as part of the safe isolation procedure.

"We believe it's vital that safe working practices and procedures are undertaken right across the industry", explains Phil Buckle, Director General of Electrical Safety First.

"To be properly effective, the safe isolation procedure needs to be established right from the beginning of an electrician's career. These lockout kits don't just provide trainees with essential safety equipment that we hope will help make safe isolation an ingrained habit - they could also make the difference between life and death.

"The kits will be provided to students from the Shetland Isles to the Borders who are studying at 20 Approved Centres across Scotland", adds Anne Galbraith, Chief Executive of SECTT.

"Our continuing partnership with Electrical Safety First means we've been able to share the cost of these indispensable safety devices and help safeguard the next generation of Scottish electricians."

\*The Scottish Electrical Charitable Trust (SECTT) is a registered charity whose sole remit is the management of the Scottish Joint Industry Board for the Electrical Contracting Industry Training Schemes. The SECTT website ([www.sectt.org](http://www.sectt.org)) provides essential information about careers in the electrical industry and useful guidance for employers and individuals.





# New Mark launched to counter concerns about unregistered electricians

**A new government-backed consumer safety Mark – the ‘Registered Competent Person Electrical Mark’ – was launched in July to better protect householders in England and Wales from the dangers of employing unregistered electricians.**

» Similar to the ‘Gas Safe Register’ for gas installers, the ‘Competent Person Electrical Register’ lists electricians who meet core technical standards required by government.



With electricity responsible for causing half of all accidental house fires and one death in UK homes each week on average, the new Mark is intended to make it easier for householders to recognise a registered electrician. This, it is hoped, will encourage householders to employ only competent tradespeople to undertake electrical work in their homes.

Research carried out for Electrical Safety First shows that the number of householders using electricians not registered with a government-authorised competent person scheme more than trebled over the year leading up to the launch of the new Mark – with 20% of those having electrical work done during the same period not knowing whether the electrician was registered or not[i].

A new ‘Registered Competent Person Electrical’ website - [www.electricalcompetentperson.co.uk](http://www.electricalcompetentperson.co.uk) - provides homeowners with a single search facility for all electricians registered with one of the government-authorised electrical competent person schemes to carry out domestic electrical installation work in England and Wales in accordance with the Building Regulations.

The new website allows anyone to quickly find a local, registered electrician by entering their own postcode, or to validate an electrician’s credentials by inputting the company name.

Electrical Safety First, which is helping to launch the new consumer safety Mark, estimates there are around 20,000 unregistered electricians operating in the UK today[iii].

The charity is concerned that the knowing or unknowing use of unregistered electricians for domestic electrical installation work can contribute to the number of electrical injuries and fires in homes, as well as potentially resulting in costly repairs to substandard electrical work. In addition to the deaths and fires, 350,000 people are seriously injured by electricity in the home each year. [iii]

All the electrical competent person scheme operators have supported the launch of the new recognisable Mark, which also has the backing of the English Department for Communities and Local Government and the Welsh Government.

The competent person scheme operators have also warned about the dangers of relying on others, such as builders, to select electricians for more complex jobs like bathroom and kitchen fitting that include electrical work, without first checking their credentials.

The organisations behind the new Mark have produced a short video to illustrate the dangers of using an unregistered electrician, by showing a householder relying on a child to fix an electrical fault.

To view and share the video, visit [www.electricalsafetyfirst.org.uk/find-an-electrician](http://www.electricalsafetyfirst.org.uk/find-an-electrician)

[i] Taken from *Electrical Safety First’s latest Annual Consumer Survey*, which surveyed 2,118 people between 11 April and 1 May 2014. Of the 492 people who had used an electrician in the preceding twelve months, 7% used one who was not registered with a scheme, a substantial increase from 2% in 2013. 20% ‘didn’t know’ whether the electrician they used was registered or not.

[ii] This estimate is based on approximately 41,000 registered electricians currently working in England and Wales, with a further 1,200 in Scotland. Data from the DCLG Part P impact assessment states that there are 58,000 electrical contractors across England alone - leading the charity to estimate that around a third of electricians are not registered.

[iii] Electrical Safety First core data set. For details, visit [www.electricalsafetyfirst.org.uk/news-and-campaigns/policies-and-research/statistics](http://www.electricalsafetyfirst.org.uk/news-and-campaigns/policies-and-research/statistics)

# Firm prosecuted after a labourer is severely burned

**A building company was prosecuted at Westminster Magistrates' Court in April after a labourer suffered serious burn injuries.**

» In August 2012, 31 year-old Vlatko Milenkov was one of a team stripping out a property in Westminster as part of refurbishment work.

During the course of his work, Mr Milenkov was removing electrical equipment he believed to be safely disconnected when he cut into a live cable and an explosion occurred.

Mr Milenkov suffered life-threatening burns to his limbs, body and face which resulted in him being put into an induced coma in intensive care for two weeks, and several further weeks in hospital. At the time of the prosecution he continued to suffer persistent pain and psychological problems.

Dray Building Limited of Dephna House, North Acton Road,

London, was fined £10,000 after admitting a breach of the *Construction (Design and Management) Regulations 2007\**. The company was also ordered to pay £9,882 in costs.

Speaking after the case, HSE inspector Stephron Baker Holmes said: "It would have been a straightforward matter to provide suitable warning notices and barriers in this case,

and it's likely that these simple measures would have prevented an incident like this from happening.

"As a result of Dray Building's failures, however, Mr Milenkov suffered life-changing and initially life-threatening injuries, and the quality of his life remains significantly diminished.

"Controlling the risks at source would have been more effective than relying on assumptions about individuals' awareness of the risks."

\*Regulation 34(2)(c)(i) of the *Construction (Design and Management) Regulations 2007* states: "Where there is risk from electric power cables ... suitable warning notices and barriers suitable for excluding work equipment which is not needed shall be provided."

# Success at Trading Standards Conference

**Electrical Safety First received considerable attention at this year's Trading Standards Conference, due to its relevant messages about the safety of electrical appliances.**

» The sold-out, annual five-day event at Harrogate's International Centre saw hundreds of visitors and exhibitors convene to take part in workshops, theatre sessions and seminars on issues of trade best practice.

The conference was a valuable opportunity for dialogue on the state of the consumer landscape. In fact, the idea of engagement between local authorities and their stakeholders was an overarching theme, with many presentations stressing the need for increased collaboration

and information exchange to overcome challenges.

Electrical Safety First attended the conference with a new stand and renewed enthusiasm, it being the first major event at which the charity had participated since its rebrand.

As well as providing visitors with a range of informative leaflets, Electrical Safety First's display of counterfeit high street products purchased that very week proved a hot topic for discussion among trading standards officers, many of whom had encountered such items in their own investigations.

Electrical Safety First's Product Safety Manager, Stephen Curtler, hosted a talk with local authority representatives and industry professionals on the importance of compliance and risk assessment.

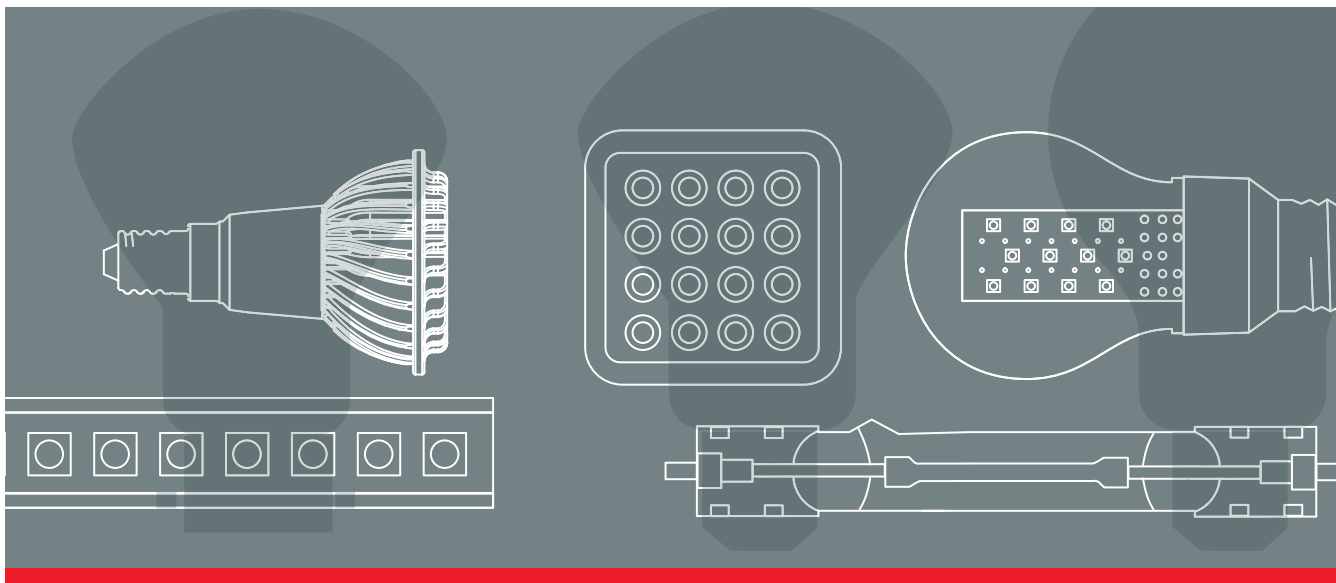
The talk proved popular and featured an updated version of the charity's Electrical Product Safety Checklist - a guide sheet to help the identification of potential electrical safety issues with consumer goods.

One of the charity's greatest successes at the conference was the unveiling of its plug

pin gauge, designed to test the authenticity of 13 A type three-pin plugs. Despite still being at prototype stage, the freely distributed gauge proved very popular with trading standards officers visiting Electrical Safety First's stand.

The feedback received indicated that the gauge would be an effective tool for officers to use in their investigations, for example into the growing problem of substandard chargers, and the practicability of distributing more of the gauges is under consideration.

With its focus increasingly moving towards consumer and appliance safety, it is more important than ever for Electrical Safety First to forge stronger links with Trading Standards. The success of the charity's participation in the conference is a positive indicator of what can be achieved through such a relationship.



# Changes to how lamp ratings are described

For as long as most will remember, the 'brightness' of a light bulb (or lamp as we prefer to call it) has been measured in terms of how much power it uses (in watts), rather than by how much light it produces (in lumens).

But, as a result of EU legislation, this approach has been slowly changing, affecting the information manufacturers display on the packaging of their lamps.

Historically, we selected the traditional household incandescent 'filament' lamp on the basis of how much power it used. For example, regardless of who made the lamp, most knew that one with a 100 W rating was the brightest for normal domestic situations indoors and, for something less intense such as mood lighting, a lower rating of 40 W or even 25 W was preferred.

However, the energy needed to power the newer types of energy efficient lamp, such as compact fluorescent lamps (CFLs), light emitting diodes (LEDs) and halogen lamps, no longer indicates the amount of light they produce.

For instance, the light output of an 8 W LED is comparable to that of a 9 W CFL, but they both produce more light (lumens) than a 28 W halogen lamp.

So, to be certain that a new or replacement lamp will provide the expected level of

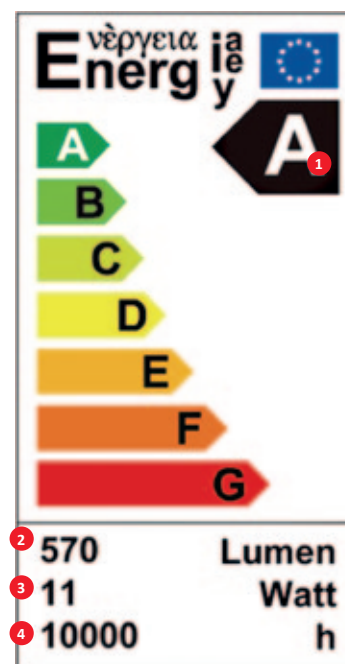
illumination, it is now necessary to select it on the basis of its lumen output, not its rated power in watts. The greater the lumen output, the 'brighter' the lamp.

Of course, other lamp characteristics such as rated voltage, size, base and colour temperature will still need to be taken into account.

Some manufacturers have been displaying the lumen output on their products for some time now. They have used a number of ways to indicate the equivalent value in watts.

For example, phrases such as 'replaces 60 W bulb' and 'this 13 W energy saving lamp is equivalent to a 60W lamp' are common, but this practice is expected to be phased out as consumers become more familiar with the lumen rating concept.

The Lighting Industry Association has produced a free chart to aid the selection of energy saving lamps in relation to the former 'watts' rating method, which can be found at: [www.thelia.org.uk/files/docs/how-to-select-your-energy-saving-bulb-1359368116.pdf](http://www.thelia.org.uk/files/docs/how-to-select-your-energy-saving-bulb-1359368116.pdf)



- 1 Energy efficiency from A to G
- 2 Luminous flux of the lamps in lumens
- 3 Electricity consumption of the lamp in watts
- 4 Average lamp life in hours





*“We had some stiff competition, including from O2 and Adidas, but the judges were impressed by the impact of our short film”*

# Electrical Safety First wins its first major video award

**Electrical Safety First’s ‘Beauty Burns’ campaign hit the spot at the Corporate Communications magazine Digi Awards, taking away the ‘best use of video’ prize. The event, which recognises the innovative use of digital media in communication programmes, took place in London in July.**

» As part of the Beauty Burns campaign that focused on child safety, Electrical Safety First created a hard-hitting video that showed the dangers of not storing hair straighteners safely. Research had shown that hair straighteners cause one in ten child burns<sup>1</sup> and that retailers and manufacturers

needed to do more to protect users and others.

The 30 second video begins by zooming out from the melted face of a doll lying next to a pair of hair straighteners. The backdrop of a baby crying and the sound of a music box heightens the emotional

impact, and the video ends with a link to Electrical Safety First’s website and the message: “Turn them off, put them away, pass this on.”

“I’m delighted with the award”, said Phil Buckle, Director General of Electrical Safety First.

“We had some stiff competition, including from O2 and Adidas, but the judges were impressed by the impact of our short film and the overall success of our campaign, which saw leading hair straightener manufacturers deciding to include heat-proof pouches with all of their products, and over 7,000 people contacting us as part of our ‘pouch giveaway’.”

**digi** CorpComms  
**AWARDS**

To watch the award-winning video and to find out more about the Beauty Burns campaign, visit [www.electricalsafetyfirst.org.uk/beautyburns](http://www.electricalsafetyfirst.org.uk/beautyburns)

<sup>1</sup> According to a study issued by the Royal Society for the Prevention of Accidents in 2012 - [www.rospa.com/news/releases/detail/?id=114](http://www.rospa.com/news/releases/detail/?id=114)



# Wholesaler prosecuted for selling unsafe phone chargers

**In June, a businessman was prosecuted at Birmingham Crown Court for selling unsafe mobile phone chargers and counterfeit phone accessories.**

» Safety checks by a test laboratory proved that none of the phone chargers were safe to use. Internal circuitry broke down when a standard test voltage was applied, and some conductors posed a serious risk of fire and/or electric shock to users.

Other tests revealed that the plug pins on some of the chargers were the wrong size, which potentially could have led

to localised overheating and/or damage to the charger's plug and/or the socket into which it was inserted.

During proceedings, Mr Inderjit Singh, a director of Ardenworth Ltd at Unit 1, Well Street, Hockley, Birmingham pleaded guilty to five offences under the *Electrical Equipment (Safety) Regulations 1994*, the *Consumer Protection Act 1987*, the *Consumer Protection from*

*Unfair Trading Regulations 2008*, and the *Trade Marks Act 1994*.

Breaching a total of eight electrical safety and trade mark related regulations, Ardenworth Ltd was given 28 days to pay a £1,200 fine and costs of £8,392.

In addition, Singh was given six months to pay £56,610 under the *Proceeds of Crime Act 2002* or face a two year

prison sentence, and ordered to complete 120 hours unpaid community work.

The case was brought against Ardenworth Ltd by Birmingham City Council after trading standards officers visited its premises in December 2011, where they seized more than 2,500 mobile phone chargers and accessories, and over 600 mobile phone covers bearing fake Blackberry and Nokia logos. In total, officers seized 47 boxes of goods.

When later interviewed by trading standards officers, Singh admitted to having bought the goods from 'a man in a van' with the intention of selling them on through a chain of shops including outlets in Hull, London and Manchester trading as High Profile Accessories Ltd, of which Singh was also a director.

# Electrical safety success in Scotland

**In the first major success for Electrical Safety First's campaign to improve safety in the private rented sector (PRS), the *Housing (Scotland) Act 2014* includes a significant new electrical safety requirement originally proposed by Bob Doris MSP.**

» The requirement is for mandatory five-yearly electrical checks by a competent person in all PRS homes in Scotland, including any electrical appliances supplied by the landlord.

Scotland's private rented sector - which has doubled over the last decade - now houses well over 300,000 people including 80,000 families, a quarter of them with children.

In 2012, almost two thirds of PRS homes failed to meet the Scottish Housing Quality Standard, and changing demographics have intensified concerns over disrepair and safety in the sector. This is particularly worrying, since almost 70% of accidental fires in Scottish homes are caused by electricity.

"Some of the worst instances of landlord neglect relate to

poor electrical safety", explains Phil Buckle, Director General of Electrical Safety First. "So I'm delighted that its importance has been recognised by the inclusion of the electrical safety requirement in the Scottish Housing Act.

"It's only through collaborative working that we've been able to highlight this issue, so I would like to thank all those organisations and individuals

who supported our call for improved safety measures, particularly Bob Doris MSP."

Electrical Safety First led the development of a coalition of organisations campaigning for improvements in the PRS in Scotland, which was praised by the MSP.

"I have no doubt this new requirement will help prevent fires and could save lives", adds Bob Doris. "I pay credit to Electrical Safety First, which I have worked closely with, and the Scottish Association of Landlords, which has been instrumental in gaining the support of the private rented sector. Including electrical safety checks in this Act will help ensure that people renting privately will get the added protection they need."

# Electrical Safety First teams up with Shelter to tackle electrically unsafe rented homes

In June, Electrical Safety First, Shelter and British Gas launched their joint report "*Home Improvement: Tackling poor electrical safety in the private rented sector*" in the House of Lords.



» The report addresses how privately rented homes in England can be brought up to an acceptable level of electrical safety and how tenants can and should be encouraged to report unsafe conditions without fear of retaliatory eviction.

The launch was well attended by parliamentarians, housing professionals and other influential stakeholders interested in the important issues the report covers.

The event began with a moving speech from Jane Andain, whose daughter Thirza Whittall suffered a fatal electric shock in her rented home in a tragic accident that could have been prevented had the ageing electrical installation previously been inspected by a competent electrician.

The audience then heard further remarks from Conservative back-bencher Bob Blackman MP and Labour Shadow Communities and Local Government Minister Roberta Blackman-Woods MP, as well as from Electrical Safety First's Director General Phil Buckle, Shelter's Chief Executive Campbell Robb, and British Gas Director of Sustainability, Bryan Halliday.

The report sets out the need to tackle poor conditions in England's private rented



sector, which is now estimated to house more than 9 million people including 1.3 million families.

Evidence suggests that safety standards have not kept up with the rapid growth in the sector, and a recent poll by Shelter and British Gas highlighted that sixteen percent of renters have experienced problems with electrical hazards in the last year alone.

This situation is thought to be due in part to the lack of any legal requirement in England

for landlords to have the wiring in their rented properties inspected and tested on a regular basis, together with any electrical appliances they provide for their tenants.

This is in stark contrast to the existing requirement for landlords to have the gas installation in their rented properties inspected and tested by a competent person every year, even though the risk profiles for gas and electricity are similar.

To resolve these issues and to create a safer, better managed private rented sector, the report calls for mandatory five-yearly checks of electrical installations and appliances and the provision of residual current device (RCD) protection in all rented homes, and an end to the practice of retaliatory eviction by landlords so that tenants are not afraid of losing their home if they complain.

To supplement these measures, the report also recommends that local authorities should be free and encouraged to take a tougher and more proactive stance on enforcement.

The report is available to view and download from:

**[www.electricalsafetyfirst.org.uk/renting](http://www.electricalsafetyfirst.org.uk/renting)**



The speakers at the event – Left to right: Jane Andain, Bob Blackman MP, Lord Tope, Roberta Blackman-Woods MP, Phil Buckle, Campbell Robb and Bryan Halliday





# Inadequate safety advice lands thousands of gardeners in hospital each year

**In our latest campaign, Electrical Safety First is calling on lawnmower and hedge trimmer manufacturers to improve the safety advice on their packaging and in their user instructions after new research revealed that these products are responsible for thousands of injuries a year.**

» Each year in the UK, around 300,000 people need hospital treatment as result of injuries sustained whilst gardening, with a third of all gardening accidents caused by electrical appliances.<sup>1</sup> Men are most at risk as they are twice as likely as women to have an electrical accident whilst gardening.<sup>2</sup>

Cutting through the cable of a mains-powered lawnmower or hedge trimmer tops the list of accidents.<sup>3</sup> A common mistake, but something that can put lives at risk as contact with live wires can result in severe electric shock or death, especially outdoors where people are likely to be in good contact with Earth.

Electrical Safety First found that, despite RCDs being the safest way to minimise electric shock risks in the garden, nearly two thirds of gardeners who regularly mow the lawn or cut hedges are unaware of the

safety benefits of RCDs, or simply don't bother to use one.<sup>4</sup>

Although all manufacturers have a responsibility for adequately warning users of the risks associated with using mains-powered equipment, a mystery shopping exercise found that manufacturers of such gardening equipment are not doing enough to protect their customers.

Electrical Safety First wants this guidance to be made much more visible and clearer, especially as research shows that half the users of mains-powered electrical equipment do not bother to read the safety instructions that come with it.<sup>5</sup>

Phil Buckle, Director General of Electrical Safety First said: "We know that reading through lengthy user instructions before using electrical equipment for the first time can be boring and time-consuming, and the reality is that many people don't bother.

"But an incredibly large number of people are having accidents in the garden, so it's up to manufacturers to do all they can to ensure that their customers are fully aware of the need always to have RCD protection when using mains-powered electrical equipment in the garden – not just in wet conditions, which is what some manufacturers have erroneously focused on.

"Simple solutions such as including RCDs as standard with mains-powered lawn mowers and hedge trimmers, or attaching a tag to the plug of a product warning about the danger of electric shock, are all it would take to change behaviour and reduce electrical accidents in the garden."

For advice on staying safe in the garden, visit [www.electricalsafetyfirst.org.uk/gardening](http://www.electricalsafetyfirst.org.uk/gardening)

<sup>1</sup> According to RoSPA. Figures are based on the former Department of Trade and Industry's Home Accident Surveillance System report 2002. 300,000 people are hurt in their gardens each year seriously enough to go to hospital. [www.rospace.com/faqs/detail.aspx?faq=222](http://www.rospace.com/faqs/detail.aspx?faq=222)

31% of UK adults who regularly garden have had an accident caused by an electrical appliance in the garden

<sup>2</sup> 41% of UK men who regularly garden have had an electrical accident in the garden compared to 20% of women who regularly garden

<sup>3</sup> 25% of accidents caused in the garden for UK adults who regularly garden were caused by cutting through the cable of a lawn mower or hedge trimmer

<sup>4</sup> 63% of UK adults who regularly use electrical equipment in the garden either do not know what an RCD is or would not always use one when gardening

<sup>5</sup> 53% of UK adults who regularly garden with electrical equipment don't read safety instructions supplied with gardening equipment such as lawn mowers and hedge trimmers

# Product safety focus: Roundtable discussion and Product Safety Conference

**Electrical product safety, recalls and traceability are just some of the items on the agendas at recent and forthcoming Electrical Safety First events.**

» St Bride Foundation in the City of London was the venue for a roundtable discussion in early September.

The roundtable, a prelude to the Product Safety Conference to be held at Church House in Westminster on 12 November, attracted senior representatives from electrical manufacturers and retailers, as well as delegates from government, trade bodies and related organisations.

The discussions focused on recall notices – their design, placement and consumers’

reaction to them – as well as methods for improving traceability.

Meanwhile this year’s Product Safety Conference, a regular highlight in the industry calendar, is entitled *Product Safety First – Time for Change*, and will be hosted by former *BBC Working Lunch* presenter and business journalist, Declan Curry.

Key themes such as changing the shape of product legislation, identifying trends and emerging issues, recall effectiveness and the issue of behavioural

change in consumers are set to be discussed. Electrical Safety First’s research project on consumer behaviour and its impact upon traceability and product recall will also be launched.

Previous research for Electrical Safety First shows that consumer indifference and an underestimation of the potential dangers presented by recalled products make a significant contribution to the low recall success rates. Over a million UK adults have deliberately ignored a recall notice and continued to use an

electrical item that has been recalled.<sup>1</sup>

“This is the fourth Product Safety Conference we’ve organised and over this period we’ve seen increased demand for an event of this nature”, explains Phil Buckle, Director General of Electrical Safety First.

“The conference has become a major forum for ideas and information around product safety, as it brings together key stakeholders from across the board – manufacturers, retailers, consumer safety professionals and government bodies – to ensure consumer protection benefits from the industry’s collaborative approach.”

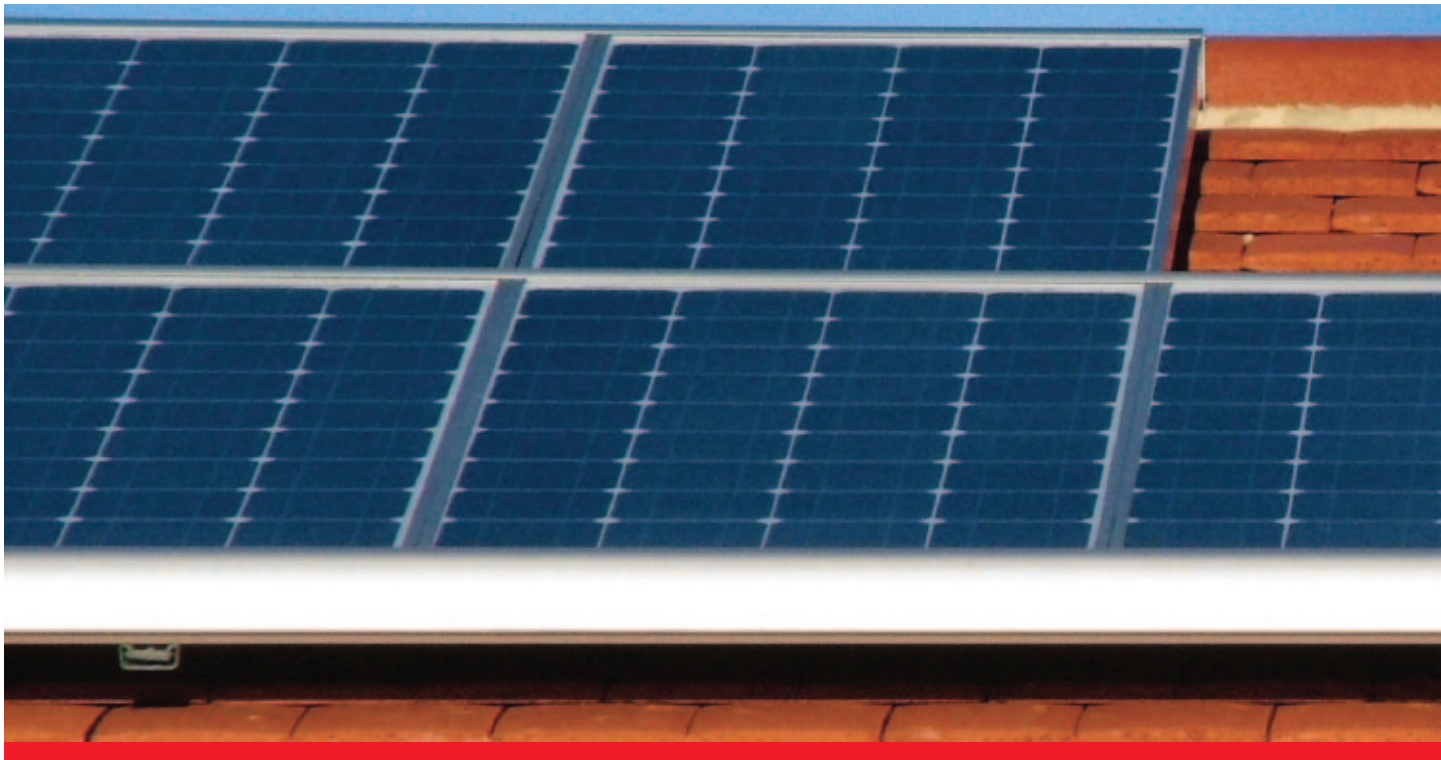
For more information about the conference, or to register, please go to

**[www.electricalsafetyfirst.org.uk/news-and-campaigns/events/electrical-product-safety-conference](http://www.electricalsafetyfirst.org.uk/news-and-campaigns/events/electrical-product-safety-conference)**

<sup>1</sup> 1.3 million, based 2% of the UK population of 63.2 million as per Census of 2011

Derived data based on Electrical Safety First research





# Prosecutions follow falls by solar panel installers

**A number of prosecutions have taken place in recent months after unsafe working practices resulted in persons installing solar panels sustaining serious injuries through falls from height. This article details two of the incidents.**

» In April this year, an alternative energy company and its technical director were prosecuted at Northampton Crown Court for failing to control the risk of falling through fragile roof materials, after a young employee suffered serious injuries when he fell six metres.

The 20-year-old was installing solar panels on the roof of a barn in Northamptonshire in November 2011 when he fell through a rooflight. Although the man's fall was partly broken by soft floor material in the barn, he suffered a serious back injury.

The injured man, who at the time of the prosecution had been unable to work since the incident, was hospitalised for four weeks and continued to suffer from constant pain and depression.

The Health and Safety Executive (HSE) served a prohibition notice on the company,

Alternative Energy Installations Ltd, registered with Hodgsons Accountants of Park Road, Timperley, Cheshire, to prevent further work on the site until improved safety measures and procedures were put in place. Work was completed when crawling boards and protective safety netting was provided.

Alternative Energy Installations Ltd, which has gone into liquidation since the incident, was fined £30,000 and ordered to pay £27,000 in costs after being found guilty of breaching Section 2(1) of the *Health and Safety at Work etc. Act 1974*.\*


At an earlier Magistrates' Court appearance, Ian Black of Henallan Street, Denbigh, Wales – the firm's technical director at the time of the incident – was fined £7,300 and ordered to pay £6,700 in costs after pleading guilty to the same charge.

Speaking after the case, HSE Inspector Peter Snelgrove said: "This fall could have been fatal and was entirely and easily preventable. The director was aware that the rooflights were fragile, but failed to put any measures in place to prevent falls despite another worker asking if they would be wearing safety harnesses, at which Mr Black laughed.

"The fact that they were able to overcome the problem so simply afterwards, by using crawling boards and safety netting, shows how easy it was to prevent the incident. Alternative Energy Installations Ltd should have ensured the work at height was properly planned and that workers had the right protective equipment and had been trained in its use."

In June, a prosecution relating to a similar incident took place at Bradford Magistrates' Court.





*“The director was aware that the rooflights were fragile, but failed to put any measures in place to prevent falls despite another worker asking if they would be wearing safety harnesses”*



Protection around a rooflight (Contains public sector information licensed under the Open Government Licence v2.0)

In November 2011, a 54 year-old man fell nearly seven metres through a rooflight, suffering serious injuries including a punctured lung, fractured skull, a head wound requiring 13 staples, broken collarbone, broken ribs, a fracture to a hand, broken pelvis and chipped bones in his spine and hip.

The subsequent HSE investigation found that Duncan Plumbing, Heating and Electrics Ltd had carried out two site surveys prior to the work starting, but had failed to take any actions to prevent either workers from falls or damage to the rooflights themselves, despite having loaded the information into their computer system for use by the design team. Evidently a ‘fragile roof’ warning notice had also been ignored.

Duncan Plumbing, Heating and Electrics Ltd, of Rudgate Business Park, Tockwith, York, was fined £20,000 – the maximum fine a Magistrates’ Court can impose - and ordered to pay £3,408 after pleading guilty to a breach of the *Health and Safety at Work etc. Act 1974* at Bradford Magistrates’ Court in June this year.

Speaking after the case, HSE Inspector Sarah Lee said:

“(The employee) suffered devastating injuries in this fall and could so easily have been killed. His fall may have been broken by hitting hay bales and, if so, they probably saved his life.

“The overall system of work employed by Duncan Heating, Plumbing and Electrics Ltd

was inherently unsafe. They did not recognise or properly identify the dangers faced by their employees, so safety measures were totally neglected.

“It is astonishing that the company, having got the information about rooflights at their fingertips, subsequently failed to do anything about it. Had the rooflights been protected from above or netted from below, this incident could have been avoided.

“Falling from height is still the biggest killer in the construction industry and also leads to many injuries. The risks are also well known in the trade so there is no excuse for putting workers at unnecessary risk.”

Information about preventing falls is available at [www.hse.gov.uk/falls](http://www.hse.gov.uk/falls)

An information sheet summarising safe working practices for those involved in the installation of solar panels, produced by CITB-ConstructionSkills in partnership with the HSE, can be viewed or downloaded free of charge from: [www.cskills.org/uploads/GS001\\_Safe%20solar%20panel%20installation\\_tcm17-33755.pdf](http://www.cskills.org/uploads/GS001_Safe%20solar%20panel%20installation_tcm17-33755.pdf)

\*Section 2(1) of the *Health and Safety at Work etc. Act 1974* states: “It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.”



# Top tips for safer home improvements

**Electrical Safety First is urging people to get switched on to the dangers that home improvements can pose.**

» Whether it's finally getting around to putting up that shelf or giving the garden some attention, most home improvement work carries the risk of electric shock or electrocution that many are unaware of, or simply ignore.

A survey conducted by Electrical Safety First found that half of all severe electric shocks in the home result from DIY work, the main causes including cutting through trailing flexible cables, drilling into concealed wiring, and repairing electrical equipment whilst it is still energised.

Meanwhile, up to 70% of gardeners are putting themselves at risk by failing to take adequate precautions when using electrical equipment outdoors, with nearly a third of them having used electrical equipment in wet conditions when the risk of electrocution is greatest.

To help reduce the risks, Electrical Safety First has produced some short, simple guidance to ensure that home improvement and gardening work is done safely:

- Carefully follow the manufacturer's user instructions for power and garden tools
- When using mains-powered tools, make sure you are protected by a residual current device (RCD\*). Both indoors and out, this potentially life-saving device cuts the power very quickly in the event of an electrical fault. If one or more RCDs are not already fitted in the consumer unit (fuseboard), use a plug-in RCD instead
- Before use, always check the plug, cables and enclosure of mains-powered tools and gardening equipment for damage. If you see any significant signs of damage, don't use the equipment and get it repaired or replaced
- Before drilling, nailing or screwing into a wall, floor or ceiling, determine the location of any nearby cables. A common DIY error is damaging a concealed cable, which can result in electric shock
- If in any doubt about electrical DIY work, get a registered electrician to do it for

you. A local registered electrician can be found by visiting:

**[www.electricalcompetentperson.co.uk](http://www.electricalcompetentperson.co.uk)**

On these top tips, Emma Apter, Head of Communications at Electrical Safety First said: "Making our living space more comfortable is something we all strive for, and Electrical Safety First wants to help ensure that home improvements are done safely.

"People often don't realise how dangerous electricity can be, yet each year in the UK it kills around 70 and injures a further 350,000 through electric shock and fire.

"The risks are even greater when doing something like home improvements and gardening so, by following our top tips, people can keep themselves and their families safe."

*\*The RCD should have a rated residual operating current (I<sub>Δn</sub>) not exceeding 30 mA. This information should be clearly marked on the device and/or packaging.*

# New requirement for supporting cables in escape routes

From 1 January 2015, a requirement in *BS 7671* will come into effect that requires new wiring systems in escape routes to be supported in such a way that they are not liable to premature collapse in the event of a fire. This article looks at the background to the new requirement and what its introduction will mean in practical terms.

» Amendment 3 to *BS 7671: 2008* will introduce a new requirement to prevent cables obstructing fire escapes in the event of a fire. The requirement will preclude the use of non-metallic cable clips, cable ties, conduit or cable trunking as the sole means of supporting cables in escape routes.



*Cables falling across exits onto an escape route. The lid on the underside of the plastic trunking fell off due to exposure to heat when the doors onto the escape route were opened.*

*BS 5839-1*, the British Standard for fire detection and fire alarm systems in buildings has, since 2002, contained a recommendation that methods of cable support should withstand a similar temperature and duration to that of the cable being supported, while maintaining adequate support.

A similar recommendation was put into *BS 5266-1* for cables of emergency lighting systems in 2005 but, in both cases, the recommendations were made for functional/operational reasons.

However, as a result of the Coroner's recommendations after a fire at Harrow Court, Stevenage, in February 2005 in which two firefighters and one tenant were killed, an advisory note was added to clause 26.2 f) of *BS 5839-1* stating that:

*'Experience has shown that collapse of cables supported only by plastic cable trunking can create a serious hazard for firefighters, who could become entangled in the cables'.*

This left a situation in which, wherever subsequently installed in a building, cables of emergency lighting systems and of fire detection and fire alarm systems would remain supported in the event of a fire, but the general wiring would not.

Then, in April 2010, two more firefighters lost their lives in a fire at Shirley Towers, Southampton, and cable entanglement was again cited as a contributory factor.

Following the post-incident investigations, the Coroner made a number of recommendations to improve safety in the future.

He reiterated the recommendation made by the Coroner after the Harrow Court fire that fire alarm and fire detection system wiring in the common parts of a building should be supported in a manner that, as a minimum, conforms to *BS 5839: Part 1 2002*, clause 26.2 f).

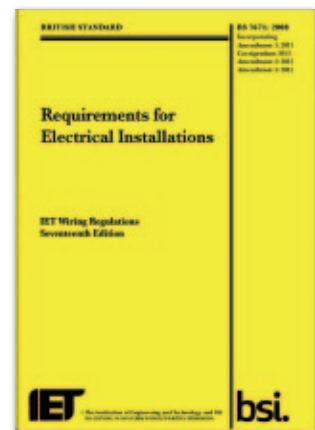
He also recommended that *BS 7671* should be amended such that *'all cables, not just fire alarm cables, are supported by fire-resistant cable supports'*.

In practical terms, the new requirement in *BS 7671* will apply only to cables within escape routes that are fixed to the surface of walls or the underside of ceilings - whether clipped direct or installed in or on a wiring system - so compliance should not be much of a burden.

For example, cables could be clipped direct to the fabric of the building or to traywork by metallic clips, banding or similar. Plastic conduit could be supported by metal saddles, and cables in plastic cable trunking could be supported by metallic clips, ties or similar either installed externally to prevent lids coming off in fire conditions, or internally to prevent cables falling out in the event of lids coming off as a result of exposure to heat.

It is important to note that, as is the case with the supports of cables for fire detection and fire alarm and emergency lighting systems, **all** supports for cables in escape routes should in future be of a type not liable to premature failure in the event of a fire.

It would not be acceptable to interpret the new requirement as permitting, for example, the provision of a metallic support only every third clip, tie or saddle. The intention of the requirement is to prevent partly suspended spans of cable causing an obstruction to persons attempting to leave the building in an emergency, or entering a building to fight a fire.





## Have you ever been asked..?

# Is live testing permitted?

Live testing is permitted, but only where all three conditions of Regulation 14 of the Electricity at Work Regulations 1989 are met. This article summarises the conditions as they relate to live testing activities.

Regulation 14 of the *Electricity at Work Regulations 1989* states that:

*No person shall be engaged in any work activity on or so near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless -*

- (a) *it is unreasonable in all the circumstances for it to be dead; and*
- (b) *it is reasonable in all the circumstances for him to be at work on or near it while it is live; and*
- (c) *suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury.*

This regulation applies to all activities during which it is necessary to work on or near energised exposed or inadequately insulated live parts that may foreseeably give rise to danger.

Such activities include carrying out the safe isolation procedure, checking the polarity of an incoming supply, and testing earth fault loop impedance or RCD functionality.

This is confirmed in paragraph 208 of the *Memorandum of guidance on the Electricity at Work Regulations 1989 (HSR25)*, published by the Health and Safety Executive (HSE).

Let's consider each of the three requirements in Regulation 14 that must all be met before live working is undertaken:

### It is unreasonable in all the circumstances for the conductor to be dead

It is reasonable for testing to take place on or near to a live conductor where the information provided by the testing can be obtained only with the conductor energised.

For example, the industry-accepted procedure for performing safe isolation first requires the installation or part of the installation to be worked on to be energised, and proven to be energised by using a suitable voltage indicator or test lamp.

Then, immediately after that installation or part of the installation is presumed to have been de-energised by the deliberate operation of a means of isolation, the voltage indicator or test lamp should be used again to prove that the conductors have been made dead by that operation.

Similarly, it is reasonable to carry out earth fault loop impedance testing on an energised installation to confirm that the actual, as installed, impedance of circuits is sufficiently low to allow the disconnection times of BS 7671 to be met under fault conditions.



### It is reasonable in all the circumstances to be at work on or near a conductor while it is live

Some equipment may need to remain energised to permit fault finding. However, it does not follow that, having found the fault, there will necessarily be justification for subsequent repair work to be carried out live. (Paragraph 220 of HSR25 refers.)

Justification for exposing live terminals solely for the purpose of verifying the correct operation of a voltage indicator or test lamp before and after use is arguably more difficult in terms of this condition.

Whilst the use of a voltage indicator or test lamp on an energised circuit to prove dead is essential and unavoidable, it is possible to confirm the functionality of such devices before and after such testing with either the integral self-test facility in some voltage indicators, or by the use of a suitable proprietary proving unit.

Such methods not only avoid the need to expose live parts until it is necessary to confirm that a conductor is energised, but also the need to access another live part after the conductor has been isolated to confirm that the test instrument is still functioning correctly.

### Suitable precautions are taken to prevent injury

In the context of live testing, suitable precautions to prevent injury include:

- allowing only suitably competent persons to carry out testing who are familiar with the type of installation, the test instruments to be used and the work activities to be performed
- the use of suitable test instruments meeting the requirements of the relevant product standards, and
- the use of suitable protective equipment as appropriate to the exposure risk. (Paragraph 221 of HSR25 refers.)

It is necessary to ensure that all these precautions are maintained over time. Testing skills need to be refreshed and instruments, test leads, probes and protective equipment need to be inspected before each use to confirm their continued suitability.

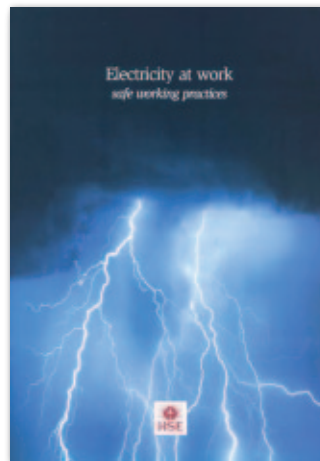
Where for example routine testing or fault finding is carried out in energised equipment, a suitable precaution might be to cover live parts with a transparent insulating screen in which holes have been drilled to enable safer access to test points.

In some instances it might be appropriate to bring leads out from a test point to a suitable multi-pin socket-outlet, permitting the use of test instruments in a manner that is not only safer, but might also reduce the time required to carry out the necessary testing.

Persons carrying out work on or near a live conductor have a legal responsibility for the safety of other persons who may be affected

by their actions. They must therefore take suitable precautions to ensure effective control of the area in which live testing is being carried out.

A risk assessment should be carried out to determine an appropriate course of action to suit the particular circumstances. Where an employer has five or more employees, a record is required to be made of the assessment.



The guidance provided in the *Memorandum of guidance on the Electricity at Work Regulations 1989 (HSR25)*, *Electricity at work, safe working practices (HSG85)* and *Safety in electrical testing at work (INDG354)* published by the HSE is invaluable to anyone carrying out live testing activities or having responsibility for persons carrying out such work.

HSR25, HSG85 and INDG354 can all be downloaded free of charge from [www.hse.gov.uk/pubns/index.htm](http://www.hse.gov.uk/pubns/index.htm)



Further information about safe isolation can be found in *Best Practice Guide No. 2, Guidance on the management of electrical safety and safe isolation procedures for low voltage installations*, published by Electrical Safety First.

This and all the other Best Practice Guides published by Electrical Safety First can be viewed or downloaded free of charge from [www.electricalsafetyfirst.org.uk/electrical-professionals/best-practice-guides](http://www.electricalsafetyfirst.org.uk/electrical-professionals/best-practice-guides)

Electrical Safety First has also produced a free 'safe isolation app' that enables electrical engineers and electricians to remind themselves of the safe isolation procedure before commencing work on site, to help keep themselves and others safe. The app is available from the App store for iPhone and iPad, and the Android market for Android phones and tablets.



# Company prosecuted after a child's head is trapped by an electric gate

**In July, a Leicester company was prosecuted at Dudley Magistrates' Court following an incident at a primary school in September 2012 when a young boy's head was trapped between a closing electrically-powered gate and a gate post**

» The boy, who was eight years old at the time of the incident, suffered severe bruising to the right side of his head and ear. Fortunately, the boy's father was able to pull the gate open sufficiently to release his son.

In their investigation, the Health and Safety Executive (HSE) found that although the company that automated the gate, Access Control Solutions (UK) Ltd, had identified that guarding was necessary, they had not fitted any as the guards they had to hand would not fit.

Access Control Solutions (UK) Ltd of Boston Road, Leicester, was fined £3,300 and ordered to pay £773 in costs after pleading

guilty to breaching Regulation 18 of the *Workplace (Health, Safety and Welfare) Regulations 1992*\*.

Speaking after the hearing, HSE Inspector Sarah Palfreyman said: "This was an extremely traumatic event for the boy and his father. Fortunately, the youngster was back at school a couple of days later and has not suffered any long term effects. However, it could have been a different story had he been trapped by a different part of his head, or had it happened to a younger child.

"The incident was entirely preventable. Access Control Solutions identified the need for a guard in their own job

specification but when the gate arrived, it was not the type expected and the guard they had did not fit. At this point they should have either come up with an alternative or postponed the job until the problem was rectified, especially as they were fully aware that the entrance would be used by a particularly vulnerable group – young children.

"People getting trapped is a well-known risk in the industry, and the HSE has produced safety notes on the subject in response to a number of fatalities involving children in recent years. I would encourage all suppliers, installers and maintainers of electric gates to read them."

As has been reported previously in *Switched On*, the HSE has issued three safety alerts concerning the installation and use of electric gates:

[www.hse.gov.uk/safetybulletins/poweredges.htm](http://www.hse.gov.uk/safetybulletins/poweredges.htm)  
[www.hse.gov.uk/safetybulletins/electricgates.htm](http://www.hse.gov.uk/safetybulletins/electricgates.htm)  
[www.hse.gov.uk/safetybulletins/electricgates2.htm](http://www.hse.gov.uk/safetybulletins/electricgates2.htm)

\*Regulation 18 of the *Workplace (Health, Safety and Welfare) Regulations 1992* states:

(1) *Doors and gates shall be suitably constructed (including being fitted with any necessary safety devices).*

(2) *Without prejudice to the generality of paragraph (1), doors and gates shall not comply with that paragraph unless -*

(c) *any powered door or gate has suitable and effective features to prevent it causing injury by trapping any person.*

## Back issues of Switched On



Previous issues of Switched On are available to read or download from our website.  
[www.electricalsafetyfirst.org.uk/switchedon](http://www.electricalsafetyfirst.org.uk/switchedon)