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SwitchedOn

News for the industry from **The Electrical Safety Council**

ELECTRICAL SAFETY COUNCIL

EU moves towards a common mobile phone charger

VIEW FROM THE DG'S DESK

On a very wet Sunday in September I had cause to be in London to do some media work for the launch of our Blunder Hunt campaign.

Having finished the interview I jumped in a taxi to get back to the station; I had failed to bring a coat or umbrella, so poor planning on my part. For those of you with experience of travelling in London taxis, you will know that the drivers are not shy about expressing their views on a whole range of subjects and the driver of the cab I got into was no exception.

To cut a long story short, the cab driver claimed to be a time-served electrician, fully qualified to the 16th Edition. I then revealed my hand and told him who I worked for and no, he didn't throw me out of his cab, but he did go on to tell me why he had left the industry. The main reason was that he had become disenchanted with his lot as he felt that reputable "sparks" were being undermined by the influx of individuals who claim to be electricians, despite not having any qualifications or relevant experience, but who are cheap so people use them. He was also concerned over *Part P* and the lack of enforcement, which he felt undermined the whole point of *Part P*, ie safe electrics in dwellings.

I make a point of bringing this individual's story to you because, as someone who is passionate about electrical safety and a supporter of qualified competent electricians, I am concerned that UK plc is losing well-trained people who would prefer to drive a cab than practise a trade that they invested so much time in learning. Whilst the Council doesn't have a complete solution to the issues that were raised with me, I do think we are well placed to work with industry partners to resolve some of the issues that deter qualified electricians from continuing in the industry.

Of particular focus is *Part P*. By the time you read this we should know whether *Part P* was retained or lost forever on the bonfire of regulations that this Government seems determined to continue to build. My feeling is that it will be retained, with some relaxations but with an emphasis on the industry ensuring that *Part P* is properly enforced, which should mean that the non-registered "electrician" is less able to dupe the public. The ESC has a big role to play in continuing to promote the importance of using a registered electrician to the public, both through its campaigns and in conjunction with industry organisations.

Much of our effort in working with the industry will be channelled through the joint venture between ESC and ECA, which sees the coming together of electrical contractors registered with ECA, ELECSA and NICEIC under the Electrical Safety Register brand. The new venture, which was announced in November, provides significant opportunity for the ESC. We will be able to make it easier for consumers to find registered contractors by providing details of over 30,000 electrical firms who are assessed by and registered with ECA, ELECSA or NICEIC. We will also be able to engage with registered firms to help deliver important safety messages to consumers on topics such as the importance of RCDs, and earthing and bonding.

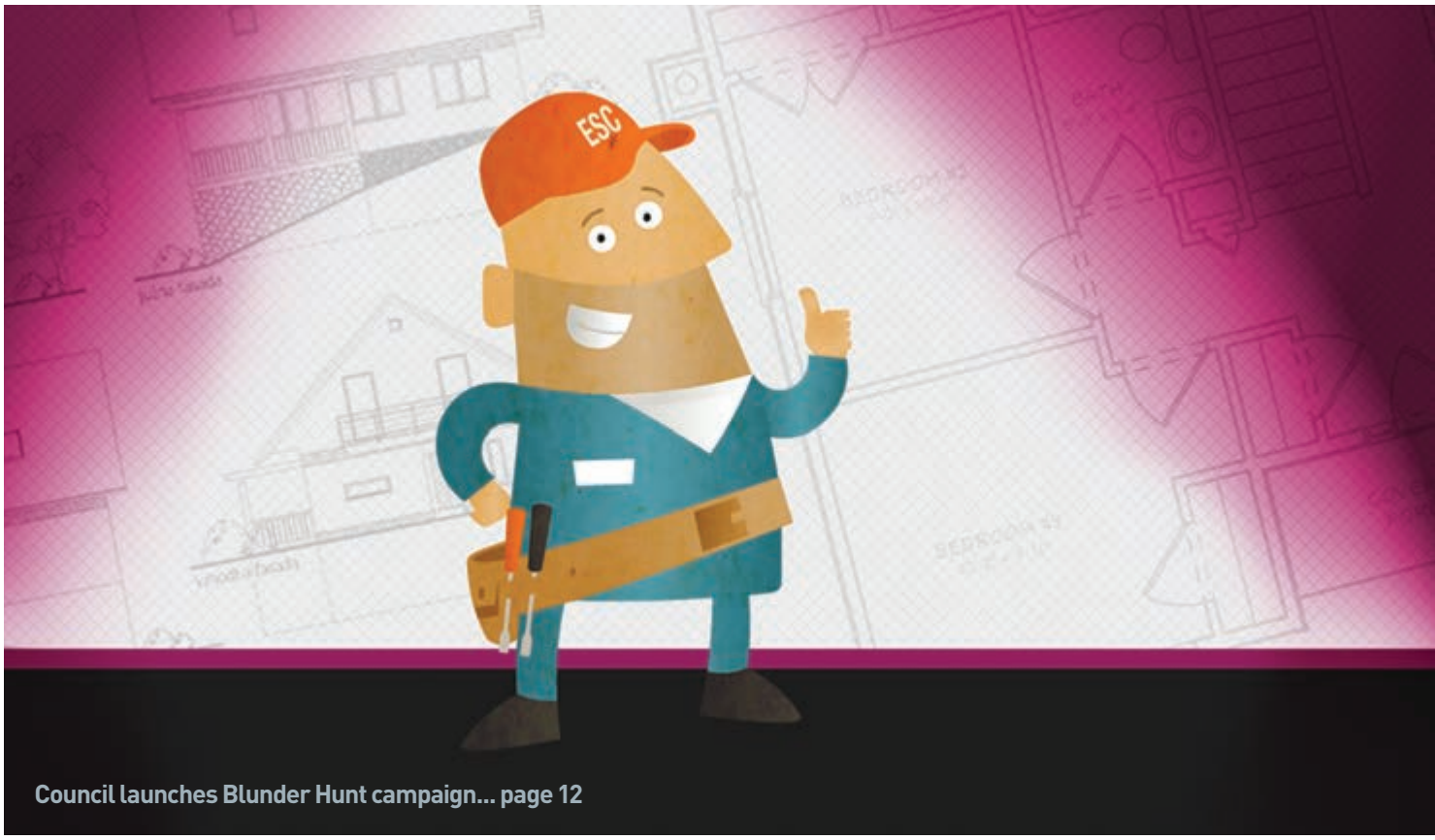
We continue to lobby Government and the opposition, both at Westminster and the devolved assemblies, on the concerns we have over electrical safety, particularly in the private rented sector (PRS). Research shows that tenants in the PRS are more likely to be injured by an electrically-related incident and, given the rise in the number of people entering the PRS, we believe it is important that tenants are provided with an assurance that their home is safe.

Through our efforts we are now being listened to by policy makers and in Scotland we have been asked to draft questions for the proposed Tenant Information Pack (TIP) concerning electrical safety issues. It is by no means certain that these questions will be included in the final version of the TIP but if they are then it will support the introduction of a requirement for electrical installation condition reports to be undertaken at least once every five years.

I hope that you have a peaceful Christmas and I would like to wish all our readers a prosperous New Year.

As always, we would welcome feedback on *Switched On*, to help us improve the content. Email **feedback@esc.org.uk**

Phil Buckle Director General



Council launches Blunder Hunt campaign... page 12

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your insight into the electrical safety industry

news

technical

Letters

I'm sure that there are many within the electrical industry that 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: **andrewbrister@ymail.com**

ELECTRICAL SAFETY COUNCIL

features

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IN BRIEF

Amendments to BS 7671: 2008

It has been decided that the new Section 722 – 'Supply of electric vehicles' – which is due to be published in the New Year, will be Amendment 2 to *BS 7671: 2008*. It is expected to be made available to download free of charge.

This means that the next full amendment of *BS 7671*, which is due to be published in January 2015 in accordance with the usual three-year revision cycle, will become Amendment 3.

Amendment to BS 1363-3

The summer 2012 issue of *Switched On* featured an article reporting that the ESC had successfully negotiated the inclusion of a range of overload test requirements in the 2012 revision of *BS 1363-1: Specification for rewireable and non-rewireable 13A plugs*. At that time, continuing efforts were being made by the Council for similar requirements to be incorporated into *BS 1363-3: Specification for adaptors* (block adaptors), as the ESC's laboratory research confirmed that block adaptors could suffer the same fate as extension leads, exhibiting thermal damage under foreseeable overload conditions.

Fuse holder completely melted due to overheating

In September this year, the BSI Technical Committee responsible for the safety of adaptors issued a Draft for Public Comment including revised text to cover the new overload requirements. Subsequently, the new requirements have been approved for publication in Amendment 4 to *BS 1363-3*, which is due to be published by the end of this year.

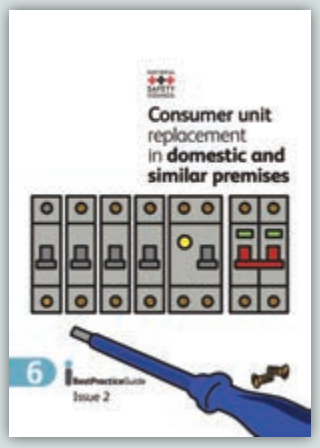
Consumer Unit Best Practice Guide updated

The Council's Best Practice Guide No 6, *Consumer unit replacement in domestic and similar premises*, has been updated to take into account Amendment 1 to *BS 7671*.

The updated Guide (Issue 2) can be viewed and downloaded free of charge from the 'industry' section of the ESC's website: **www.esc.org.uk**

The other free Best Practice Guides in the series are:

- No 1 – *Replacing a consumer unit in domestic premises, where lighting circuits have no protective conductor (Issue 2)*
- No 2 – *Guidance on the management of electrical safety and safe isolation procedures for low voltage installations (Issue 2)*
- No 3 – *Connecting a microgeneration system to a domestic or similar electrical installation (in parallel with the mains supply) (Issue 2)*



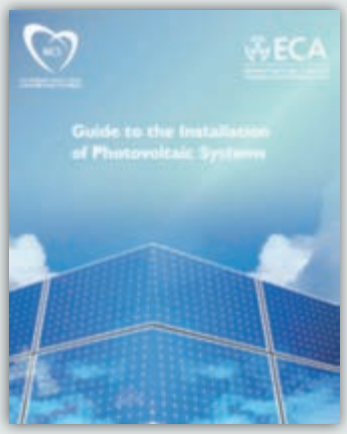
- No 4 – *Electrical installation condition reporting: Classification Codes for domestic and similar electrical installations (Issue 3)*
- No 5 – *Electrical installations and their impact on the fire performance of buildings. Part 1 – Domestic premises: Single family units (houses, flats, maisonettes, bungalows)*
- No 7 – *Test instruments for electrical installations: Accuracy and consistency*
- No 8 – *Selection and use of plug-in socket-outlet test devices.*

New guide to the installation of photovoltaic systems

The Department of Trade and Industry guide to the installation of photovoltaic systems in buildings, first published in 2002 and updated in 2006, has been completely revised by the MCS PV Working Group and the Electrical Contractors' Association.

The *Guide to the Installation of Photovoltaic Systems* is destined to become a mandatory document for all MCS-accredited PV system installers under the requirements of the Microgeneration Installation Standard MIS3002: *Requirements for contractors undertaking the supply, design, installation, set to work commissioning and handover of solar photovoltaic (pv) microgeneration systems.*

The Guide has been comprehensively updated, including the following areas:



- performance calculations
- dead load and wind uplift requirements
- clarification of the requirements for RCDs
- earthing & bonding

The new, third, edition of the Guide is expected to be available by the time this issue of *Switched On* is distributed.

WOULD YOU PREFER TO READ SWITCHED ON ONLINE?

The Electrical Safety Council is considering making some changes to *Switched On* and wants to know what you think of the magazine. Although there's always been a digital version of *Switched On* to complement the printed copy, the ESC is considering moving in part, or fully, to an online version.

To enable the Council to make an informed decision, it needs to know how you would prefer to read *Switched On* in future – on paper, online, or perhaps both. Please help by completing a short readership survey at:
www.surveymonkey.com/s/SwitchedOnSurvey

There are only a few questions, so it will only take you a few minutes to complete the survey.

As an incentive, one lucky person completing the survey, chosen at random, will win an exciting new 16 GB iPad mini with Wi-Fi and mobile data capability*. If you can't decide whether or not you would prefer an online copy, please see the trial digital issue at www.esc.org.uk/switchedon

** Sim card not included*

ELECTRICAL FIRE SAFETY WEEK: 24-30 SEPTEMBER 2012

The Electrical Safety Council worked with the Department for Communities and Local Government's Fire Kills campaign and Fire and Rescue Services across England at the end of September for Electrical Fire Safety Week.

The Council ran a number of initiatives to help raise the profile of electrical safety during the Week and, in particular, to increase awareness of the dangers of misusing electrical appliances in the home. These activities were backed up by new research which showed that, on average, fires caused by the misuse of appliances kill 22 people and seriously injure around 2,500 every year. Last year alone there were more than 14,700 fires of this type.

The ESC reached out to primary level children and their teachers by launching a children's poster design competition in schools during the Week. Children were invited to design a poster that used 'electrical safety around the home' as its theme. The winning poster will feature on the Council's new Switched On Kids electrical home safety checklist, which encourages children to carry out a home safety check with their parents or carers.

Electrical Fire Safety Week also provided a fantastic opportunity for the Council to build stronger ties with Fire and Rescue Services, as well as share safety messages face to face with the public. The ESC was involved in a range of activities during the Week, which included awareness events at shopping centres: one in Brighton supported by the East Sussex Fire and Rescue Service; and the other in Newcastle supported by Tyne & Wear Fire and Rescue Service. Several local MPs were on hand in both areas, including Mike Weatherley and Adrian Sanders in Brighton, and Chi Onwurah, Dave Anderson and Mary Glindon in Tyne & Wear.

Dave Anderson, Member of Parliament for Blaydon, has a go on the ESC's buzzer game in the Metro Centre.

The events of the Week were supported by media activity which focused on the number of electrical fires that are caused by simple blunders – to reinforce public interest in this we launched a 'Blunder Hunt' game for our Facebook page (see page 12). To date, the Council has had over 1,500 new subscribers to the page. Other media activity saw the ESC's director general, Phil Buckle, appear on the ITV breakfast programme *Daybreak*, and other members of the team, Steve Curtler and Penny Walshe, have spoken on various radio shows.

The Council has also made important headway in Scotland after running a workshop in Glasgow attended by all eight of the Fire and Rescue Services in Scotland (see page 8). The ESC was particularly pleased that all eight are supportive of introducing Electrical Fire Safety Week into Scotland next year, particularly as the eight services will merge into one single Scottish Fire and Rescue Service from April 2013.

ESC AT THE CENTRE OF PART P DEBATE

In September, the issue of electrical safety in the home was the topic of a Westminster Hall debate on Gas and Electrical Building Regulations, following the Communities and Local Government Select Committee report that came out in March and the government's response to it early in the summer. Central to the discussions was the work of the Electrical Safety Council.

Several MPs taking part in the debate referred to the work of the ESC in relation to *Part P*.

Clive Betts MP, who chaired the Select Committee's inquiry, said he felt that the regulations had improved standards and that his committee was clear the scope should not be cut. He added: *"The whole industry, including the Electrical Safety Council which expressed concern about watering down the regulations, should be involved. We must raise awareness."*

While the changes to *Part P* were yet to be revealed, the responsibility of retailers to promote awareness of the *Part P* requirements came to the fore in discussions.

Nick Raynsford MP quoted a note sent to him by the ESC raising concerns over the limited promotion of *Part P* by DIY retailers due to the adverse affect it can have on sales. He asked the Government to consider: *"What more can be done to alert members of the public to their responsibilities and to the risks of undertaking electrical DIY work without ensuring that it is checked as compliant with the requirements of Part P."*

However, he praised *Part P* for increasing the number of electricians being assessed for competence, and said that it would be good to legislate to require retailers to include labelling on electrical installation products to draw the attention of DIYers to the requirements of *Part P*.

Speaking for the opposition, Roberta Blackman-Woods MP spoke firmly against any possible watering down of the regulations. She said: *"All Members will have received an important briefing from the Electrical Safety Council. More than any other information I received, it highlighted that the result of the regulations being in place is an excellent safety record. That is a very strong argument for keeping them as they are."*

Ms Blackman-Woods added her voice to the calls to apply pressure on retailers, and asked for there to be a plan to ensure retailers would be required to promote *Part P* if the initial voluntary route did not succeed.

The newly-appointed Building Regulations minister Don Foster MP spoke on behalf of the government, saying he was unconvinced that making it a legal requirement for retailers to label products was the right path to go down, but one he would consider if other routes were to fail.

Commenting on the debate, Phil Buckle, ESC director general, was categorical about the need for *Part P* not to be watered down, saying: *"Building regulations are vital to ensuring the safety of consumers and helping them to select contractors who they can be confident will do a good job. We are delighted to see so many MPs coming out in support of these views, and are committed to doing all we can to highlight to householders the scope of the requirements and their importance for securing the safety of their families.*

"We congratulate Mr Foster on his appointment and welcome his comments that no decisions have yet been made to reduce the scope of Part P. We hope to work closely with Department for Communities and Local Government over the coming months to ensure the electrical industry and others are coordinated in their efforts to bring about greater awareness of the requirements."

The revised Approved Document P is expected to come into effect in England on 6 April. The current version of Approved Document P will continue to apply in Wales.

ACTIONS RESULTING FROM THE UNLAWFUL KILLING VERDICT IN THE EMMA SHAW CASE

In the Spring 2012 issue of *Switched On*, we reported on the inquest into the death of Emma Shaw at which the jury had concluded that Miss Shaw had been unlawfully killed. In December 2007, Emma, a 22-year-old mother, had been electrocuted in the airing cupboard of her flat in the West Midlands.

The tragedy had resulted from a plasterboard fixing screw being driven into a concealed cable when the flat was being built the previous year, causing the metallic frame of the partition to become 'live' when the electrical installation was energised. The damage to the cable had not been detected because insulation resistance tests had not been carried out properly on the wiring, the jury was told.

The Coroner told the inquest that he would use coroner's rules to write to relevant bodies, requiring them to advise him what they had done, or intended to do, to curb the practice of electricians signing safety certificates based solely on information reported to them by others. The Electrical Safety Council received a copy of the letter for information.

The ESC was pleased to respond, saying: "We are well aware of the danger to life that can result from cables concealed in walls and partitions unknowingly being damaged during construction, maintenance and improvement work. Indeed, the daughter of our Patron, Baroness Tonge, was electrocuted as a result of a screw securing a metal utensil rack to her kitchen wall having penetrated a concealed cable.

"To help prevent such tragedies, we supported a proposal to amend the UK standard for the safety of electrical installations (*British Standard 7671*) that requires most, if not all, power and lighting circuits in new and rewired homes to be protected by an RCD. The requirement came into effect in 2008.

"In 2010, we launched a campaign to raise public awareness of the safety benefits of RCDs, and to increase their use in older UK homes."

In addition, the ESC said it would:

- include an article about the inquest and the circumstances leading to the fatality in the spring issue of its quarterly magazine, *Switched On*
- review the guidance in its publications regarding insulation resistance testing to see if it can be improved or expanded to cover such damage to cables

- consider producing and distributing information for the building trade and householders about the so-called 'safe zones' for cables defined in *BS 7671*, and the risk of penetrating cables with screws etc during construction and DIY work.

The ESC also drew the Coroner's attention to the fact that the Government was reviewing the only legal requirement relating to the safety of electrical installation work in homes in England, contained in *Part P* of the *Building Regulations*, and confirmed that its aim was to try to ensure that the existing requirements for the safety of electrical installation work were not significantly watered down, or indeed revoked, by Government in pursuit of its deregulation policy.

The ESC asked the Coroner if there was any way that the Council could arrange to be notified of all inquests into deaths caused by electric shock and fires of electrical origin so that, in appropriate circumstances, it could request a copy of the inquest report. Such reports would help the Council identify what actions could be taken, in collaboration with others, to prevent re-occurrences. However, the Coroner advised that, currently, no such arrangement existed amongst the 100 or so independent coroners in the country.

Following the verdict of unlawful killing, the Health and Safety Executive confirmed that new evidence would be passed to the Crown Prosecution Service, which had previously said that there was insufficient evidence to successfully prosecute anyone.

But, controversially, after a case review, the Crown Prosecution Service decided it still did not have enough evidence to bring manslaughter charges against anyone.

In a statement, the CPS said: "Following the unlawful killing verdict at the inquest into the death of Emma Shaw, West Midlands Crown Prosecution Service has conducted a full review of the original decision not to charge six suspects with the offence of manslaughter. The review is now complete and, with the benefit of advice from a leading specialist QC, we have decided there remains insufficient evidence to provide a realistic prospect of conviction for any suspect for the offence of manslaughter."

COUNCIL HOLDS ELECTRICAL SAFETY WORKSHOP FOR SCOTTISH FIRE & RESCUE SERVICES

The ESC ran a workshop on electrical fire safety for Scottish Fire and Rescue Services (SFRSs) in September, hosted and supported by Strathclyde Fire and Rescue at its headquarters.

The Glasgow-based event was attended by 23 fire safety officers with representation from all eight of the Fire & Rescue Services in Scotland. This provided the ESC with an opportunity to build on its relationship with SFRSs, to increase the shared understanding of electrical fire safety issues and to consider how SFRSs can increase electrical safety messaging in their fire prevention activities in their local communities.

One of the workshop sessions looked at the ways a fixed electrical installation or portable electrical appliances may cause fires in homes. It also highlighted the ways these risks may be increased by the behaviour of the occupants. Topics covered included particular areas of risk, such as downlighters and specific electrical appliances. Advice was also provided on what SFRSs should look for when carrying out their home safety check visits.

The second session covered the issue of fires in homes caused by the effects of overloading or faults in electricity cut-out fuses, meters and consumer units (fuseboxes), which is equipment often located under the stairs or adjacent to other escape routes. This session also provided an overview of the forthcoming UK-wide smart meter installation programme.

The Scottish workshop followed a similar successful event held last year for Fire and Rescue Services in England which attracted 38 community fire safety officers from 25 Brigades – representing over half of the Brigades in England. Officials from the Department for Communities and Local Government (DCLG) 'Fire Kills' campaign were also in attendance.

Feedback received on the Glasgow event was very positive, with all attendees agreeing that, following the workshop sessions, they had a greater understanding of electrical safety issues and an increased knowledge of the ESC, including its aims and activities.

Many of the Services agreed to review their current guidance for householders with a view to increasing the electrical safety messages, which the ESC hopes will contribute to a reduction in fires caused by electricity.

The workshop was followed by a session to discuss the possibility of introducing Electrical Fire Safety Week (EFSW) into Scotland in 2013.

EFSW ran in England from 24-30 September, and was supported by the Government's Fire Kills campaign and Fire and Rescue Services in England. The week helped to raise awareness of electrical fire safety issues at local level.

The ESC was particularly pleased that all eight SFRSs were supportive of introducing EFSW into Scotland next year, particularly as the eight services will merge into one single Scottish Fire and Rescue Service from April 2013.

The ESC will continue to build on its relationships with Fire & Rescue Services throughout the UK and to work collaboratively with them at local level on electrical fire safety issues.

PHIL BUCKLE WINS OUTSTANDING CONTRIBUTION ACCOLADE

Phil Buckle, director general of the Electrical Safety Council, has won the Outstanding Contribution Award for his achievements at Electrical Times' Electrical Industry Awards.

Rodney Jack, editor of Electrical Times said: "We are thrilled to recognise such a wide range of talent and it is wonderful that in one presentation ceremony we can recognise the breakthrough talent in Karl Warner, the Electrical Apprentice of 2012, and at the same time honour Phil Buckle whose career spans decades and who continues to work just as hard to push the electrical industry forward today as he did when he started."

Phil Buckle collects his award from Tony Cable of the NICEIC.

NEW TECHNICAL COMPETENCE REQUIREMENTS FOR PROPOSED QUALIFIED SUPERVISORS

The industry bodies represented on the management committee of the Electrotechnical Assessment Specification (EAS) have agreed that revised technical competence requirements for proposed Qualified Supervisors will take effect from 6 April 2013.

There are a number of different routes to satisfying the requirements for registration as a Qualified Supervisor, as set out in the EAS document.

Qualifications

For those choosing the qualification route, a new Level 3 qualification, a certificate in *"Installing, Testing and Ensuring Compliance of Electrical Installations in Dwellings"* will be available from December 2012. This will be the minimum qualification level for Qualified Supervisors responsible for electrical work in domestic properties in England and Wales that are subject to *Part P* of the *Building Regulations*.

For compliance with *Building Regulations* in Scotland, Approved Certifiers of Construction for electrical installations must be eligible to be graded as Approved Electricians and be suitably qualified, such as to SVQ Level 3 in electrical engineering or equivalent.

For work in commercial or industrial premises, the minimum qualification for Qualified Supervisors will be the new Level 3 NVQ *"Diploma in Installing Electrotechnical Systems and Equipment (Building, Structures and the Environment)".*

Further information about Electrotechnical Level 3 awards is available from SummitSkills **(www.summitskills.org.uk)**, City and Guilds **(www.cityandguilds.com)** and EAL **(www.eal.org.uk).**

Do the requirements apply to existing Qualified Supervisors?

The new requirements will not apply retrospectively to existing Qualified Supervisors. Persons who already have a competency-based qualification as outlined in the EAS document will not need to have the new qualification if they apply to become a new Qualified Supervisor after 5 April 2013.

What about proposed Qualified Supervisors applying before 6 April 2013?

The new requirements apply only to proposed Qualified Supervisors applying after 5 April 2013.

What about persons previously registered as Qualified Supervisors?

Persons who have been working as registered Qualified Supervisors within the two years proceeding 6 April 2013 will be eligible to be proposed as a Qualified Supervisor for a new employer without needing to demonstrate the new level of technical competence.

About the EAS Management Committee

The EAS Management Committee is the national committee responsible for determining the minimum technical standards against which companies in the electrotechnical sector are assessed.

The committee comprises representatives from organisations across the electrical installation industry, including the Electrical Safety Council and the electrical competent person schemes. The EAS document can be downloaded free of charge from the website of the Institution of Engineering and Technology (IET), by searching for 'EAS specification'.

ELECTRICAL INTAKE FIRES - DISTRIBUTORS' CUT-OUT FUSE AS

In May, the Technology and Construction High Court considered a set of five claims against electricity distributors for damages for negligence said to relate to fires in five different premises, all of which started as a result of resistive heating in cut-out fuse assemblies. The five claims were in the nature of 'test cases'.

The scope of the dispute involved a determination of what, if anything, the electricity distributors should have done by way of inspection, maintenance, replacement or monitoring of the cut-out assemblies.

It was accepted by both sides that all the fires had started in or immediately around the cut-out assemblies as a result of 'resistive heating'. This resulted in very high temperatures which then caused ignition of anything that was close by and flammable. It was also accepted that none of the fires was caused by negligent installation of the cut-out assemblies when they were first installed.

In the judgment, published in September, the claims for negligence were dismissed. However, the judge also recorded that "the electrical distribution and supply industries may feel, at least in respect of the findings in this case, that they need actively to consider what the impact of ageing generations of cut-outs will be as time marches on."

The judge had found that a number of breaches of statutory duty had been established, although not to the required standard of proof that they caused fires in any of the cases.

The *Electricity Safety, Quality and Continuity Regulations 2002* include the following requirements relating to the inspection and maintenance of equipment:

Regulation 5 – Inspection of networks: A...distributor shall, so far as is reasonably practicable, inspect his network with sufficient frequency so that he is aware of what action he needs to take so as to ensure compliance with these Regulations...

Consequences of overheating cut-out fuse assemblies.

SSEMBLIES

Regulation 24 – Equipment on a consumer's premises: (1) A distributor... shall ensure that each item of his equipment which is on a consumer's premises but which is not under the control of the consumer (whether forming part of the consumer's installation or not) is –
(a) suitable for its purpose;
(b) installed and, so far as is reasonably practicable, maintained so as to prevent danger.

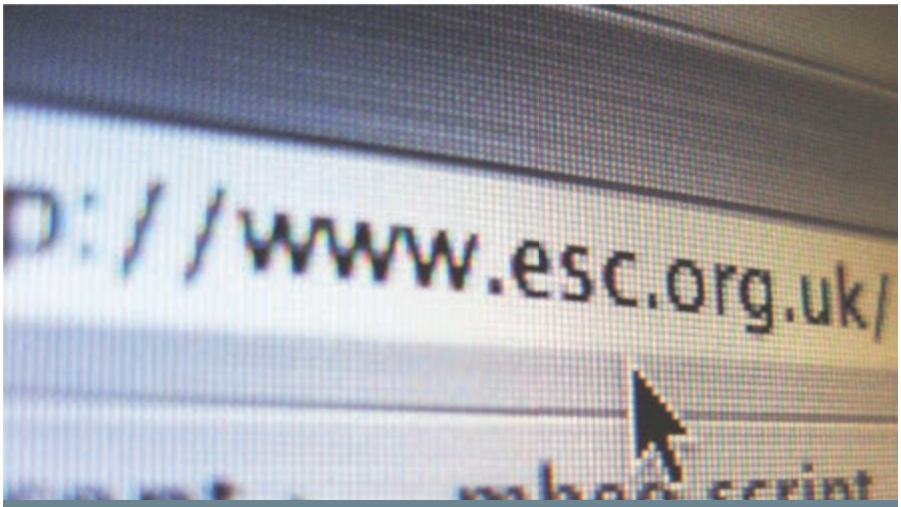
In relation to the cases, the judge found that the electricity distributors:

1. did not themselves routinely or at all inspect the cut-outs (except when called in for 'opportunistic' purposes)
2. did not routinely, or on any rolling basis, replace old cut-outs
3. did not carry out any routine or indeed any maintenance of the cut-outs (except in 'opportunistic' circumstances)
4. except in connection with preparation for and preparing evidence in these individual cases, they had not prepared let alone maintained on any regular basis any clear or useful statistics of what fires are caused and for what reasons in relation to cut-outs.

With regard to the duty to inspect cut-out assemblies, whilst it was acknowledged that the electricity distributors operated a good reactive inspection and maintenance regime, it was found that, despite having no contractual arrangements for such a service, they had relied upon routine inspections by meter readers employed directly or indirectly by the electricity suppliers.

We will report further on this subject if and when the electricity distribution and supply industries act upon the judge's observations regarding compliance with their statutory obligations.

The full judgment, which reveals much interesting information about current electricity supply industry practices, can be found at:
www.bailii.org/ew/cases/EWHC/TCC/2012/2541.html



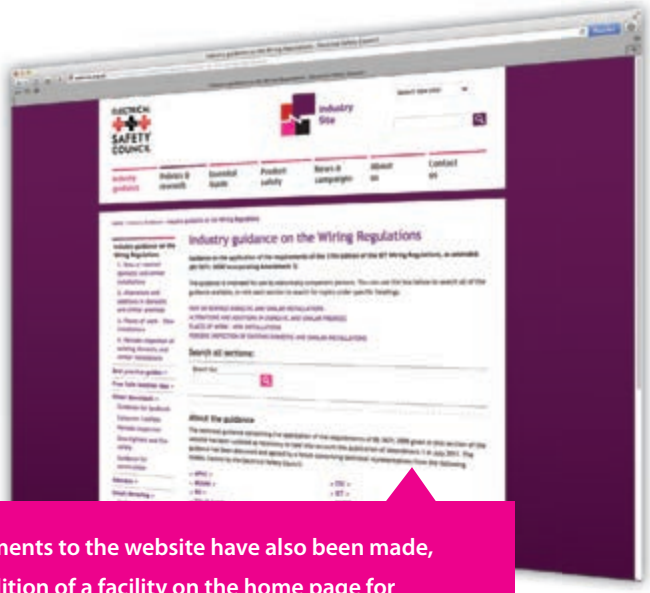
INDUSTRY GUIDANCE ON THE WIRING REGULATIONS – MORE QUESTIONS ANSWERED

The agreed answers to several new questions have been added to the 'Industry guidance on the Wiring Regulations' section of the ESC website, including:

- *Is it necessary to install surge protective devices (SPDs) in domestic and similar premises?*
- *During a periodic inspection, a circuit having RCD protection is encountered and the design information regarding the provision of fault protection is not available. Which value of maximum permitted Zs applies – the value for the overcurrent device (circuit-breaker or fuse) or the value for the RCD (or the RCD element of an RCBO)?*

For the industry-agreed answers to these and many other commonly-asked questions relating to the application of the 17th Edition as amended, please visit www.esc.org.uk/forum

The ESC recommends that those following the guidance provided by the Electrical Installation Forum visit the site at least every couple of months to see what other additions and amendments have been made.



Several enhancements to the website have also been made, including the addition of a facility on the home page for searching all of the Q&A sections, and each Q&A has now been given a unique number for ease of reference.

Visit www.esc.org.uk/forum

COUNCIL LAUNCHES BLUNDER HUNT CAMPAIGN

The Electrical Safety Council has launched a campaign aimed at reducing the basic electrical "blunders" that people are making in their homes – blunders that are leading to electrical fires and accidents. The campaign used both traditional and social media, a first for the Council, and was timed to coincide with Electrical Fire Safety Week.

Government figures show that, despite an overall decline in fires in the home, fires caused by the misuse of appliances have increased by over a third since 2009. On average, fires caused by appliance misuse kill 22 people, seriously injure about 2,500 and cause tens of millions of pounds of damage each year.

In recent years there has also been a considerable rise in the number of higher-risk appliances in our homes. For example, since 2004 the number of microwaves has increased by 1,457,000 and tumble dryers by 2,148,000. However, more than half of UK households (51%) still do not have RCD protection in their consumer units.

The Council's research highlights the most common mistakes that are being made, including:

- Using the microwave as an additional surface and blocking air vents (33%)
- Leaving the tumble dryer running unattended or overnight (9%)
- Blocking air vents by failing to clean behind the fridge/freezer (44%)
- Overloading adaptor sockets (16%)
- Leaving an electrical appliance on while unattended, only to be alerted by a burning smell (9%).

A staggering three quarters of UK adults confessed to at least one electrical safety blunder, something the ESC believes has a clear link to the surge in fires. The campaign, which achieved national TV and print coverage, called on people to make sure they are informed about electrical safety and underlined the role of the ESC in helping people to protect themselves, their homes and families.

To help people to test their knowledge and become more aware of fire safety blunders, the ESC created a "Blunder Hunt" quiz, hosted on Facebook, which helps to identify mistakes and improve safety. The quiz asks five simple questions and gives advice based on the response. To encourage people to enter, a weekly prize of a weekend for two in Paris was offered as well as a prize incentive to encourage people to "share" their results.

Within the first week of the campaign the Facebook page attracted over 1,500 new "likes" with over 1,000 people sharing information in news feeds – with the potential for the news to reach their 260,000 friends.

The competition has now closed, but you can still visit **www.facebook.com/ElectricalSafetyCouncil** to test your knowledge and find out your "blunder rating".

ESC CONCERNS OVER ELECTRICAL INTAKE FIRES

The ESC has for some time been concerned about reports of fires in homes originating in electrical intake positions, some of which have had very serious consequences:

Hampshire
An inquest in Hampshire heard how the death of an elderly Hampshire resident was a result of a fire originating at the electrical intake position in her home. In October, the Coroner wrote to a number of organisations requiring them to report what actions they had taken in the recent past, or were intending to take in the near future, to help prevent further deaths that might be caused by similar events.

The Coroner had concluded that the most likely cause of the fire in December 2010 was an electrical fault 'within the meters and electrical distribution equipment' located in a cupboard inside the property.

East Sussex
The Hampshire Coroner's letter made reference to a report produced by East Sussex Fire and Rescue Service (ESFRS) following a fatal fire that had occurred within their jurisdiction under similar circumstances in May 2009.

The detailed report, which can be found at **www.cfoa.org.uk/download/18650**, followed an investigation into not only the cause of that fatal fire, but also of a number of other fires in domestic and similar properties that had started in the vicinity of electrical intake equipment.

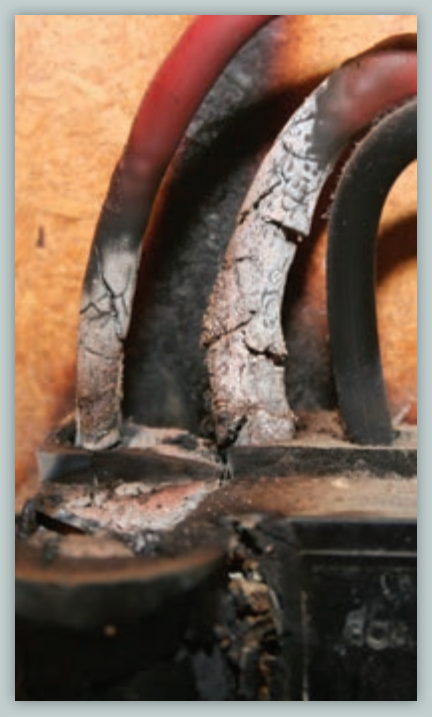
The most likely cause of the fires was found to be resistance heating at deteriorating cable terminations and fuse contacts. This finding was subsequently supported by the High Court case (see page 10), in which it was accepted by both sides that five fires, the claims in respect of which were in the nature of test cases, had all started in or immediately around the distributors' cut-out assemblies as a result of 'resistive heating'. But the overheating of consumer units, for example due to loose connections, has also been the cause of a significant number of fires.

Fatalities elsewhere in the UK
As *Switched On* was going to press, the outcome was awaited of inquests into the deaths of three other people (one each in England, Wales and Scotland), thought to have been caused by fires originating in electrical intake positions.

Warning label
Whilst the number of fires originating at electrical intake positions each year is relatively small, some, as evidenced above, result in a real threat to life due to the nature and circumstances of how and when the fires occur. This is often at night when people are asleep, combined with the typical location of an electrical intake being near the means of escape from a property, such as under a stairway, for example.

Whilst electrical equipment is designed to contain the thermal effects of faults, such as arcs, sparks and, to some extent, overheating at terminations, the effects can and do ignite materials that are in close proximity.

It was the ESFRS report that inspired the joint initiative between the Electrical Safety Council and the Chief Fire Officers Association to produce and distribute the notice warning householders not to store combustible material near to the electrical intake equipment in their homes – further information about that warning notice is given in the following article on page 14.


Electrical intake fires are caused by resistive heating at loose or deteriorating connections.

COUNCIL CONTINUES TO PROVIDE FIRE WARNING LABELS FOR ELECTRICAL INTAKE POSITIONS

The ESC is continuing to warn householders not to store combustible materials close to the electrical intake equipment in their homes. In a joint initiative with the Chief Fire Officers Association, the Council is getting the message across to householders throughout the UK by supplying warning labels to Fire & Rescue Services (FRSs) and electricity supply industry bodies as part of its electrical fire safety campaign work.

The warning is particularly appropriate where the electrical intake equipment (service head, meter and consumer unit) is in a cupboard which is used to store items such as coats, cleaning materials and other items that can be easily ignited. Fires in under-stair cupboards are particularly dangerous, as they can cut off the means of escape from upstairs.

The label and an associated guidance leaflet are being offered to householders by FRS fire prevention officers during their home safety visits. To date, over 240,000 labels and leaflets have been supplied to 42 FRSs throughout Great Britain. Three versions of the label have been produced for use in England, Wales and Scotland.

Feedback from FRSs has indicated that most householders who were offered the advice agreed to have the label fitted, and that raising the safety issue with them has led to an increased awareness of the potential danger of storing combustible materials near electrical equipment.

In collaboration with the Association of Meter Operators, the ESC also offered to part-fund a supply of the labels for use by meter operators and other supply industry bodies when visiting homes to replace electricity meters.

So far the Council has supplied more than 1.6 million labels to a small number of electricity supply bodies for their use, where appropriate, when electricity meters are being replaced.

This wider electrical fire safety campaign will run up to 2019, by which time the electricity meters in all 26 million homes in Great Britain are due be replaced under the smart meter programme.

The take-up by supply industry bodies is expected to increase as a consequence of the findings in the High Court judgment and of the Hampshire Coroner's letter, both of which are reported on in this issue.

INDUSTRY SEEKS OPERATIONAL SOLUTION FOR SMART METER ISOLATION

In the summer issue of *Switched On*, we reported that, despite what a number of influential electrical industry bodies considered to be a very strong business case, the Department of Energy and Climate Change (DECC) had rejected the call to include an isolating switch in the technical specification for smart electricity meters.

Such an isolating switch would have provided a technically sound and relatively inexpensive engineering solution to the longstanding issues surrounding the temporary de-energisation of domestic electrical installations to enable certain electrical work to be carried out safely, in particular the replacement of consumer units. More than 400,000 consumer units are replaced throughout Great Britain every year, the de-energisation for the large majority of which is believed to be undertaken by unauthorised persons for reasons of practicality.

The ESC was very disappointed with the DECC decision which it believes not only failed to take proper account of the safety, financial and technical merits of the business case, but also the wider national interest issues including the government's aim to reduce regulatory and administrative burdens on small businesses.

ESC LAUNCHES APPLIANCE SAFETY CAMPAIGN

With an increasing number of high profile recall stories hitting the national press and a rise in UK electrical product recalls, the ESC's new appliance safety campaign is well timed.

Launched in the autumn, the campaign covers a range of related issues, from product safety design and user behaviour, to improving product recall and traceability processes. The campaign targets a wide audience – from the general public to the entire electrical appliance supply chain.

While the regulations and standards for electrical products in the UK and EU are generally regarded as robust, during the last few years RAPEX (the European Rapid Alert System for notification of dangerous consumer products), has rated electrical products as the third most frequently 'notified' product group. Furthermore, independent research from Reynolds Porter Chamberlain claims UK recalls relating to electrical consumer products have jumped by 45%, from 40 in 2010 to 70 in 2011.

Product safety recalls are usually issued after a safety risk has been identified, or a major design or production flaw has been discovered in a product. Recalls can also arise from faulty or misleading labelling or instructions. A product recall can occur in even the most quality-conscious company and the impact can be immense. Notwithstanding the potential damage to people and homes, an ineffective or inadequate recall process can also generate enough bad publicity to seriously impact on corporate reputation, brand value and, ultimately, sales.

The ESC has been analyzing current product traceability and recall processes so that it can identify problems and make recommendations for improvement. The Council's initial research has led it to investigate options for capturing product registration information at the point of sale, and how to communicate to the public the importance of providing that information. This approach, which the ESC believes could dramatically improve the registration, traceability and recall processes will, however, need comprehensive industry support.

Another element of the campaign will relate to 'foreseeable misuse' of electrical appliances. A significant number of electrical fires and accidents arise because people fail to use a product properly or as the manufacturer intended. Hence the Council is looking to develop a model for providing user instructions in a more easy-to-follow format, to be shared with product manufacturers. Also, by identifying higher risk and best practice appliances, the ESC will be able to suggest potential improvements, either by 'designing out' foreseeable misuse issues or adding safety features, where it is appropriate to do so. Of course,

the Council will also be continuing to raise awareness of the safety risks associated with buying cheap or unbranded appliances, and the importance of buying from reputable retailers only.

More information on the ESC's Appliance Safety campaign will appear soon – check the website at **www.esc.org.uk** for updates.

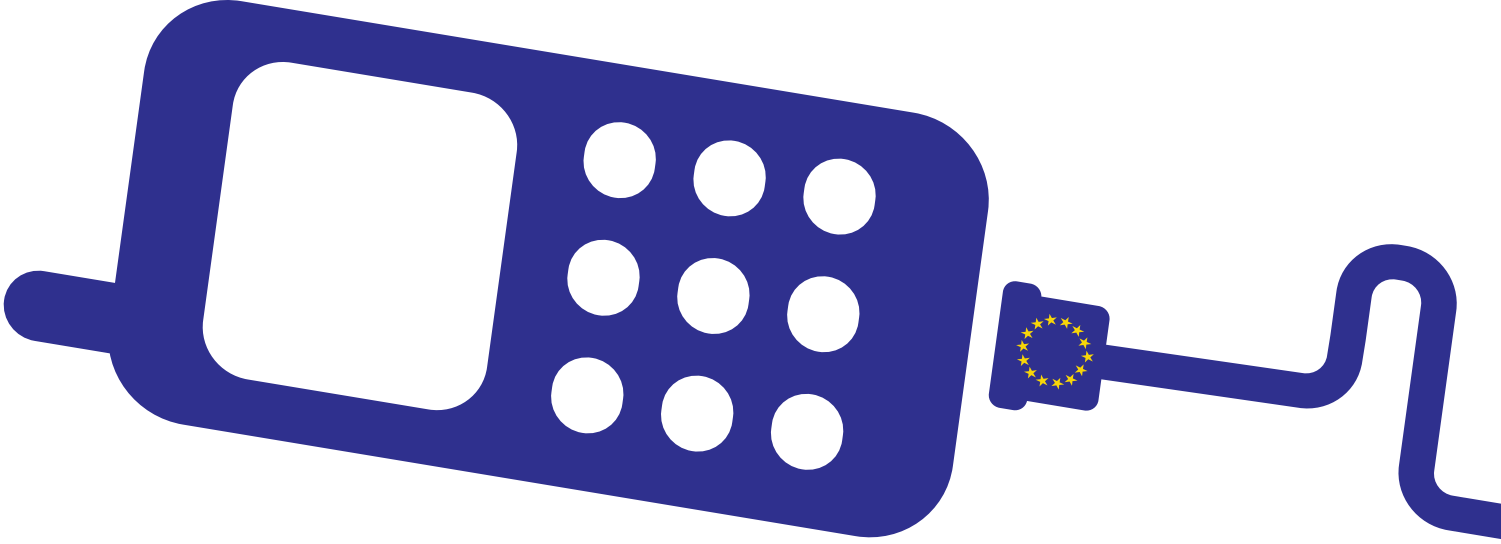
An updated version of the business case can be found in the industry section of the Council's website, **www.esc.org.uk**, in the 'smart metering' section.

A consultation by DECC in September on a revised version of the smart meter technical specification provided no opportunity to re-open the case for an integral isolating switch.

As there now seems to be no prospect of an engineering solution to the temporary de-energisation problem, the ESC has handed back the lead to the electrical contracting trade and registration bodies for them to resume the pursuit of an operational solution. The previous efforts to get competent electricians authorised to access distributors' cut-out fuses were suspended when the smart meter programme offered that now lost, once-in-a-lifetime opportunity to provide a far more satisfactory solution for all concerned, including householders.

When announcing its decision about the integral isolating switch, DECC stated that "the government ... will work with the relevant regulatory authorities to develop a process to help stakeholders find an alternative solution." We will report about what work the government has done to help the industry bodies find a solution in future issues of *Switched On*.

Existing meter with integral isolating switch (cover removed).



EU moves towards a commo

Incompatibility of mobile phone chargers not only causes inconvenience for users, but is also an important environmental issue in the European Union. A user who wants to change their mobile phone must usually purchase a new charger and dispose of the current one, even if it is in perfect condition. This unnecessarily consumes raw materials and creates a vast amount of electronic waste.

'In Europe alone it is estimated that there are more than 30 different types of charger on the market'

According to the Global System for Mobile Communications Association (GSMA), 51,000 tons of duplicate chargers are manufactured each year. In Europe alone it is estimated that there are more than 30 different types of charger on the market across the EU Member States. With tens of millions of customers replacing their phones annually, significant numbers of working chargers are laid aside, discarded and recycled each year.

Following a request from the European Commission, most major producers of mobile phones have agreed in a Memorandum of Understanding (MoU) to harmonise external power supplies for data-enabled mobile phones (ie those that can be connected to a computer) sold in the EU. Once the commitment comes into effect, it is envisaged that it will be possible to charge data-enabled mobile phones from any charger compatible with the common specifications (a common charger), resulting in significant practical, economic and environmental benefits.

The common charger solution is based on the Micro-USB connector technology. For phones that do not have a Micro-USB interface an adapter is allowed under the Memorandum of Understanding.

As an increasing number of mobile phone sales are replacements, a move to the common charging solution should enable future handsets to be shipped without a charger, leading to environmental benefits, cost savings to the manufacturer and consumer, a reduction in use of raw materials and wasted power, smaller and lighter packaging and lower shipping costs.

At least one mobile phone operator in the UK is planning to take chargers out of the box from Christmas 2012, supplying a Micro-USB to USB cable instead, and other operators are expected to follow suit shortly afterwards. The assumption then is that the consumer will need to choose whether to buy a charger with, or after, the purchase of the mobile phone, or choose to use an existing common charger.

While this is all good news for the environment, there are concerns that this move may lead to an influx of counterfeit and/or unsafe chargers, as independent suppliers look to capitalise on meeting increased consumer demand.

In previous issues of *Switched On*, the Electrical Safety Council has reported on its investigations into substandard mobile phone chargers, and has raised awareness of the potential safety risks from buying cheap unbranded chargers, particularly those purchased online. The Council fears that the problem may be compounded once the principle of a "common charger" has been fully implemented.

Fortunately, Trading Standards and many operators within the mobile phone industry share the ESC's safety concerns about the introduction of the common charger and, as a consequence, several liaison meetings have taken place to consider the potential pitfalls that may result.

A working group has been set up to consider ways to reduce the availability/sale of potentially unsafe chargers; the group comprises representation from Government, Trading Standards, the mobile phone industry and consumers (the ESC). The main objective is to explore the feasibility of a national campaign that would:

- deliver key messages to consumers about how to source safe chargers

n mobile phone charger

- provide advice to businesses and importers on their legal responsibilities to supply only safe products
- ensure effective interception at border controls and better co-ordination of market surveillance regionally.

Will the implementation of the common charger help to improve safety?

In 2011, the European Standardisation Bodies CEN, CENELEC and ETSI issued harmonised standards to be adhered to by data-enabled mobile phones compatible with the new common charger. The standards allow for interoperability, ie the common charger is compatible with mobile phones of different brands. They also, among other things, take account of safety risks.

Through the MoU, mobile phone producers have undertaken to ensure that consumers are protected from the consequences of using chargers and mobile phones which may not function correctly when used together. In particular:

- users must be protected from unsafe or incorrect operation of mobile phone/charger combinations
- manufacturers must provide user information which allows the user to understand compatibility issues, such as a statement of compliance to relevant standards and a notice of intended purpose.

It will be vital for manufacturers to clearly identify, and for consumers to recognize, chargers that meet the technical specification for the common charger. Some manufacturers already provide chargers with a Micro-USB connector but those chargers were produced for specific mobile phones and may not be suitable for charging all other mobile phones with a Micro-USB connector.

The development of European Standards (including *IEC/EN62684*) was needed to ensure the compatibility and the functionality of the new generation of Micro-USB chargers. The current guidelines from the European Commission include a statement that only new chargers which comply with the new European Standards will be considered a "common charger".

The ESC continues to recommend that chargers are purchased from a reputable manufacturer or retailer and that people should always follow the manufacturer's instructions for their particular mobile phone. Cheaper, unbranded chargers may not be built to the same standards or offer the same capability and levels of safety.

Although a compliant charger will operate safely if the current rating is different, a charger with a higher rating than recommended may not lead to a faster charging rate and it may even lead to slower charging on certain devices. Using a charger with a lower rating will typically lead to a prolonged charge time.

However, anecdotal reports received from test laboratories indicate that many cheap/unbranded chargers can fail to regulate the charging process safely and can overheat where current ratings of the charger and the phone do not match. Consequently, the ESC has commissioned a test laboratory to carry out an investigation into identifying any hazardous conditions that may arise from simulated overload operation. The findings of this work will be published in a future edition of *Switched On*.

In collaboration with the mobile phone industry and regulators, the Council is seeking to develop consumer guidance around the safe use and compatibility of common mobile phone chargers, and will continue to liaise with mobile phone operators through the implementation of this initiative.

A buyer's guide providing straightforward advice about the essential safety checks you need to make when buying plug-in chargers can be downloaded from the public section of the Council's website: www.esc.org.uk

"...the Council is seeking to develop consumer guidance around the safe use and compatibility"

REPLACEMENT OF ELECTRICITY METERS – UPDATE ON ELECTRICAL SAFETY ISSUES

As reported over the past two years, the ESC has been collaborating with the Association of Meter Operators (AMO) on a range of electrical safety issues relating to the replacement of electricity meters, with mostly encouraging results.

The safety issues from the ESC's perspective are:

- the fitting of a label in domestic premises, when appropriate, warning against storing combustible materials close to electrical intake equipment (a joint CFOA/ESC initiative)
- the need for meter installers to visually inspect consumers' electrical equipment adjacent to the electrical intake equipment (principally the consumer unit/fusebox and meter tails), and to issue a safety notice to draw the householder's attention to any serious or potentially serious defects observed
- the need to check the tightness of the connection of the 'meter tails' at the main switch in consumer units (fuseboxes) after the cables from the meter have been disturbed – loose connections are known to cause fires
- taking the opportunity to include basic electrical safety advice in consumers' smart metering information packs
- the need to check the adequacy of the earthing arrangement before re-energising an installation after replacing a meter – protective fuses and circuit-breakers will not operate if the earthing arrangement is inadequate, giving rise to an ongoing risk of electric shock and fire should an earth fault develop.

As reported elsewhere in this issue (page 14), as at the end of October, over 1.6 million jointly-badged CFOA/ESC fire warning labels had been supplied to a relatively small number of supply industry bodies to fit on a voluntary basis. It is anticipated that more bodies will request supplies of the label following the withdrawal of an objection to their use by the Energy Networks Association (which represents electricity distributors).

The ESC has agreed to contribute to the cost of printing the labels, subject to the availability of funds, up to 2019 (the anticipated end of the smart meter implementation programme), though some supply bodies have opted to print the label themselves.

The change to the industry code of practice (MOCOPA*) concerning the visual inspection of consumers' equipment adjacent to the meter position and, where appropriate, the issuing of a warning notice/advice to the occupier, was proposed by the AMO and has been agreed in principle. Details of the checklist to be used are awaited. (An article in the Spring 2011 issue of *Switched On* provides the background to this.)

Top: Perished vulcanised rubber insulation adjacent to meter.

Right: Relatively modern meter fitted to potentially dangerous installation.

The AMO also proposed a change to the MOCOPA agreement requiring meter installers to undertake an on-site risk assessment to determine whether it is necessary to check the tightness of the connections of the meter tails at the consumer unit following the replacement of a meter. This proposal has also been agreed in principle. Further details are awaited.

There is still general agreement amongst the supply industry bodies that it would be appropriate to include basic electrical safety information in the information pack to be given to householders when smart meters are installed. However, a source of funding for this (and for other essential consumer information) has not yet been identified by government.

The only ESC safety concern that has still not been addressed is the need to check the adequacy of the earthing arrangement before an installation is re-energised following the replacement of a meter. There has been no movement on this from suppliers or distributors on the grounds that, in general, meter installers are not competent to carry out the test.

The ESC continues to be a member of the Department of Energy and Climate Change (DECC) 'Consumer Engagement and Roll-out Group – Operational Issues' working group, which is responsible for considering smart meter operational issues including safety. Each of the ESC's safety concerns, as above, have been logged by DECC for monitoring and progress-tracking purposes as part of the smart meter implementation programme.

** The Meter Operation Code of Practice Agreement (MOCOPA) is an agreement between electricity distribution businesses and electricity meter operators in Great Britain. The agreement authorises meter operators to install and connect meters to the electricity network by clarifying that the equipment being provided, installed and maintained meets appropriate technical requirements and that work is carried out to adequate safety standards.*

Have you ever been asked... is it really necessary to use fused test leads?

Most electricians might assume that the use of fuse-protected leads is unnecessary when carrying out 'dead' testing on circuits proven by a recognised safe isolation procedure to be de-energised. Equally, many might think that such leads are always required when testing energised circuits or equipment. What influences the decision as to whether or not fused leads need to be employed when using electrical test instruments?

The general safety requirements for electrical test instruments are given in the *BS EN 61010* series of standards (*Safety requirements for electrical equipment for measurement, control and laboratory use*), with the specific requirements for hand-held probe assemblies for electrical measurement and test covered by *BS EN 61010-031*. Conformity with the relevant parts of this multi-part standard satisfies the product certification requirements of the *Low Voltage Directive* and the UK's corresponding *Electrical Equipment (Safety) Regulations 1994*.

More specific requirements for electrical test instruments are given in the relevant parts of the *BS EN 61557* series (*Electrical safety in low voltage distribution systems up to 1000 V ac and 1500 V dc - Equipment for testing, measuring or monitoring of protective measures*). Neither of these series of standards specifically requires the use of fused test leads for a particular application.

If an instrument for testing continuity, insulation resistance, earth fault loop impedance, earth electrode resistance or any combination of these conforms to *BS EN 61010* or *BS EN 61557*, it should not be necessary to use fused leads since safety is intrinsic within the design of the instrument when used in conjunction with the leads supplied with the instrument. It should be noted however that such instruments do not protect against faults occurring between a single test lead and earth when the test probe is connected to an energised circuit, for example if a test lead were to be trapped in an electrical cabinet door.

In the case of tests that are intended to be carried out with the installation de-energised, there should be no risk of electric shock if the circuit or equipment under test has been isolated using an appropriate safe isolation procedure[1].

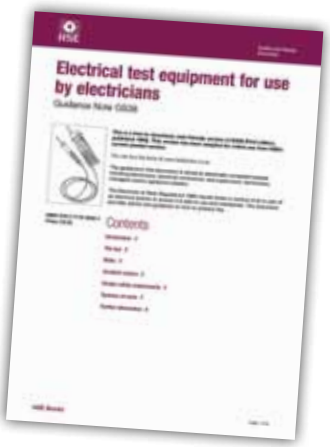
The Health and Safety Executive publication *Electrical test equipment for use by electricians (GS 38)* gives guidance on the safety requirements for the design of test probes and leads for use with test instruments, test lamps and indicators used to detect the presence (or absence) of voltage. Although not specifically intended, that guidance is often applied to leads used with other test instruments.

Whilst the leads provided with a test instrument meeting the requirements of the relevant parts of *BS EN 610101* or *BS EN 61557* should be adequate for the intended use of the instrument, this might not be the case for an instrument that does not conform to those standards. In such cases, the use of fused leads is recommended.

In the case of a multimeter, an incorrect range setting can be selected accidentally, allowing an excessive current to pass through the instrument and leads. It is for this reason that *GS 38* recommends (in paragraph 18) that fused leads should be used with such test instruments.

It should be noted however that using fused leads with an otherwise unsuitable test instrument will not necessarily make it safe to use.

In the case of a test instrument to be used to establish the absence of voltage, the use of a proprietary test lamp or 2-pole voltage detector suitable for the working voltage is preferred (paragraph 17 of *GS 38* refers).



It is essential that the leads for use with any type of test instrument that are intended to be applied to live terminals at low voltage are inspected prior to each use to confirm that they remain in a satisfactory condition.

Regardless of whether fused or unfused leads are used, the length of exposed tip on the test probes should be kept as short as possible to minimise the risk of arcing, flashover or electric shock. *GS 38* recommends that probes are insulated to leave no more than 4 mm and, where practicable, only 2 mm or less of exposed tip. Alternatively, spring loaded, retracting shields may be used (paragraph 9 refers).

Where there is any doubt as to whether the presence of fuses and/or resistances in fused lead sets will adversely affect the functionality or safety of the test instrument, the advice of the manufacturer should be sought.

Further information about the selection of test probes, leads, test lamps and voltage indicating devices can be found in *GS 38*, which may downloaded free of charge from **www.hse.gov.uk/pubns/books/gs38.htm**

If you have any comments on the Health and Safety Executive publication "Electrical test equipment for use by electricians" (*GS 38*), please send them to us at **gs38@esc.org.uk**. We will forward all appropriate comments to the HSE for consideration when they next review the guidance.

[1] *See ESC Best Practice Guide No 2 Issue 2 - Guidance on the management of electrical safety and safe isolation procedures for low voltage installations. This may be downloaded, free of charge, from* ***www.esc.org.uk/industry/industry-guidance/best-practice-guides***

ESC ISSUES ABRIDGED LANDLORDS' GUIDE TO ELECTRICAL SAFETY

The Council has published an abridged version of its *Landlords' guide to electrical safety* and withdrawn its other related landlords' publications. The move is designed to help ease the burden on landlords and provide them with information they need to help them meet their obligations in terms of electrical safety.

The Council's aim is to help landlords protect their tenants and their property by providing them with essential information on electrical safety. The ESC has produced the guide to help landlords understand their responsibilities for electrical safety in their rental properties – and to provide practical advice on what is required to ensure the safety of tenants.

Landlords have a legal duty to ensure that their rental property, and any electrical equipment provided, is safe before a tenancy begins and throughout its duration. However, every electrical installation deteriorates with use and age, so landlords must ensure that their tenants – or anyone entering or using their property – are not put at risk, by ensuring that the electrical installation remains in a safe and serviceable condition.

The *Landlords' guide to electrical safety* provides useful information on a variety of topics; for example, on the frequency an electrical installation should be inspected and tested during its life. The guide takes account of factors such as the type of installation and how it is used and maintained.

Periods between inspections will depend on the condition of the installation at the time of the preceding inspection, but it is recommended that periodic inspection and testing is carried out at least every five years or at the end of a tenancy, whichever comes first.

The ESC would encourage electricians working with landlords and their managing agents to direct landlords to this useful source of information.

The *Landlords' guide to electrical safety* is available in hard copy by emailing the Council at: **leaflets@esc.org.uk** or it can be downloaded from the ESC website at **www.esc.org.uk/landlords**

BACK ISSUES OF SWITCHED ON

All the previous issues of Switched On are available to read or download from the 'Business & Community' section of our website.