



NEWS

January 2008

JOURNAL OF THE REGISTER OF ELECTRICAL CONTRACTORS OF IRELAND

CER Publish Criteria Document

The CER Criteria Document and Appendices were published on 7th December last. The Document outlines the CER's proposed rules for the regulation of electrical contractors with regard to safety under the provisions of the Energy (Miscellaneous Provisions) Act 2006. Responses to the consultation should be filled in on the Consultation Response Form Template and sent to CER by 6th February 2008. The documents can be viewed on www.cer.ie.

The Document sets out the detailed rules, procedures and requirements in relation to fulfilling the obligations and functions of the new regulatory system by Registered Electrical Contractors and any Body (designated by the Commission as an Electrical Safety Supervisory Body), the DSO (ESB Networks) and any other relevant party.

It is divided into the following sections:

Section A	Introduction and Interpretation
Section B	The Supervisory Body
Section C	The Registered Electrical Contractor
Sections D-F	Disciplinary Procedures, Appeals Process, Authorised Officer
Final Section	Common Procedures

RECI are pleased to note that the Document states that an inspection service can only be provided to non-registered contractors who are properly qualified and also insured. There are a number of other rules and procedures which are designed to ensure that registered contractors will be inspected and evaluated in the same way, irrespective of which Supervisory Body they belong to. This will include a joint disciplinary committee with an independent Chairman. However, there are some proposed procedures with which we do not agree and we will make a submission to the CER on these matters.

The CER expect to be able to designate a Supervisory Body or Bodies by mid 2008 and we hope that the new regime will be operational before the end of the year.

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Electronic Certificate System Receives IT Award

ESB were runners-up in the iReach Inspired IT Awards in the Business Services category. These awards were created by iReach to acknowledge the role of IT Managers and their teams for creating business value through the inspired use of IT in Ireland.



Award to ESB IT Department

A new technology called "web services" was used for the first time in ESB by the Web and eServices team. A web service is a standardised way of integrating applications over the internet and allows businesses to exchange data. For the "Electrical Certificate Interface Service" it meant that when the regulatory bodies entered a new completion certificate into their IT systems, they immediately received data from ESB to validate the MPRN numbers and addresses, and then their IT systems automatically send a subset of the certificate details back to ESB. Paul Sullivan was the Senior Technology Analyst on the ESB Development team.

The awards have proved to be a huge success attracting a host of names from across industry in Ireland. "Last year we were astounded with the level and quality of entries we received from the island of Ireland" said Oisín Byrne of iReach. "IT is playing such a huge part in today's organisations and we believe the key to the successful implementation of IT is to use it to drive business value."

RECI congratulate the ESB team on their success in winning the award and are very pleased that the electronic certificate system is benefiting many registered contractors.

Domestic One-Off House Connections

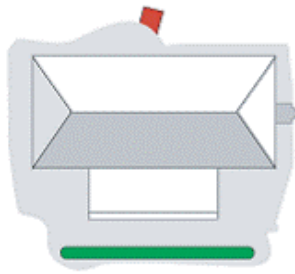
As a result of a high percentage of non-compliance with the requirements for temporary supplies and the consequential concern for public safety, the Commission for Energy Regulation has directed ESNB and the Regulatory Bodies to implement the following changes which are mandatory without exception commencing January 2008.

- From 1st January 2008 RECI will no longer accept temporary domestic wiring certificates. If a domestic customer wants a temporary or advanced connection they will have to apply for a commercial connection in a separate metering location;
- If a customer insists on getting a connection for construction purposes, they will have to apply for a Temporary Builders/Commercial connection. This connection will have to be at the boundary of the site (not the permanent domestic metering cabinet location) and will have to conform to interface standards for Temporary connections (see diagram right). The customer will be charged Commercial tariffs until the connection is regularised;
- Registered contractors have been informed of this change by special notice sent out in early December.



Networks
Serving all electricity customers

Standard Design for Single-Phase Commercial Temporary Supply Surface Mounted Metering Enclosure on Concrete Plinth

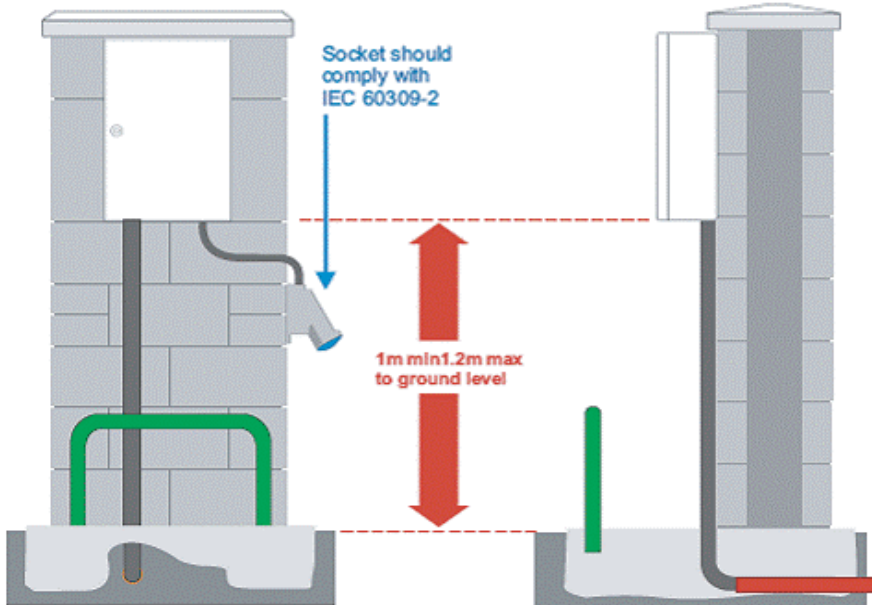


IMPORTANT

The installer must make an assessment of the risk of mechanical damage to the enclosure. If there is a clear risk then adequate precautions must be taken such as erecting barriers etc.

The enclosure requires a degree of protection equivalent to IP55.

The material used for construction of the enclosure must be non-conducting



ETCI Introduces New Guide to Basic Principles of Electrical Safety

A new Guide to the Basic Principles of Electrical Safety has been prepared by Technical Committee 5 (TC5) of the Electro-Technical Council of Ireland following a request from one of the ETCI's member organisations. The purpose of the Guide is to raise the awareness of electrical safety and to describe protective measures that are

available to reduce the risk of being injured by electricity.

The Guide has been written as a text to accompany a short training course in practical electrical safety. The course is aimed at all persons concerned with electrical safety. This should help to improve the awareness of electrical

hazards and reduce the risk of people being injured by electricity. The basic principles of electricity are explained, as are the risks and precautions needed to minimise these risks.

For more information contact ETCI,
tel: 01 - 492 0088
or fax: 01 - 429 6090.



New Guidelines for Domestic / Industrial Certificates

The ETCI National Wiring Rules Committee TC2 have made a change in the guidelines concerning the mandatory requirements which decide when the issue of an Industrial /Commercial Completion Certificate is required rather than a Small Commercial / Domestic Certificate.

At present the decision is based on whether CT's (current transformers) are used by ESB Networks for metering a three phase installation. The change in approach is that the decision to issue the Industrial /Commercial Completion Certificate will now depend on the MIC i.e. Maximum Import Capacity of the installation. If the MIC is $\geq 50\text{kVA}$ then an Industrial /Commercial Completion Certificate will be required.

The reason for the change is due to the recent modifications in the certification process. This results in the electrical contractor sending the completed ETCI test certificate to their respective

regulatory body who in turn check the certificate in question and if it is correct validate the certificate which enables ESB Networks to energise the relevant electrical installation. It is difficult/impossible for the regulatory body to establish the load capacity of every electrical installation presented for connection and this fact may result in a larger installation being incorrectly connected on the basis of an invalid certificate (e.g. domestic)

This change will produce the programme logic necessary to block the use of a domestic small / commercial certificate in situations where the correct certificate namely the Industrial /Commercial certificate should have been used.

There will be little difference in the actual impact on the ground because in nearly all instances ESB Networks will use CT's when the MIC is specified as $\geq 50\text{kVA}$. RECI will need to modify its software to accommodate this

enhancement which will further improve the validation process.

This new arrangement will be operational on the electronic certificate system in the near future but it will take some time before new paper certificates are issued. It is expected that all completion certificates will be fully revised and updated to take account of the new requirements which the CER will dictate.

RECI Diary & Year Book

We still have some copies of the RECI 2008 page-a-day Diary left.

If any contractors would like more copies of this useful Yearbook we would be pleased to supply them on a first come first served basis.

Price €10 including post and packing.

Safety is Everyone's Business

- Contractors should always be alert to the dangers and hazards associated with electrical work;
- Particular attention is required when an installation is made live, whether on a permanent or temporary basis;
- Always make sure if you make part of an installation "live" that you have not created a dangerous situation for someone else;
- Always check for absence of voltage before you work on any installation;

**Remember the
Five Electrical
Safety Rules**

1. Disconnect completely.
2. Secure against reconnection.
3. Verify that the installation is "dead".
4. Carry out earthing and short-circuiting (if relevant).
5. Provide protection against adjacent "live" parts.

Passing of Sean Gallagher



It is with great sadness that we report the untimely death last September of Sean Gallagher, RECI Inspector for Donegal.

Sean joined the RECI Inspectorate at the outset in September 1992 after a career in ESB. He gave whole-hearted commitment to his role as RECI Inspector and was greatly respected by the electrical contracting industry in Donegal. Sean was always willing to give

the benefit of his extensive experience to contractors.

Sean made a significant contribution to the development of RECI over the years and always made very relevant points at technical meetings with other Inspectors. He also drafted a number of training courses which are used in RECI training programmes. In his spare time Sean was in the FCA and the salutes of the three representatives of the FDR as the coffin was being borne into St Colman's church were truly earned in recognition of the efforts of the organisation's late commandant.

Sean will be sadly missed by all his colleagues. We extend our sympathy to his wife Ann and his two sons and five daughters.

Sub-Standard Cables — Contractors Beware

A number of years ago Ireland was awash with unapproved/sub-standard twin and earth electric cable. The cable initially was being dumped from the UK where the Department of Trading Standards had banned it. Through a lot of effort the market place was eventually cleaned up and the relative cables were removed from the wholesalers. Unfortunately, with the globalisation of the manufacturers and the harmonisation of the core colours within Cenelec the problem has returned. While the cable may look perfect, generally this is furthest from the truth. Copper and PVC are global commodities and as such are internationally traded. Therefore the costs of high grade copper and premium grade PVC are subject to market fluctuations.

If cables are being sold at knockdown prices, it may seem a bargain to the contractor giving them increased profit margins in the short term. In the long term, it is likely they will have headaches as the installations consistently break down.

The golden rule is look for an approvals mark. This mark is normally embossed on the insulation of non-sheathed single core cables and on the outer sheath on flexible cables that are fully harmonised within the EU, an example is <VDE><HAR> plus the manufacturers name or trademark. This marking ensures the cables are subjected to third party testing. VDE is the German National Accredited Body that runs the HAR scheme within Germany. Most countries have their own unique accredited bodies and are registered within the Cenelec system under the HAR Agreement. The HAR Agreement entails the random selection and testing (to the required cable standard) of finished cable from the manufacturing plant, where up to 150 samples are selected and tested per annum, ensuring that high-quality is maintained.

The graphical symbols of the common HAR mark from each country are as follows:—

Austria	<OVE>	<HAR>
Belgium	CEBEC	<HAR>
Czech Republic	<EZU>	<HAR>
Denmark	<DEMKO>	<HAR>
Finland	FIMKO	<HAR>
France	USE	<HAR>
Germany	<VDE>	<HAR>
Great Britain	BASEC	<HAR>
Greece	ELOT	<HAR>
Hungary	MEEI	<HAR>
Ireland	<NSAI>	<HAR>
Italy	IEMMEQU	<HAR>
The Netherlands	KEMA-KEUR	<HAR>
Norway	<NEMKO>	<HAR>
Portugal	<CERTIF>	<HAR>
Spain	AENOR	<HAR>
Sweden	SEMKO	<HAR>
Switzerland	SEV	<HAR>
Turkey	TSE	<HAR>

A similar scheme is in place for “House Wiring Twin and Earth Cables”. The only difference is the HAR mark does not appear, only the manufacturers name and the approvals body eg BASEC.

Mick McKenna

Chairman
ETCI TC14 Cable Committee



In relation to non-approved cable, this is where the manufacturers are using the CE marking directive. They are marking the cable with their name plus the letters CE, this is giving the impression that the cables have third party approval.

The main problems with unapproved cable is as follows:

- Low grade copper giving a high conductor resistance;
- Poor quality PVC ie polymer that has excessive amounts of filler and low grade plasticizer resulting in poor insulating properties;
- Thin insulation and sheath.

With the combination of the above, the life span of the cable operating at the designed temperature is reduced significantly. The normal life span of a high-quality cable is in the region of 25 years, however, with the unapproved cable this can be as little as 5 to 7 years.

In conclusion, contractors should be extremely careful in the selection of cables they are purchasing ensuring the appropriate approval marks are visible on the cables.

In-House Training Courses

We would like to remind contractors who employ a number of electricians that we are always happy to run any of our training courses in your own premises. This can often be more efficient and cost-effective for you than sending some of your electricians from time-to-time to our training centre or local venue. Contact Denise McAuley at RECI to discuss details and prices.

Donegal Inspector

William McGarvey is our new inspector for Donegal. William has extensive experience of inspecting and testing of electrical installations in Ireland and in the UK.

He was employed by Brown Boveri who manufacture low and medium voltage electrical equipment for power stations and large commercial and industrial plants. He was an inspecting engineer in the UK and also for Precision Electric in Dublin.

British Approvals Service for Cables



Dr Jeremy Hodge, Chief Executive of BASEC has written to RECI to kindly offer assistance to Irish electrical contractors and wholesalers regarding the problem of sub-standard cables.



He writes:

"Sub-standard cables have become a serious issue in Britain where a similar requirement to use compliant products exists in the IEE Wiring Regulations. BASEC and other bodies are raising the profile of this issue and are running an initiative in the UK which we would be happy to open up to Irish users. BASEC provides product certification services to the Irish cable manufacturers and to overseas manufacturers manufacturing to Irish and European standards (as well as to British Standards, of course).

"Working closely with cabled makers and with the co-operation of the UK installation organisations and safety groups, we have launched an initiative on faulty cables. If installers have concerns about cable they have been sold, in particular its compliance with the relevant standards, BASEC will offer advice and will if necessary independently test the cable in question at no cost to the installer. Problems we have found with non-compliant cable include undersized conductors and faulty insulation. Of particular concern has been the fire performance of supposedly low-smoke and fume cable, which is becoming increasingly widely specified. If Irish installers come across cable which they have concerns about, as regards its compliance with standards, please ask them to get in touch with us.

"Here is a statement we have put out on the UK initiative: BASEC is highlighting the problem of sub-standard cable in the UK marketplace. Some manufacturers claim that their cable complies with British Standards but they provide no evidence of this. When independently tested some of their cable has been found not to comply with British Standards and hence the claim of compliance is false. In some cases the faults identified have potentially serious consequences for safety (electric shock, fire).

"BASEC invites end-users (electrical contractors, consultants, purchasers) and the cable trade (manufacturers, distributors, wholesalers) to contact BASEC if they have any concerns about cable on sale in the UK market. BASEC will independently test relevant cable samples at no cost to the enquirer to determine if the cable complies with British Standards, and will provide feedback and advice based on the findings.

"Enquirers are encouraged to contact BASEC by telephone or email in the first instance. The information BASEC requires to initiate the process is: the identity of the cable (type, size and manufacturer); the full marking on the cable; copies of label / reel markings; and a sample of at least 1.5 metres, sent to the BASEC offices. A longer sample would permit a broader range of tests to be conducted. Cable should not be specially removed from an existing installation — if the cable is already installed

BASEC would be happy to visit the site. If a particular piece of cable has an observable fault or has failed, this is also useful for diagnosis.

"Should BASEC find serious faults with a cable such that BASEC would under normal circumstances issue a product recall to the manufacturer, BASEC will contact the manufacturer and suppliers (importers / distributors / wholesalers) with the findings. Dependent upon the response, BASEC may choose to make public details of the faulty cable and the parties responsible. This information will be made available to the trade media and professional organisations in the interests of public safety.

"In addition, if any of your installers has any problem with a BASEC approved and marked cable, we are always available to provide assistance and investigate if necessary, at no cost to the installer.

"If you would like any further details please do not hesitate to get in touch."

Misuse of *RECI* Logo

From time to time it comes to our attention that a non-registered electrical contractor or a former RECI registered contractor is using the RECI logo on his van or his stationery. This of course is illegal and we always put these matters in the hands of our solicitors to take legal action against the persons concerned.

Should any registered contractor or other reader of the RECI newsletter have clear evidence of such misrepresentation (such as a copy of an advertisement and details of its source) it should be referred to the General Manager of RECI who will take appropriate action.

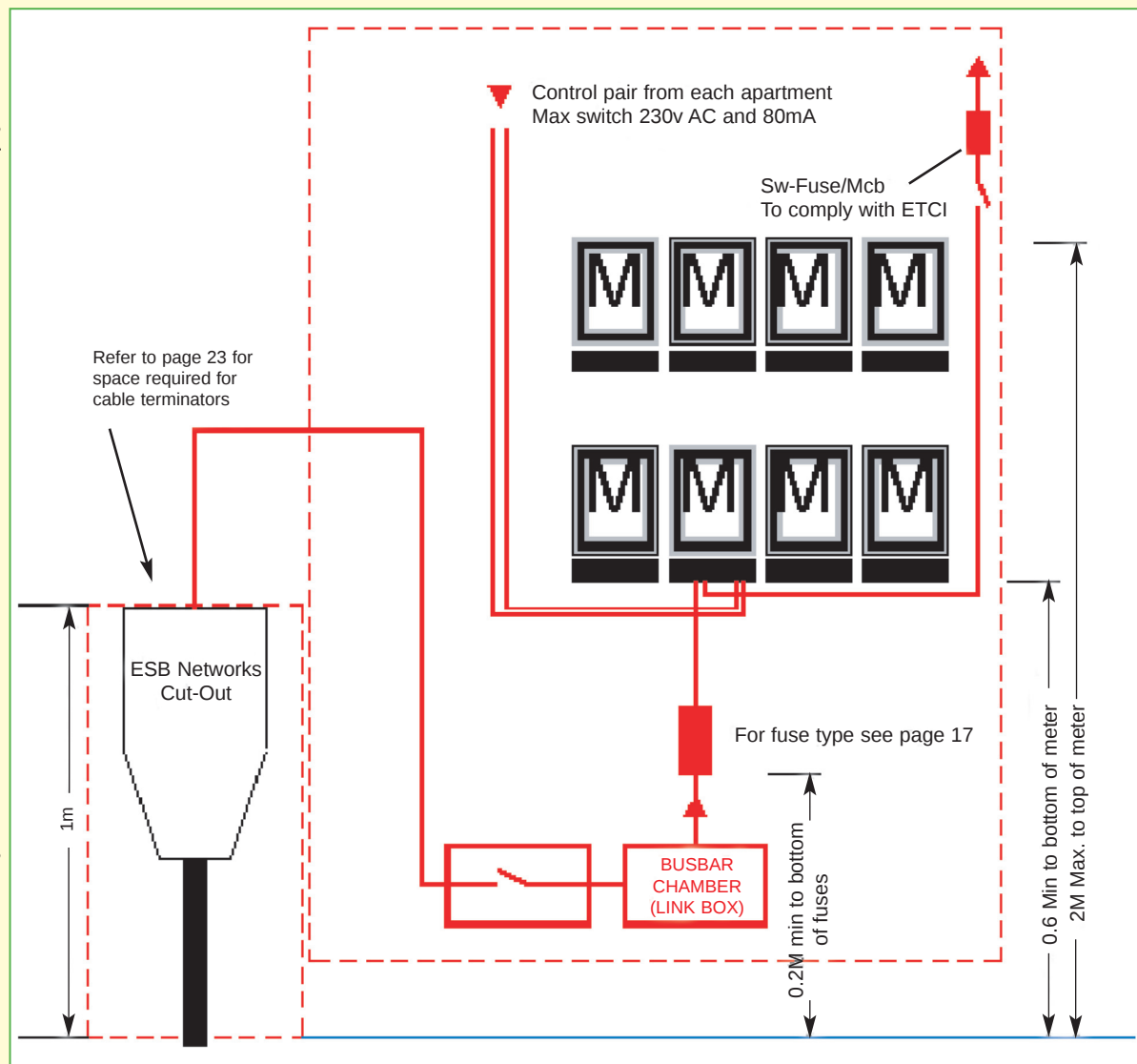
Electronic Meters in Multi-Metering Panels

Day / Night Meters

Up to now the ESB has used Electro-mechanical meters for the majority of whole current metering installations. In 2007 Meter Asset Management entered into a new metering contract with suppliers which resulted in the use of electronic meters right across the whole range of metering requirements.

Heretofore, for multi-metering panels electro-mechanical meters were utilised. For Day/Night multi-metering panels there was a requirement for the use of a combination of electro-mechanical two rate meters, timeswitches and interposing relays at the multi-metering panel as described on pages 32 and 33 of the present code book. With the introduction of electronic meters this requirement has now changed.

Electronic meters as now supplied for Day/Night installations have an integrated timeswitch in the meter, and also have the facility of an auxiliary contact which will close on night rate. This auxiliary relay is rated at 230V AC and 80mA Max. For all new Day/Night multi-metering panels therefore, there is no need for an external timeswitch or relays at the metering panel.



New arrangement to replace page 32 and 33 in the present code book

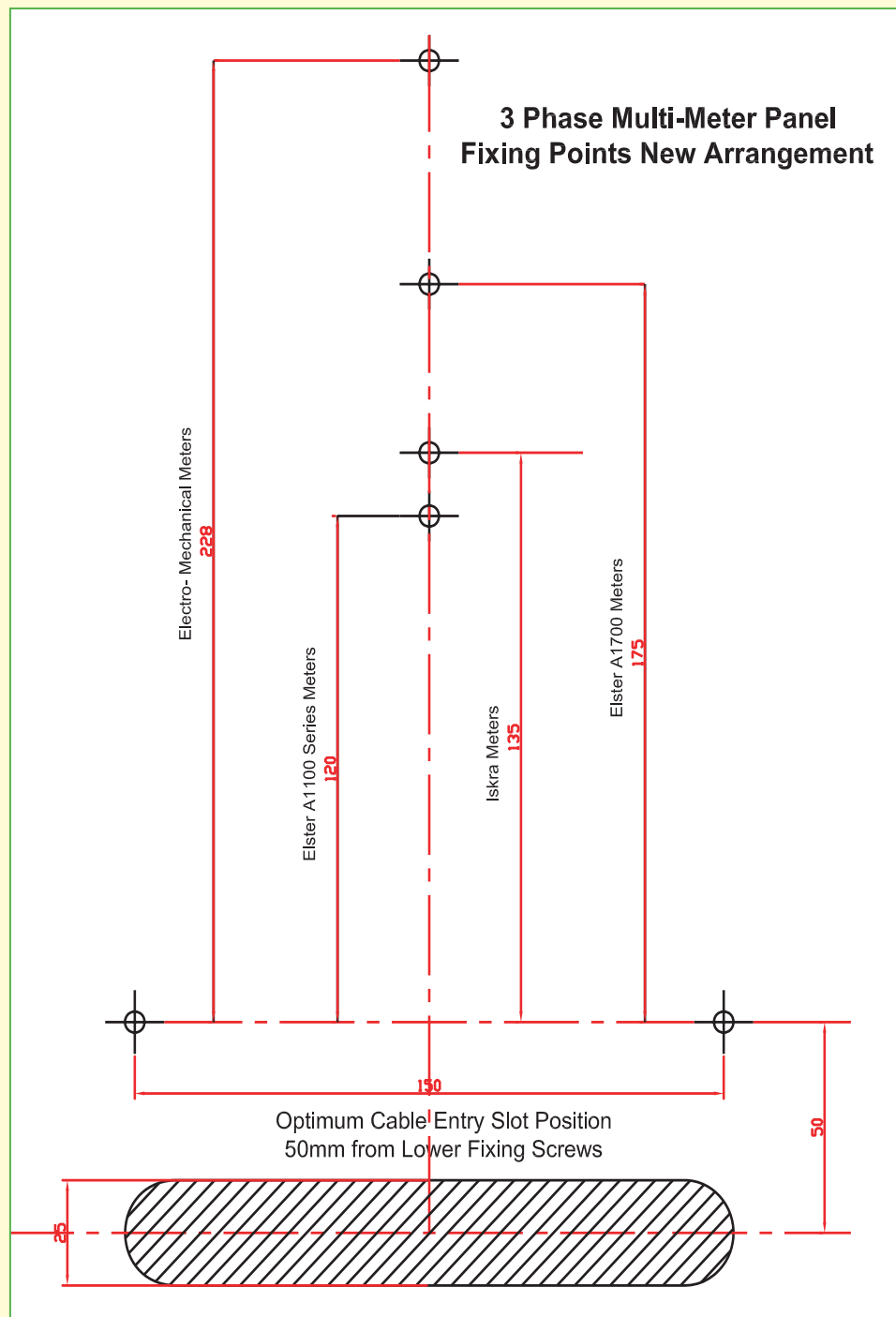
The requirements for the mains wiring will remain as before. For NSH control, it is essential that the operating current of the coil in the control relay in each apartment does not exceed 80mA. Control cables for each apartment are to be brought directly to the meter. As before, control cable to be labelled with apartment numbers at file terminals and meter positions and the colour code of the control wiring is to be brown and white. Where the control pair is brought directly from the apartment to the meter it is acceptable to use a twin brown, but the cable must be identified with the apartment number and the live and switch wire must be clearly identified at the meter position. Control pair

(1.5sqmm) to be fused appropriately in each apartment.

Note: If the operating current of the coil exceeds 80mA, then there will be a requirement for the panel manufacturer to provide separate interposing relays for each apartment at the meter panel, whose coil does not exceed a current of 80mA. Note also the 80mA max rating relates to the inrush/starting current of the relay coil.

NB: The foot print of the single phase meter is unchanged and the present space allocations must not be reduced. This is to allow future exchanges or metering upgrades.

Three-Phase Meters New Drilling Template (cont.)



Three-phase meter new drilling template

Where three phase meters are required new drilling dimensions are required for the fixing screws. The drilling template attached covers all the meter variations now available.

NB: The foot print of the three phase meter is unchanged and the present space allocations must not be reduced. This is to allow future

exchanges or metering upgrades. It is vitally important that the new drilling dimensions are applied to all three phase metering panels from now on.

If contractors have queries re this information they should contact Jim Keogh, Standards Manager for Customer Interface, ESB Networks on tel: 021 - 484 4526.

New Edition of Wiring Rules Due in 2008

The ETCI report in their current newsletter that the fourth edition of the Wiring Rules are due to be published in 2008. Within the past six years or so, the international technical committees have been working actively on improving, extending and updating the Rules, and ETCI Technical Committee 2 has worked effectively to ensure that Irish interests are protected. The format, first developed about 1970, needed to be restructured.

It became clear that a completely new edition of the Rules was needed, and work began on a fourth edition in 2004. The new Rules contain some further improvements in safety, with increased use of RCD protection, eg for bathrooms and agricultural installations. They have been extended to cover marinas, medical locations, solar PV installations, ELV lighting, mobile installations, exhibitions, circuses and amusement parks, and floor heating systems.

There are other changes for example:

1. The rules for cable core colours are now complete, after years of discussions in CENELEC.
2. Chapter 43 contains new requirements for the overcurrent protection of meter tails.
3. There are changes to the values in the tables for fault loop impedance values for two reasons, arising from CENELEC decisions:
 - (a) In Chapter 41, Table 41A, the 0.4 disconnecting time applies to all circuits up to 32A instead of merely socket outlet circuits.
 - (b) Temperature rise caused by the fault current is now taken into consideration.
4. The Rules for bathrooms require RCD protection for all circuits. This permits a wider range of installed appliances than before. There are new requirements for concealed wiring in bathrooms.

The general requirements for wiring concealed in walls, which appeared in the present Amendment 2 are unchanged.