Electro - Technical Council of Ireland
- the Irish Member of CENELEC, IEC and ISSA

NewsLetter

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National Wiring Rules Seminars in 1Q09

ETCI will hold a series of 10 regional seminars throughout Ireland during the first quarter of 2009 on the Fourth Edition of the National Wiring Rules.

The objective of the seminars is to introduce consulting engineers, electrical contractors and electricians to the new changes and to explain the main differences between the Third and Fourth Editions. The seminars will be presented by members of ETCI Technical Committee No. 2 (Electrical Installations), which is the committee that produced the new Fourth Edition.

ETCI will carry out a broad advertising campaign in the national and local press, on its website and through the Regulatory Bodies. The locations of these seminars will be as follows:

Dublin (two locations): 18th and 19th February
Limerick: 25h February
Kilkenny: 26th February
Cork: 4th March.
Killarney: 5th March
Galway: 11th March
Mullingar: 12th March
Sligo: 25th March
Carrickmacross: 26th March

CER Appoints ECSSA and RECI as Electrical Safety Supervisory Bodies

Over the period of 2006 and 2007 the Commission for Energy Regulation has been working with the electrical contracting industry to put in place a new regulatory system that places the safety needs of customers first.

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ETCI Launches Fourth Edition of National Rules for Electrical Installations, ET101:2008

The National Rules for Electrical Installations, Fourth Edition, is to be launched at ETCI's Annual Dinner on 9th December 2008 by the Minister for Labour at the Department of Enterprise, Trade and Employment, Billy Kelleher TD. New installations may be constructed to either the Third or Fourth Editions up to 30th September 2009. The Third Edition will not be valid after this date.

The principle reason for producing the Fourth Edition is the progress on international harmonisation of wiring rules in IEC and CENELEC. This has resulted in the following:

- A new and radical restructuring of the Rules, mainly in Part 4: Protection for Safety.
- Technical changes resulting from decisions at international level (IEC and CENELEC) that necessitate the revision of existing Rules.
- New sections for areas hitherto not covered, for example marinas, amusement parks, photoelectric equipment and extra-low voltage lighting.
- Changes and new developments in types of equipment, work practices and building practices.

The basic work on wiring rules is done in IEC TC64, the worldwide electrotechnical standards organisation. CENELEC uses the results of IEC as a basis for its deliberations and the work is carried out by CENELEC TC64, in which most European countries participate. Ireland, represented by ETCI, has been an active member of CENELEC since 1973. Harmonisation of wiring rules in Europe has been a gradual process, and the Fourth Edition represents a significant advance.
Where it is found necessary, countries are permitted to retain special requirements or 'Special National Conditions' (SNCs) that are justifiable on account of local conditions. Ireland has negotiated successfully for several SNCs, e.g. for bonding and bathrooms.
The international standard format followed up to now by the three editions of the National Wiring Rules has facilitated comparison with other national rules, and the Fourth Edition will follow this more closely.
Up to now ETCI published the Rules for Electrical Installations in Medically Used Rooms as a separate publication (ET106).

These Rules, prepared by ETCI TC10 (Electrical Equipment in Medical Practice), are now incorporated within the Fourth Edition under Section 710 (Medical Locations).

The Fourth Edition can now be purchased from ETCI Offices at a cost of €89, plus €8.50 packaging and postage, or from ETCI's online store at www.etci.ie.

New IEC Standard to Help Improve Wind Turbine Quality System for Electrical Contractors

Wind power technology has seen remarkable developments in recent years, spurred on by its promise as a dependable source of renewable energy. As a result, it has moved from a niche form of power generation to acquire complete legitimacy in the energy sector. To respond to this rapid evolution in the technology, the IEC has published the second edition of its Standard for measuring the power quality of wind turbines.

Developed by IEC Technical Committee 88 (Wind Turbines), IEC 61400-21 sets out the tests that can be used to compare both wind turbines of different types or makes and different electricity grid requirements. The latter are complex as they typically consider the capability of a wind farm rather than that of a single wind turbine.

Some 20 years ago, the common wind turbine was rated at about 50 kW. Today, multi-MW wind turbines are concentrated on big wind farms. Modern wind farms may control the reactive power or voltage just like any other power plant, and may also control active power or frequency as long as wind conditions permit. Hence, connecting modern wind power plants to the grid presents very similar challenges to those of connecting any other power plant.

Different wind turbine types have different power quality characteristics. IEC 61400-21 provides a uniform methodology to ensure consistency and accuracy in the presentation, testing and assessment of power quality characteristics of grid-connected wind turbines. The power quality characteristics described in the IEC Standard include: wind turbine specifications; voltage quality (emissions of flicker and harmonics); voltage drop response; power control (control of active and reactive power); grid protection; and reconnection time.

IEC 61400-21 is expected to become an essential tool for wind turbine test stations, research institutes, electric utilities and grid operators, as well as for manufacturers of wind turbines and sub-suppliers of electric and control equipment for wind turbines.

Abstract of IEC 61400-21 Wind turbines – Measurement and assessment of power quality characteristics of grid connected wind turbines:

IEC 61400-21:2008 covers the definition and specification of the quantities to be determined for characterizing the power quality of a grid connected wind turbine; measurement procedures for quantifying the characteristics; and procedures for assessing compliance with power quality requirements, including estimation of the power quality expected from the wind turbine type. The main changes with respect to the previous edition deal with inter-harmonics and current distortions (<9 kHz); response to voltage dips; active power ramp rate limitation and set-point control; reactive power capabilities and set-point control; grid protection and reconnection time after grid faults.

ETCI Task Force on Lightning Risk Assessment

As a result of recent queries regarding I.S. EN 62305-2: 2006 (Protection against Lightning – Part-2: Risk Management) it would appear to be a significant concern that the risk assessment model provided is in conflict with relevant meteorological data for Ireland. In response to this ETCI has set up a Task Force,titled the Lightning Risk Assessment Task Force, whose brief is to deliver a National Foreward to I.S.EN 62305-2:2006. Mr. Jim Keogh, ESB Networks and Chairman, ETCI TC2 (Electrical Installations) has been appointed Convenor of the Task Force and will be assisted by Mr. Derek Bridges (derek.bridges@nsai.ie) as secretary.

New ETCI Technical Committees – TCs 18 and 19

TC18:-Alternative Energy Sources
The need for sustainable energy has spurred recent growth in wave and tidal energy systems. Countries all over the world are using the pull of the tides and the rhythm of the waves to generate power. Ireland is renowned for its extensive coastline and it is considered to have one of the largest wave tidal ranges in the world. Marine energy technology has shown so much recent growth that the IEC is enlisting energy experts worldwide to begin developing standards for wave and tidal energy systems. The IEC's new Technical Committee 114, Marine Energy – Wave and Tidal Energy Converters, will facilitate efforts by the International Energy Agency (IEA) to develop best practices for marine energy. Ireland is a member country of IEA.

The scope of IEC TC114 is to prepare international standards for marine energy conversion systems and its primary focus will be on conversion of wave, tidal and other water current energy into electrical energy. These standards will also help integrate wave and tidal energy converters into the international marketplace, especially as more and more governments mandate efforts for sustainable energy.

ETCI has established Technical Committee 19 to mirror the work of the IEC TC114. TC19 has adopted TC114's title, i.e. Marine Energy – Wave and Tidal Energy Converters. Mr. Shane Kelly (shane.kelly@nsai.ie) is the secretary of the new committee. A chairman has yet to be appointed.
Further information on the new TC18 can be acquired by contacting ETCI Offices.

TC19:- Lightning Risk Assessment and Surge Protectors
In response to a request from Irish industry, ETCI has set up a technical committee on insulators and surge arrestors which will monitor and contribute towards the work of IEC TC 36 (Insulators) and IEC TC37 (Surge Arrestors). The scope of TC36 is to develop standards on insulators for high voltage systems and equipment including bushings, insulators for overhead lines and substations and their couplings. TC37's scope is the preparation of international standards regarding specifications for surge arresters and other surge protective devices and the choice of arresters to provide adequate protection of the system with satisfactory reliability. The title of ETCI's new technical committee is TC19: Insulators & Surge Arrestors for greater than 1kV. The chairman of the new committee is Mr. Brendan Normoyle, Tyco Electronics, and the secretary is Mr. Derek Bridges (derek.bridges@nsai.ie).

ETCI Announces Apprentice Awards 2008

The winners of the ETCI Apprentice Awards were announced recently. The purpose of the awards is to foster a greater awareness of electrical safety, to recognise the achievements of Ireland's top electrical apprentices and to strengthen ETCI's links with the electrotechnical education centres. The winners for 2008 are:

At last year's Awards ceremony were Ger Buckley, Chairman ETCI; Daniel Ryall, ETCI Apprentice Award 2007 Winner in the Electrical Commercial Installation category; John McGuinness, TD, Minister for Trade and Commerce at the Department of Enterprise, Trade and Employment and Kevin O'Reilly, Chairman and Chief Executive of Excel Electric Group.

Electrical Commercial Installation Category: Thomas Sheridan, Roundstone, Co. Galway. Thomas completed his apprenticeship at the Dublin Institute of Technology.
Electrical Industrial Installation Category: Martin Smith, Drumcrin, Kingscourt, Co. Cavan. Martin completed his apprenticeship at the Dundalk Institute of Technology.

ETCI is most appreciative and grateful for the kind support that it receives from Eamonn Cullen, Electrofast, and from Paul Sharkey, Instrument Technology, for donating the prizes. Electrofast and Instrument Technology have donated prizes each year for the Awards since they were first started in 1994.

Ger Buckley, Margaret Bolger, representing her brother Barry, ETCI Apprentice Award 2007 Winner in the Electrical Industrial Installation category; John McGuinness, TD; and Paul Sharkey, Managing Director, Instrument Technology, also at last year's Awards ceremony.

The Keane Harley Memorial Award

ETCI has commissioned a special silver medallion to honour the memory and distinguished career of Keane Harley by recognising his outstanding achievements in electrical installation practices, which was an area in which Keane devoted his life's work in improving standards in electrical installations and electrical safety.

The Memorial Award will be presented annually to the winners of the ETCI Electrical Apprentice Awards in the Electrical Commercial Installation Category and in the Electrical Industrial Installation Category.

The Keane Harley Memorial Award

Recent Bereavements

ETCI was saddened during 2008 to lose two of its most loyal and staunchest supporters whose association with ETCI goes back many years. Liam Traynor died on 6th May and Keane Harley died on 9th August, aged 63 and 79 respectively. The sad news of their passing brought with it a feeling of deep and personal loss to all their colleagues and friends in ETCI.

Liam Traynor

Liam Traynor's association with ETCI began in 1988 when he represented the Institution of Electrical and Electronic Incorporated Engineers on the Council of ETCI. Shortly after this, Liam became a member of the ETCI Technical Committee No.2 (Electrical Installations) and remained active on this committee until the time of his death. As a lecturer in the Dublin Institute of Technology, Kevin Street, Liam brought a definite expertise and advice to the work of ETCI's Training Committee. Liam was also the Vice-Chairman of ETCI during the mid-1990s.

The late Liam Traynor

Perhaps Liam Traynor's greatest legacy to ETCI was the introduction of the ETCI Electrical Apprentice Award Scheme in 1994. This concept was first introduced by ETCI to foster a greater awareness of electrical safety, to recognise the achievements of Ireland's top electrical apprentices and to strengthen ETCI's links with the electrotechnical education centres. Liam was the main driving force behind this concept and the person who brought the concept into a reality.

Keane Harley

Keane Harley was a founder member of ETCI and dedicated his life's work to improving standards of electrical safety in Ireland. He was also one of the founders of the Register of Electrical Contractors of Ireland (RECI) in 1992, and was the first chairman of that body.

He was directly involved in the foundation of the National Electrotechnical Committee, a forerunner of the ETCI, in November 1970. He represented the ESB on this body, and when the technical committees were set up he was appointed chairman of Technical Committee No. 2 (TC2) with the primary task of preparing and publishing National Wiring Rules. In addition to chairing TC2, he did a great deal of work on research, which included correspondence on developments and innovations in other countries such as the UK, USA and Australia.

With the publication in 1976 of the first edition of the National Wiring Rules, the education of the industry began bringing in its wake an unending series of questions and queries from all those seeking information and clarification. Dealing with technical queries and solutions became part of Keane's life work. His technical knowledge and practical approach to solving problems was widely admired. Each time a new edition of the National Wiring Rules was published he was to the fore in the organisation and technical presentation of the ETCI's seminars that were held for the industry throughout Ireland.

Keane was Chairman of TC2 for 34 years until his active retirement from ETCI at the end of 2005.

The late Keane Harley

International Social Security Association (ISSA) Working Group Meets in Dublin

ETCI is the Irish member of the International Social Security Association (Electricity Section). The mandate of this Section is to promote electrical safety in the workplace and to assist in achieving minimum standards in design, operation and usage of electrical systems and apparatus. Its main activity involves the provision of information through guidelines and other publications on developments and good practice in the safe use of electricity.

A Working Group was recently set up by ISSA, chaired by ETCI's Eamon O'Flynn, to develop a Guideline on the Safe Use of Portable Electrical Equipment in the Workplace. Eamon is ETCI's representative at ISSA Electricity Section and is also the Chairman of ETCI's Safety Committee. The most recent meeting of the Group was hosted by ESB and ETCI in ESB's Head Office.

The Working Group is tasked with developing a Guideline for employers on managing the safe use of portable electrical equipment in the workplace.

The membership of the Working Group represents utilities, safety agencies, and manufacturers, and come from the following countries: Canada, Czech Republic, Germany, Ireland, Romania, Spain, and Switzerland.

The Group was welcomed to ESB by Ger Buckley, Health, Safety, and Quality Manager, ESB Networks and Chairman of ETCI.

The Group hopes to complete its work by the end of 2008, after which the Guideline will be issued by ISSA.

ETCI's TC 11:

Safety of Electronic Equipment within the Field of Audio/Video, Information Technology and Communication Technology.

Under the remit from ETCI, TC11 is the technical committee responsible for Ireland's contribution to global standardisation in the field of safety for audio/video, information technology and communication technology. Preparation of safety standards for common household and office equipment including television sets, CD /DVD players, personal computers and associated peripherals comes under the scope of TC11's activity.

Through careful review, comments, and eventually voting, on proposals for new standards or amendments to existing ones, TC11 ensures that the Irish national interest is represented on international standardisation committees such as CENELEC TC108X and IEC TC108. Members of TC11 are also active on these international committees where they contribute directly to the development and maintenance of international and European safety standards.

Today, TC11 is focussed on the development of a new Hazard Based safety standard for multimedia equipment: IEC 62368. This new standard will be significant for a number of reasons. Not only will it replace the existing, well established IEC 60950-1 and IEC 60065 standards but it will also introduce a very new approach to product safety design. While it is not envisaged that this new standard, which uses hazard based principles, will offer a higher level of safety than existing safety standards, the methodology used is very different. Traditional safety standards have relied on constructions and use of specific materials which are known to prevent injury. Hazard based safety engineering applies a model for the transfer of energy from a source to the body. Energy sources within the product are classed as being either hazardous or non-hazardous. Energy sources may be electrical, fire, thermal, chemical, radiation, or mechanical in their nature. If an energy source is classed as hazardous (for example a primary electric circuit), one or more safeguards must be interposed between the source and the user. The hazard based standard will provide guidance to the designer to classify all energy sources in a product and will also specify performance requirements for safeguards. Safeguards may take the form of equipment, personal, installation or instructional safeguards. The type and the performance of the safeguard required will depend on the nature of and the extent of the hazardous energy source.

The hazard based engineering approach to product safety design claims to offer the advantage of greater flexibility in design. The designer would be no longer constrained by specific constructions and may implement new and original approaches to developing effective safeguards to protect against hazardous energy. Of course such an approach will introduce new challenges in the field of conformity assessment and there is no doubt that the transition to a new standard will require many adjustments by manufacturers and conformity assessment bodies. Not only will designers be required to adopt some new approaches but many existing concepts will be no longer applicable. Product safety designers and those involved in test and certification would be well advised to begin familiarising themselves with the technical content of IEC 62368 and with the principles of hazard based engineering.

Advanced drafts of IEC 62368 are currently under review by IEC national committees including TC11. If the drafts are approved, the standard may be in 2009. After publication of the IEC standard, arrangements for adoption by CENELEC and other standardisation organisations will be considered. Normally, existing CENELEC standards are withdrawn three years after the publication of the new standard. However, due to the revolutionary nature of IEC 62368 and the complexity of the work, an extended transition period may be considered.

Although IEC 62368 will eventually supersede both IEC 60950-1 and IEC 60065, these standards will continue to be used for some time and TC11 is actively involved in the maintenance effort to keep them relevant and effective. New amendments are to both are under consideration and are likely to be published during 2009.

There are many upcoming changes and much activity in the field of product safety standardisation at present and ETCI TC11 is actively involved. If you would like more details on TC11's work or if you are interested in joining the committee, contact the TC11 Secretary at brian.abbbott@nsai.ie

RCD Testing Reminder Card

The ETCI Safety Committee, TC5, has developed an aide-memoir or reminder card to promote the importance of testing safety devices in the home and in the workplace and to encourage the general public to test these devices on a regular basis. ETCI places great importance on the safety value of RCDs and emphasises the absolute requirement that RCDs are tested regularly to ensure that they function correctly when required.

ETCI has condensed the test procedure for RCD and smoke alarm testing on to an 85mm x 55mm three-page fold-over leaflet that will easily fit into the average wallet.

The RCD testing reminder card is available from ETCI Offices.

CER Appoints ECSSA and RECI as Electrical Safety Supervisory Bodies

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This new statutory-backed regulatory system will replace the current voluntary self-regulatory system, which has been subject to the Commission's oversight since June 2004. To date, this voluntary system has been operated by two self-regulatory bodies, namely ECSSA and RECI, with the Commission having a limited supervisory role.

The Commission's overall objective in designing and implementing the new system is: "To protect the safety interests of customers with respect to electrical installation activities through creating a suitable regulatory system that provides for electrical works to be carried out, tested and certified in compliance with the appropriate technical rules/standards."

In order to fulfill its obligations under the legislation, the Commission set about a three-stage implementation programme, which has involved the design and development of:

* A Vision Document
* A Criteria Document
* A Designation Process

The Commission has now completed all three stages of the process, as follows:

Vision Document
The Vision Document sets out, at a high-level, the objective, scope, design and operation of the new regulatory system and was used to provide clarity and certainty to the electrical contracting industry and key stakeholders in that regard.

This document was released for consultation on 17th August 2007. It received a substantial amount of responses from industry participants and other interested parties. Further to the consideration of comments received, the Commission published it decision on the Vision on 8th November 2007.

Criteria Document
The Commission has specified, through a Criteria Document, the detailed rules, procedures and requirements in relation to fulfilling the obligations and functions of the new regulatory system by Registered Electrical Contractors and Electrical Safety Supervisory Bodies designated by the Commission, ESB Networks and other relevant parties.

The Criteria Document was released for consultation in December 2007 and was broadly welcomed by the industry. The Commission was grateful for the comments received and further to this released its Decision Documents in 2008.

Designation Process
The Commission in March 2008 embarked upon a formal process to designate parties to act as Electrical Safety Supervisory Bodies. The Commission in carrying out and operating the Designation Process was committed to conducting a process that was open, fair, transparent and non-discriminatory. The Commission was assisted throughout the process with expert advice from its legal and technical advisors.

The process was held in two stages:
· Pre-Qualification / Expression of Interest
· Invitation to Tender

The Commission has now concluded both stages of that process and is pleased to announce that it has appointed both ECSSA and RECI to carry out the function of regulating electrical contractors on its behalf. Both designated bodies are required to carry out this new function for seven years. It is envisaged that the regulatory new system will be operational by January 2009. The Commission, through the bodies, will roll out a number of processes and procedures throughout 2009.

Both designated bodies will be subject to ongoing audit and inspection by the Commission to verify compliance with the requirements of the legislation and the criteria of the Commission.

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IEC '1906 Award' for Noel O'Riordan

ETCI was honoured that the International Electrotechnical Commission (IEC) President, Renzo Tani, travelled to Ireland to present Noel O'Riordan with the IEC '1906 Award'.

Noel O'Riordan was nominated by his peers within the IEC Technical Committee (TC31) that deals with equipment for explosive atmospheres for his outstanding and invaluable contribution within IEC TC31 and for his excellent spirit of co-operation with all TC31 experts. The award recognises the major contribution that Noel has made to further the interests of electrotechnology standardisation and his many years of meritorious and outstanding service to the development of standards at the international and regional level particularly in the field of potentially explosive atmospheres. A fitting tribute to the esteem with which Noel is held in the IEC fraternity is that the President of IEC, Renzo Tani, travelled to Ireland from Italy to present the Award.

Noel O'Riordan is a leading figure in the very specialised area of potentially explosive atmospheres, having been appointed as a consultant to both CEN and CENELEC for the development of standards under the European Directive on explosion protection or ATEX. He has advised the European Commission on ATEX and was a member of ATEX standing committees and steering groups.

Noel has been involved in ETCI since its creation in 1972 and has severed as its Chairman. He is Chairman of the ETCI Technical Committee TC6 dealing with electrical apparatus for explosive atmosphere since its inception.

The 1906 Award was introduced to commemorate the IEC's centennial anniversary and honours IEC technical experts around the world whose work is fundamental to the development of international standards within IEC. The Award is aimed at recognising the invaluable work of the technical experts working in the IEC technical committees and to draw the attention of industry management to their contribution to standardisation in the fields covered by IEC.

Noel O'Riordan is presented with the IEC '1906 Award' by Renzo Tani, IEC President.