Face to Face — Judge Gives His Verdict

Installer Register Update
Building Management Systems
Designing Building Services
When you pass the baton to your controls company you want absolute reliability. At CYLON we focus on every project as if it were the big race ensuring a swift and dependable handover. As a flexible partner we make sure commercial or technical issues never get in the way of project delivery.

As the leading Irish provider of BEMS we have nationwide coverage through a network of ten highly capable system integrator partners. You get to choose the team that makes most sense for your project.

For full details on CYLON approved system integrators or to discuss a specification please call us today on 01 245 0500 or email info@cylon.com
Why Not a Single Gas & Electrical Safety Supervisory Body?

The proposed mandatory regulation of gas installers and electrical contractors is proceeding at an excellent rate and all credit is due to the CER for the progress made to date (see pages 16/17 and 20/21). Various bodies have already applied to be considered to act as the Electrical Safety Supervisory Body while those wishing to be considered to act as the Gas Safety Supervisory Body will get an opportunity to apply shortly.

Obviously gas and electricity are two different power sources but, a Safety Supervisory Body need not be an electrical or gas expert ... it is much more important that the appointed body is an expert in acting as a supervisory body. Such a body would employ the appropriately-qualified inspectors, be they gas or electrical. So, the question is, why not appoint just the one Gas & Electrical Safety Supervisory Body?

In looking to other jurisdictions to see how they handle such matters, it is interesting to note that talks are currently underway in the UK with a view to a merger between the two existing supervisory bodies in that country — CORGI which looks after gas safety and the Electrical Safety Council, which handles electrical safety matters. Both parties acknowledge that there is a great deal to be resolved in the fine detail but are optimistic that they can bring this very significant initiative to fruition.

We here in Ireland should pay close attention to events as they unfold over the coming months. While we must be conscious that we are starting from virtually a green-field scenario and therefore need to be cautious, the advantage of having a clean slate to start with means that all permutations can be carefully examined from the outset before a final decision is made.
‘alpha2 — quietly saving the world’
Grundfos, one of the first companies in the world to introduce an A-rated domestic circulator, continues to set industry precedents in energy efficiency with the introduction of Alpha2.

Alpha2 is said to be the first small circulator equipped with the unique Grundfos feature Autoadapt, which means optimum pump operation. Autoadapt allows the pump motor to match its performance to the system requirements, helping to reduce noise when the thermostatic valves are closing down.

Thanks to its new and improved compact design, the Alpha2 can be easily installed even in the most confined spaces. The Alpha2 also has all the other benefits of the Alpha range, such as LED display showing electrical connection (and power consumption), and “plug and pump” electrical connection, all of which save time on installation.

Because of unprecedented demand supplies of Alpha2 were in short supply but that situation has now been rectified. A spokesman for Grundfos told bs news as we went to press: “all installers have to worry about now is whether they want a 15/50 or a 15/60”.

Contact: Grundfos (Irl). Tel: 408 9800; email: info-ie@grundfos.com

cibse annual golf outing 2008
This year’s CIBSE Annual Golf Outing will be held in Edmondstown Golf Club on Friday, 29 August, 2008. The date is similar to last year when a great day was enjoyed by all who participated.

A full timesheet is anticipated so early booking is advised. Full details of the day, format etc will be issued over the coming weeks with booking forms made available in July.

In the meantime, put the date in your diary today. Cost for golf and dinner for 4-person team — €750; Cost for golf only for 4-person team — €550.

Contact: Gerald O’Callaghan, O’Callaghan Macklin Engineering. email: gerald@ocme.ie

C&G2078: safe handling of refrigerants courses
Refrigeration Skillnet is offering what may be one of the last opportunities this year for companies to put their engineers through C&G2078 Refrigerant Handling Training and Assessment.

Two workshops are proposed for June, one to held in Cahir and the other in Dublin. Cost of participation is €250 per person. Details are as follows.
Cahir — Monday and Tuesday, 16/17 June. Time: 8am to 7pm; Dublin — Wednesday and Thursday, 18/19 June. Time: 8am to 7pm.

C&G2078 is required for anyone handling ODS refrigerants. The Department of Environment has also decided that it will provide “interim certification” under the F-Gas Regulations to engineers holding this qualification. This interim certification is likely to be valid up until July 2011.

June 2008 also sees the start of the City and Guilds Level 2 Certificate in Refrigeration & Air Conditioning (C&G6127) Programme. This programme is delivered by John Ellis. The programme is a mixture of classroom-based tutorials and practical sessions with some assignments. It will be delivered over a period of 15 months and will be divided into six two-week blocks.

Contact: Enda Hogan, Network Manager, Refrigeration Skillnet. Tel: 058 - 44211; email: refskill@eircom.net
Super-efficient VRF technology, no matter how long you use it.

From daybreak to sunset, the energy-efficient choice is the ECOi 2 Way Multi Electric VRF. Specifically designed to reduce power consumption and CO₂ emissions by using the latest DC inverter technology, it provides a class-leading COP rating of 4.1.

Simple to install and maintain, it connects up to 40 indoor units on one system. With cooling down to -15°C and sound levels from just 54dB(A), it’s the hard-working system for hard-working people.

Tel: (01) 403 9900  www.sanyoaircon.com

The natural choice.
Colin Sherlock Joins Voltimum

Voltimum, the internet portal for the electrical industry, has appointed Colin Sherlock Business Development Manager in Ireland. Colin brings a breadth of experience to the role having trained as an electrician and worked in contracting, in addition to wholesale distributors and with leading manufacturers.

Created by seven major European manufacturers of electrical installation equipment, Voltimum operates in France, Italy, Germany, Sweden, Spain, UK and Austria. www.voltimum.ie is the eighth Voltimum site to go live in Europe.

The Voltimum Ireland site contains a database of technical sheets with images of over 21,500 products from leading manufacturers. There are also news updates and regular bulletins on legislation and regulation issues, as well as training and CPD courses.

Registration is free and gives users access to all the aforementioned information, as well as access to the "Ask the Experts" section.

Contact: Colin Sherlock, Business Development Manager, Voltimum Ireland. Tel: 01 - 524 0273; Mobile: 087- 669 8028; email: colin@electriclinks.ie

Minister Visits DIT Kevin Street for Careers in Energy

Last month Sustainable Energy Ireland choose DIT Kevin Street DIT to mark the publication of its new booklet, Careers in Energy.

Minister for Communications, Eamonn Ryan TD, paid his first official visit to campus where he was welcomed by Professor Norton, DIT President, before being photographed with solar panels on the roof of the Focas Institute at the college.

The booklet is targeted at second level students and profiles a number of people currently working in the energy industry. It also provides information on a number of very useful energy websites.

Pictured (left) at Kevin St on the day were: Liam Connellan, Chairman, Energy Institute (Irish Branch); Professor Brian Norton, President of DIT; Minister for Communications and Energy, Eamonn Ryan TD; Kevin O’Connell, Head of Department, Electrical Services Engineering, DIT; and David Taylor, CEO, Sustainable Energy Ireland.

copper tube installation tips

Installation Tips, the UK Copper Board’s free reference book for plumbers, contains technical advice and tips for the best installation of copper tube and fittings.

Bending copper tubes, planning and positioning pipework, pipe sizing and Legionella are just some of the topics covered.

One of the latest additions deals with solar hot water systems. It describes the main types of solar collectors — flat-plate and evacuated glass-tube — and gives information on how to design a system.

Contact: Bryony Samuel, Marketing Coordinator, Copper Development Association. Tel: 0044 1442 275705, email: bryony.samuel@copperdev.co.uk

Enter into the world of heat pumps

Solution for new house
Solution for existing house
Solution for apartment blocks
trade news + product information

series msp isolating transmitters from manotherm

The MSP series of analogue I/O blocks from Manotherm offers the freedom to use any analogue sensor with many models of PLC. Applications include signal conditioners used in panels for isolation and converting signals for boilers and control systems.

Each MSP block provides a single analogue input (or output) interface between the PLC and the analogue world. Communications between the MSP unit and the PLC is through a patented protocol that provides truly open architecture for analogue signals to be processed digitally.

The MSP is factory-configured to support specific analogue input or output signals, depending on the model. Optionally, the MSP signal range can be re-configured in the field using the Windows-based configuration software model SCC-CC-A1 (sold separately).

Contact: Bob Gilberet, Robert Gilbert or Conor Stead, Manotherm. Tel: 01 - 452 2355; email: info@manotherm.ie

froth-pak foam machine kit from gasco

Froth-Pak from Gasco is a portable, 2-compartment, polyurethane spray foam kit intended for use as a foamed-in-place sealant for air leakage control. It can be used for sealing ducts, elbows, valves, tees and boxes, and replacing or repairing insulation in refrigerated containers and refrigerated warehouses.

It can also be used around electrical and plumbing penetrations in walls, floors, ceiling, attics and roofs and adheres to most surfaces. These include wood, metal, masonry, glass and most plastics.

The Froth-Pak kit comprises two pressurised tanks linked by hoses to a dispensing gun. When the contents of the two tanks are dispensed, they chemically react to produce a froth-like substance which quickly expands to about three to five times the dispensed volume.

The foam solidifies in approximately 60 seconds and fully cures into a solid permanent structure in five minutes. Cured foam resists moisture, insulates, dampens noise, adds structural support, provides an air seal and fills voids. Flow rate is easily controlled by a touch-sensitive trigger while a safety mechanism protects against accidental discharge.

Contact: Ian Dennis, Gasco Ireland. Tel: 01 - 462 7311; email: iandennis@gasco.eu

wolseley renewable energy centres

Duncan Stewart, Alanna McGregor (right) and Caoimhe Mooney (left) take time for a photocall at the Wolseley Ireland Self-Build Expo in Limerick last month at which Duncan was the guest speaker. Wolseley, which owns Heat Merchants, Brooks Group and Tubs & Tiles, predicts that by the year 2010, renewable energy sales will account for over 10% of Heat Merchants’ projected turnover. It is currently establishing a network of Renewable Energy Centres inside existing nationwide Heat Merchants branches with 20 already open and a further 10 expected by the end of 2008.
Mark Eire BV has been supplying the building services industry with heating, cooling and ventilation solutions — along with bespoke control panels — for 20 years. Its state-of-the-art manufacturing plant is ISO 9000/2000 and CE-approved, time-related warranties of 10 years being common for the equipment.

**Key Products**

- Gas-fired suspended unit air heaters;
- Gas-fired make up air units;
- Warm water units, LPHW;
- Ventilation and recirculation units (Eco-fan);
- Industrial burner equipment;
- Air handling units;
- Tube benders;
- Cabinet Heaters (oil/gas — horizontal & vertical);
- Radiant heating (tube/plaque/quartz/aqua panel and complete ceiling).
Firesafe Fire-Rated Ductwork

Spiro Grilles & Dampers, part of the Finheat Group, has emerged as one of the leading experts in the design and supply of fire-rated ductwork systems in Ireland. Through its trading partnership with world-renowned manufacturers Caswell, it now supplies the full range of Firesafe fire-rated ductwork to the Irish marketplace.

Firesafe is manufactured from pre-galvanised sheet steel, mild steel and stainless steel to the exacting standards set by Caswell to conform with all applicable standards and regulations. It has been tested and assessed by Warrington Fire & Research and satisfies BS476 Part 24:1987.

Good practice dictates that fire dampers should not be installed in certain circumstances and therefore fire-resisting ductwork such as Firesafe is used. Applications include smoke extraction systems, dual ventilation/smoke extraction systems, pressurisation systems, car park extraction systems and kitchen extraction systems.

It can also prove to be a cost-effective alternative to fire dampers in general ductwork systems, particularly when evaluated over the lifetime of a building.

A full range of accessories is also available including supports, access doors, attenuators, volume control dampers and rectangular, circular and flat oval ductwork constructions.

Contact: Rory Kavanagh, Spiro Grilles & Dampers. Tel: 01 - 623 4222; email: akelly@finheat.com

Merlyn Overbath Screens

Kilkenny-based Merlyn Industries’ new collection of overbath screens offers consumers extensive choice with a shape, style and configuration to suit almost any bath. Included are single, two-panelled, double-folding, single and double crescent, frosted, hinged, square-topped, round-topped and inline panel models.

Most screens are manufactured using a minimum of 6mm toughened safety glass, with two models in a thickness of 8mm. All have the option of an easy-clean product pack along with a lifetime guarantee. They are available for right or left handed fitting.

CEO of Merlyn, Martin Lynch comments: “Our comprehensive range of overbath screens complements the ever growing Merlyn portfolio. The screens are all extremely highly specified and offer a very real alternative, or addition, to an enclosure.”

Contact: Martin Lynch, Merlyn Industries. Tel: 056 - 779 1555; info@merlynbathrooms.com

Shires Specifiers Manual

Shires has created a new detailed specifiers manual for architects, interior designers and installers. The user-friendly guide covers the entire Shires portfolio with the information presented in an easy-to-find manner.

Shires Marketing Manager, Annemarie Tumilty, told BS News: believes “The new specifiers manual will become every architect, design professional and engineers stable information guide in their brief case or at the office, with a comprehensive collection of user-friendly CAD images and product specs”.

Among the product ranges covered are the Lynx Framing System, the Cast Iron Bath Range, and the new additions for 2008 — the Murex Suite and Corvo environmentally friendly suite.

Contact: Annemarie Tumilty, Shires Head Office. Tel: 01 - 404 7600; email: atumilty@qualceram-shires.com
Set Free — KPI Technical Description

Provides a comfortable environment by control interlocking with air conditioning units.

Controlable using the remote control switch for the air conditioning unit.

Can be controlled in various ways using the remote switch for the air conditioning unit (PC-P2HT).

Functions
- Simultaneous RUN/STOP switch both for air conditioning units and heat exchanging unit;
- Individual operation of heat exchanging unit;
- Fan speed control (high/medium/low);
- Ventilation mode selection (automatic/heat exchange/bypass)*;
- Pre-cool/pre-heat control (interlocking start with delay in 30 or 60 minutes)*;
- ON/OFF timer (every half hour, maximum 24 hours);
- Increased air supply operation;
- Specific alarm display.
* Required option to be selected at remote control switch

Greater Capacity = Reduce Footprint
With greater capacities of 1000m³/h to 3000m³/h, installation costs are reduced as less units are required. It also makes for a smaller footprint.

Smaller Height
Increased capacity smaller unit also means significant height reductions. Other manufacturers use double structure, stacked units to achieve same output.

Automatic selection of most suitable ventilation mode
Depending on temperature conditions both outdoors and indoors, the most suitable ventilation mode is automatically selected, designed for energy efficiency.

Other Characteristics
- Quiet operation with low noise level of 32.5-33.5 dB (A) (ar Hi Tap of KPI 5021 Type) has been realised by improving the flow path configuration;
- Operation not only with SET-FREE Series Indoor Unit, but also with UTOPIA Series Indoor Unit;
- Connectable to H-LINK System with Central Station or with CS-NET in Operation with Outdoor Unit;
- Flexible Duct Installation: The connecting direction of duct at outdoor side (OA.EA) can be changed according to the condition of the installation site (2 directions);
- Reduced packing material for environment protection. The wood for the packing use has been reduced for environment protection;
- Can also be installed upside down.

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mark infra — silent heating where needed

The Mark Infra range from Mark Eire in Coolea provides silent heating precisely where it is needed. With efficiencies of 93% and electronic ignition, the gas fired black tube radiant heaters come in lengths of 3.40m to 6.40m with capacities ranging from 10.8kW to 100kW.

Manufactured to stringent quality-control standards, the units feature aluzinc finish, NG/LPG Low Nox, balanced flued closed unit, recirculation flue gas and double-walled insulated reflector. CE They are CE approved and accredited to ISO 9002-2000 and IP44.

Accessories and features include ball protection grills, isolator switches, rail suspension systems, remote control panels and impact-resistant powder coating.

Applications include factories, warehouses, workshops, engineering plants, abattoirs, garages, airplane hangers, shops, exhibition halls, cargo platforms, sports facilities and covered smoking areas.

Contact: Mairead Twomey, Mark Eire. Tel: 026 - 45334; email: mtwomey@markeire.com

electric merchants goes nationwide

Electric Merchants is investing over €2.5 million in a network of branches nationwide. To bring electrical products and bespoke service solutions to electrical contractors and industrial maintenance staff.

Part of Wolseley Ireland — which also owns Heat Merchants, Brooks Group and Tubs & Tiles — many of the new outlets will be located inside existing Heat Merchants branches.

Currently, there are eight Electric Merchants outlets in Fonthill and Baldyole in Dublin, Athlone, Naas, Skibbereen, Monaghan, Dundalk and Cavan. Branches in Waterford, Wexford, Galway and Tralee are due to open in the next few months.

Donal Walshe, National Sales Manager for Electric Merchants, told bs news: “Wolseley Ireland began its move into this market in 2007 when it acquired Conlon Quinn Ltd, an established electrical wholesaler in the North-West of Ireland. This, coupled with the presence of the Heat Merchants branch network, gives us a strong platform for growth and expansion over the coming years”.

tour & andersson opens dublin office

Tour & Andersson has appointed Ken Browne Senior Sales Engineer at Tour & Andersson, to head up its newly-established sales operation and stockholding facility located at Slaney Drive, Dublin 11. Ken previously worked for Murphy Engineering and will now consult with design engineers and contractors on project-by-project basis across all industry sectors.

Browne told bs news: “Tour & Andersson is a hugely successful and innovative company and so I hope to draw upon my experience to help grow new business as well as supporting the technical capabilities already on offer.”

Tour & Andersson (TA) is one of the global market leaders in hydronic balancing for waterborne heating and cooling systems and is part of the indoor climate business platform of the Engineering Solutions Group IMI plc.

Contact: Ken Browne, Tour & Andersson. Tel: 01 - 462 8658; Mobile: 087 280 1095; email:ken.browne@tourandersson.co.uk
First in!

Marren Engineering and Mitsubishi Electric bring you the 3rd Generation of Water Cooled VRF

Marren Engineering, in partnership with Mitsubishi Electric, provide a complete range of quality air conditioning solutions designed for reliability and high energy efficiency. By combining the Marren Engineering expertise with the high performance of Mitsubishi products, we deliver the most flexible, innovative and turnkey solutions for our clients. This new range is fully supported by a dedicated team of specialist engineers who ensure that systems are optimized for performance and efficiency.

Mitsubishi Electric’s WR2 range of water cooled condensing units provide simultaneous heating and cooling with double heat recovery. Not only does it produce heat recovery from indoor units on the same refrigerant circuit, it also produces heat recovery via the water circuit between heat source units. The WR2 Series provides all the benefits of the R2 Series with water cooled condensing units using a single inverter compressor.

- Now available in 2-Pipe Heat Recovery or Heat Pump versions
- Double heat recovery potential (WR2)
- Condensing units can be situated indoors or outdoors allowing greater design flexibility
- High sensible function, for higher off coil temperatures and high sensible capacity
- Single inverter compressor for all models
- Inverter controlled water pump option offers even greater energy saving

For further information contact:
Marren Engineering Limited, 1 The Seapoint Building, Clontarf, Dublin 3
Tel: 01 8334144 Fax: 01 8334132 email:info@marrenengineering.ie
www.marrenengineering.ie
‘chloride answers Ireland’s call’

To strengthen still further the service it provides to existing customers, and to grow its market penetration, Chloride has opened a dedicated Irish office and appointed James Coughlan Sales Manager for Ireland.

James will be based near Dublin and have responsibility for business development across the whole of Ireland. He brings 14 years experience in the critical power and UPS industry to the role having worked as service manager, project engineer and business development manager in the sector.

Chloride offers an integrated project capability providing turnkey power protection solutions combining UPS and genset packages. Its products are supported with a full range of in-house expertise and services for design, supply, installation, service, maintenance and monitoring.

Contact: James Coughlan, Ireland Sales Manager, Chloride. Tel: 087 - 130 9343; email: james.coughlan@chloridepower.com

energy show 2008

One hundred and seventy seven exhibitors participated at this year’s Energy Show in the RDS which was officially opened by Minister for Communications, Energy and Natural Resources, Eamon Ryan, TD.

The theme of this year’s event was “Meeting Ireland’s Energy Challenge” and the show’s extensive seminar programme was specifically tailored to facilitate debate within the sector on how this can be achieved.

Topics discussed included the design and construction of energy efficient buildings, developments in industrial equipment, renewable energy solutions for large buildings, and energy management in organisations.

The attendance included building design and development professionals, energy users from business, industry and the public sector, as well as energy suppliers and providers.

The range and diversity of products on display covered combined heat and power (CHP), energy management, biomass, PV and solar thermal energy.

Commenting, David Taylor, Chief Executive, Sustainable Energy Ireland said: “Companies exhibiting at the show, as well as the many visitors, all play an important role in the development of a strong market for sustainable, energy-related, products and services in Ireland. This will ultimately serve to allow Ireland to meet its energy targets as well as easing the burden of over-dependency on imported fossil fuels.”
Energy efficient R410A Super Digital Inverter – also the perfect solution for R22 and R407C replacement systems, and for the environment.

The new 4 series Super Digital Inverter from Toshiba is equipped with new Eco-driving twin-rotary compressors making the system energy class A in both heating and cooling. This results in savings of up to 70% in annual energy costs compared to fixed speed systems.

Designed as a new, energy efficient R410A single or twin split system, the Super Digital Inverter is also the perfect replacement for existing R22 and R407C systems. Able to replace both indoor and outdoor units whilst utilising the existing pipework*, the result is a quicker, cheaper, more environmentally responsible installation.

Contact us today for more information.

*Provided the existing pipework meets current legal requirements regarding pressure rating of R410A.
Environmental control manufacturer Mitsubishi Electric has introduced a new wall-mounted, inverter driven, heat pump air conditioning system with an industry high COP of 5.25 in heating and 5.15 in cooling modes.

The M Series MSZ-FD models demonstrate beyond doubt that smaller air conditioning heating has come of age and extends the possibility of energy efficient heating and cooling to a wider range of properties and applications.

"These models are ideal for the Irish climate because they can deliver energy efficient heating for most of the year, but can also be used for cooling when the Irish summer eventually arrives," explained Paul Sexton, Technical Sales Manager, Mitsubishi Electric. "This is a fairly new concept for us to be promoting products based primarily on their heating benefits."

A heat pump extracts free energy from the surrounding air to maximise efficiency. This means that for every 1kW of electricity fed into the system over 5kW of energy is available to heat or cool the space.

The new range will initially have two models available in 2.5kW and 3.5kW sizes but Mitsubishi is planning to add more high COP models to the range later in the year. The units offer ultra-quiet operation at just 20dBA and 21dBA respectively, and also come with the ability to connect to an MXZ multi-unit for even more flexibility of design and use.

Unique to Mitsubishi Electric is the additional "replace" facility, which can reduce replacement and upgrading costs by potentially allowing users to reuse the existing pipework. Suitable for a huge variety of smaller applications, the new M Series range offers exceptional performance and efficiency with complete versatility.

Mitsubishi Electric’s MSZ-FD models come with an infra-red controller as standard and a maximum pipe length of 20 metres and a pipe height of 12 metres. Both models also include additional advanced features including a plasma duo air filtration and deodorising system, self-cleaning functions, and the I-See sensor to aid temperature control and efficiency.

"For their size, these models offer the best performance in both heating and cooling compared to anything else in the industry," concludes Sexton.

Contact: Paul Sexton, Mitsubishi Electric. Tel: 01 - 419 8800; email: paul.sexton@mei.mee.com
Two component polyurethane foam

FROTH-PAK
The foam machine in one kit

- Dispenses, expands and becomes tack-free in seconds
- Cut, sand and paint in minutes
- Great flow control, less waste
- Excellent for filling hard to reach areas and irregular surfaces
- Kits are portable and self-contained—ready to use in minutes
- High thermal resistances
- Foam bonds to most surfaces
- Seals completely to improve air tightness
- Keeps out smoke, odor, and moisture
- Wide range of specialized dispensing nozzles
- Reduces heating bills
- Stops wind & rain ingress. Sound proofing
- Meet and exceed new U-value regs.

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CER Releases Its Proposals for Regulation of Gas Installers

The Commission for Energy Regulation (CER) has released its proposals on the new rules for the regulation of gas installers with respect to safety. Gas installers are asked to participate in the consultation process and forward their views to the CER.

The Energy (Miscellaneous Provisions) Act 2006 was enacted in December 2006. Under this Act the Commission for Energy Regulation has responsibility to "regulate the activities of gas installers with respect to safety" and to develop a new regulatory system in that regard. In carrying out this responsibility, the Commission may designate a body to act as the Gas Safety Supervisory Body, who will be responsible for the registration, inspection, auditing and monitoring of gas installers.

In order to develop and implement the new regulatory system, the Commission has set about the development of the following:

- a Vision Document, setting out the Commission's decision on the design and operation for the new regulatory system. Further to industry and public consultation, a decision paper was published on 18th December 2007 on www.cer.ie;
- a Designation Process, to appoint a party to act as the Gas Safety Supervisory Body and to operate the day-to-day registration of gas installers. This process is expected to begin this month (May 2008).

In addition to the above, the Commission has drafted a proposed Criteria Document, setting out how the natural gas installer safety regime will operate and be governed.

The Commission's Criteria Document was published for consultation on 18 April 2008 (document reference: CER/08/069). This consultation document was drafted by the Commission with the assistance of an Industry Working Group established to aid in its development.

Registered gas installers and the party appointed to act as the Gas Safety Supervisory Body will be required to adhere to the requirements and procedures of the Criteria Document. Under the new regulatory system, to be implemented by 1 January 2009, only registered gas installers will be able to carry out gas works.

With respect to registered gas installers, Section C of the Criteria Document sets out the detailed proposals regarding the rights, responsibilities, rules and obligations associated with the following:

- becoming a registered gas installer and maintaining registration;
- operating as a registered gas installer and carrying out gas works;
- the Certification of gas works and compliance with inspection and audit;
- disciplinary actions taken against a Registered Gas Installer and the right of appeal.

It is envisaged that the release of the Criteria Document will assist in providing the industry with a clear view on how the activities of gas installers shall be regulated with respect to safety.
The 2006 Act provides that the Commission "may by regulations designate a class or classes of works to be gas works", the Commission is currently preparing to undergo a detailed public consultation process in relation to the categories of gas works to include in regulations. Once a decision is published regarding the scope of gas works to be covered in the new regime, this will subsequently be translated into regulations. As the Act provides that domestic categories of gas works must be covered under regulations, the initial version of the Criteria Document will solely focus on the below categories of membership:

- Domestic: Installation and commissioning; and/or
- Domestic: Servicing

Following the completion of the public consultation process on the categories of gas works, the membership categories outlined in the Criteria Document will be amended to include those non-domestic gas works deemed appropriate for inclusion.

The Commission is now seeking the views of all interested parties on its proposals as set out in its consultation on the Criteria Document. It is critical that gas installers are involved in this process, through consultation, in order to ensure that the new system to be implemented delivers on gas safety in an effective, efficient and practical manner.

Once the Commission has considered the comments arising out of this consultation process, it will publish its decision on the Criteria Document. The Commission has a number of other steps to complete prior to the implementation of the new regulatory model on 1 January 2009. The timeline for implementation is as follows:

- Publication of Version 1 of the Criteria Document late June/early July 2008;
- The process to Designate the Gas Safety Supervisory Body will be launched in May 2008 and will take five to six months to complete;
- The Commission will undertake a specific detailed consultation on the definition of gas works.

The process will commence with the publication of a gas works consultation paper (planned for this month). Post publication of the above documents and launch of the designation process, the focus will turn towards developing a detailed transition strategy into the new regulatory regime. The transition strategy will focus on the appropriate promotion, industry awareness and public awareness of the new regulatory regime.

Another key element of the transition strategy is to encourage installers to become members of the Bord Gais Register of Gas Installers. The proposed Criteria Document published by the Commission outlines that members of the Bord Gais Register on 1 January 2009 will automatically transfer into the new regulatory regime.

The Commission’s proposals for the Criteria Document can be viewed at www.cer.ie

Contact: Dermot Lynch, CER.
Tel: 01 - 400 0800;
email: dlynch@cer.ie
- Energy Rating AA
- Easy installation and versatility
- Replace technology – reuse existing pipework
- Silent operation
- Quick clean design – automatic electric filter lowering function
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City Multi exceeds current demands for efficiency, Seasonal Energy Efficiency Rating (SEER) of 6.26
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- BMS compatible
- 100% inverter control on all outdoor units
- Quiet operation

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https://arrow.dit.ie/bsn/vol47/iss5/1
- Effective ventilation – fresh air and extract
- 80% recovery of waste energy
- Up to 30% reduction on heating and cooling plant
- Free cooling function
- Built-in sound attenuation

- Alternative to Gas and Oil boilers
- Easy to install – no DX pipework required
- Low operating costs – offers a 30% saving on running costs
- Converts free energy from the air and upgrades it to higher temperatures suitable for heating
- SEI Grant available
- Low carbon emissions
CER Publishes Its Decision on the New Rules for the Regulation of Electrical Contractors

The Energy (Miscellaneous Provisions) Act 2006 was enacted in December 2006. Under this Act, the Commission for Energy Regulation (the Commission) has responsibility to “regulate the activities of electrical contractors with respect to safety” and to develop a new regulatory system in that regard. In carrying out this responsibility, the Commission may designate bodies to act as Electrical Safety Supervisory Bodies, who will be responsible for the registration, inspection, auditing and monitoring of electrical contractors.

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. 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 which provides for electrical works to be carried out, tested and certified in compliance with the appropriate technical rules/standards”.

In order to develop and implement the new regulatory system, the Commission has set about the development of the following:—
— a Vision Document, setting out the Commission’s decision on the design and operation for the new regulatory system. Further to industry and public consultation, a decision paper was published on 8 November 2007 on www.cer.ie;
— a Designation Process, to appoint a party or parties to act as Electricity Safety Supervisory Bodies and operate the day-to-day registration of electrical contractors. This process was launched on 14 March 2008 and information on this is available on www.cer.ie.

In addition to the above, the Commission has developed the Criteria Document, setting out the detailed rules for the registration and regulation of electrical contractors. This...
CER Publishes Its Decision on the New Rules for the Regulation of Electrical Contractors

Commission for Energy Regulation
An Coimisiún um Rialál Fuinnimh

CER Publishes Its Decision on the New Rules for the Regulation of Electrical Contractors

Commission from the consultation process and the Commission's response to these comments (reference: CER/08/072).

Registered electrical contractors and any party appointed to act as an Electrical Safety Supervisory Body will be required to adhere to the requirements and procedures of the Electrical Safety Supervisory Criteria Document.

With respect to registered electrical contractors, Section C of the Electrical Safety Supervisory Criteria Document sets out the detailed rules and requirements regarding the rights, responsibilities, rules and obligations associated with the following:

- becoming a registered electrical contractor and maintaining registration;
- operating as a registered electrical contractor and carrying out electrical works;
- the certification of electrical works and compliance with inspection and audit;
- disciplinary actions taken against a registered electrical contractor and appeals in that regard.

The Commission's decision on the Electrical Safety Supervisory Criteria Document can be viewed at www.cer.ie and/or can be obtained from Karen Trant, CER. Tel: 01 - 400 0800; email: ktrant@cer.ie

Criteria Document also outlines in detail the rules and obligations placed upon any party appointed to act as an Electricity Safety Supervisory Body.

The Commission's proposals for the Criteria Document were published for consultation on 7 December 2007 (reference: CER/07/213). Having now considered the substantial industry response to the Commission's proposals presented in that consultation, the Commission has now published:

- its decision on the Criteria Document (the "Electrical Safety Supervisory Criteria Document", reference: CER/08/071);
- a detailed response paper, setting out the comments received by the Commission from the consultation process and the Commission's response to these comments (reference: CER/08/072).

Published by ARROW@TU Dublin, 2008
The winners of this year's competition were:

**Phase 6**
- Gold: Michael Price, Athlone IT
- Silver: Dara O'Duill, DIT
- Bronze: Darren Whelan, DIT

**Phase 4**
- Gold: Eoin Bennett, DIT
- Silver: Dave O'Donnell, Blanchardstown IT
- Bronze: Mark Kenny, Phase 4

**Phase 2**
- Gold: Christopher Falconer, FAS Training Centre, Shannon
- Silver: Padraig Kenny, FAS Training Centre, Shannon
- Bronze: Denis Moran, FAS Training Centre, Athlone

Contact: Michael Gleeson, Secretary, CIPHE. Tel: 087 - 226 9331.

The Chartered Institute of Plumbing & Heating Engineering (CIPHE) was founded in 1906 and today has 13,000 members in 40 countries throughout the world. Many of the Institute’s members are owners/managers of plumbing and central heating businesses but membership also includes lecturers/teachers, plumbers, consultants and student apprentices, as well as merchants, manufacturers and local authorities.

Towards the end of 1996 the Republic of Ireland Branch of the Institute initiated a competition specifically dedicated to apprentice plumbers. The intention was to promote high standards within the industry, inform the public about the Institute, and reward student apprentices who achieve high standards during their studies. The scheme proved an immediate success and has been running ever since as the “CIPHE Apprentice of the Year” competition.

Student apprentices are nominated by Institutes of Technology and FAS Training Centres where they have completed the off-the-job phases of their education. They are then invited to participate in the competition by completing a theoretical design project. The idea behind the written project is to encourage a self-directed learning experience where the learning is of a much higher standard than if the student was required to sit an examination. Plumbing is the only trade to use this concept and the response over the years has been extremely positive from students, employers and teachers alike.

This year 335 nominations were received, 110 of whom actually requested an official participation number, in the final analysis a total of 66 written projects were submitted. Every apprentice who submitted a project received a certificate with the top three from Phase 2, Phase 4 and Phase 6 receiving the Institute’s gold, silver and bronze medals respectively. This year’s Awards’ presentation ceremony took place in the Red Cow Moran’s Hotel in conjunction with the PHEX Exhibition last month. Medals and certificates were presented to the winners by the President of the Institute, Grant Nicoll, who was guest of honour at the event.

The hard work and dedication of the Republic of Ireland Branch of the Institute in running this competition represents only part of the success of this event. Without the support of the sponsors, the competition could not take place. For this year they included Modern Plant, MIT Agencies, Wavin, BSS (Ireland), Hechtmerchants, GROHE, Usher Bathroom Furnishings and iTW Construction Projects.

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Promoting & Supporting Plumbing Excellence

As distributors for the renowned Mira range of quality showers, shower fittings and accessories, Modern Plant has always promoted installation excellence. It has been especially supportive of apprentices and has been involved with the Chartered Institute of Plumbing & Heating Engineers (CIPHE) Apprentice of the Year Awards from the outset.

This year’s Awards’ ceremony was held in the Red Cow Moran’s Hotel, Dublin, during the Phex Exhibition and Noel Lawlor, Sales Director of Modern Plant, was on hand to present the winners with their prizes. “The CIPHE does a wonderful job in recognising and rewarding the work of FAS and the various training institutes throughout the country by giving them a forum to showcase the high standards achieved by apprentices each year on the Phase 2, Phase 4 and Phase 6 programmes. We are delighted to be associated with this process and see it as an opportunity for us to promote and support plumbing excellence throughout the entire country.”
Sanyo CO₂ Rotary Compressors
To Keep Beijing Olympians Cool

Sanyo’s advanced 2-stage rotary compressor forms an integral part of 5000 beverage coolers which are being installed throughout various venues at the forthcoming Beijing Olympic Games in China. This new technology already proved itself following its successful application during the Olympics in Athens and Torino, as well as the FIFA World Cup. Moreover, the compressors have been successfully applied in thousands of Japanese vending machines.

Sanyo’s CO₂ rotary compressor was the world’s first hermetic compressor to use a two-stage compression mechanism to disperse the differential pressure and compression load. By dividing one compression into two, high reliability and efficiency can be obtained. Its internal intermediate pressure structure makes it easy to design the shell while considerably reducing its thickness. This innovative shell design and a compact concentrated winding motor ensure a compact size and light weight.

Two characteristics are yielded by CO₂ natural refrigerant: high working pressure and high differential pressure. These pressure levels are four to 10 times higher than with HFC refrigerants. What Sanyo did to translate these factors into reality was to divide the compression of the CO₂ refrigerant into two stages so that the inside of the shell is at the intermediate pressure — the result was the world’s first rotary 2-stage compression CO₂ compressor.

The low-pressure suction gas is introduced into the first-stage compression mechanism at the bottom where it is compressed to the intermediate pressure, after which it is discharged inside the shell. The gas is then introduced through the pipe outside the shell into the second-stage compression mechanism at the top, where it is further compressed, after which it is discharged to the refrigeration cycle.

The combination of a DC brushless motor, which helps to improve the motor efficiency, and an optimised dimension of the 2-stage compression mechanism, leads to a higher overall system efficiency. The compressor is also resistant to high working pressures and large pressure differences occurring in transcritical CO₂ cycles.

When the transcritical CO₂ refrigeration cycle is applied in refrigerator and freezer equipment, the theoretical efficiency (COP) is said to be generally lower than that of HFC. An effective way to offset this is to employ an internal heat exchanger and an intermediate cooler. By adding intermediate cooling through the 2-stage compression mechanism and a suction line heat exchanger, it is an optimal solution for refrigeration and cooling purposes. In the past CO₂ compressors showed lower levels of performance compared to conventional models.

Specifications
- Two-stage compression in one compressor;
- Pressure drop high pressure (HP) side (bar/m): 0.04;
- Number of cylinders: Two;
- Internal intermediate pressure structure;
- Variable speed type (inverter drive required) and single speed type available;
- Weight: approximately 9kg (depends on the capacity);
- Oil: PAG.

Advantages & Benefits
- Resistant to high pressure;
- Resistant to large pressure difference;
- Increased efficiency through reduced leakage and compression mechanism dimensions;
- High-efficiency DC brushless motor;
- Compact size and light weight;
- Minimised noise and vibration levels.

Contact: Dave Colbert, Sanyo Airconditioners Ireland.
Tel: 01 - 403 9900;
e-mail: davidcolbert@sanyoaircon.com
MECHANICAL SERVICES & PROCESS ENGINEERING CONTRACTORS

40 YEARS

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The core factual details are quite straightforward. Established in 1968 by Teddy Bourke to undertake mechanical engineering services within the Irish and European construction industries, it has since developed into one of the foremost mechanical services and process engineering contractors in the country.

At a time when direct employment within the sector has fallen in favour of sub-contracting, T Bourke & Co maintains a large staff complement, three quarters of whom are specialist field operators. The remainder provide all necessary office-related and administration support services.

When people hear the name T Bourke & Co they automatically think quality. Over the last 40 years the company has built up an enviable reputation for quality services and has successfully undertaken many large-scale projects. Two factors underpin, and continue to influence, this core trading philosophy — structured management procedures and a committed workforce.

Longevity of service is a feature of T Bourke & Co ... people tend not to leave. For instance, the vast majority of site staff have 10 years plus service with the company. Reinforcing that continuity of service is the constant feeding through and integration of new employees who are indoctrinated and educated in the company philosophy. Hence also the high apprentice intake.

Successful though it may be, the entire T Bourke & Co operation is subjected to continuous review and assessment. This is with a view to improving the effectiveness of the management system through the systematic analysis of data and the subsequent setting of objectives and targets for improvement. These objectives and targets are reviewed at regular intervals to ensure effective implementation.

Director David Bourke explains: "Our success is based on the extensive experience of our quality, technical and project management staff. We ensure a continuation of the high standards of service offered to..."
clients by a process of constant training and improvement of our staff and the company’s quality management systems.

“We enjoy excellent working relationships with all of the main contractors throughout the country, along of course with the leading consulting engineering practices.

“Our reputation is such that we are regularly requested to submit tenders on a selected basis for Government, commercial and private developments, and we expect to be shortlisted for most major projects in Ireland. This reputation is underlined by our excellent record of defect-free maintenance periods on services provided.

“The control of our suppliers and subcontractors is also a high priority and they are all made aware of — and instructed to — comply with our stringent quality requirements.

“To enhance the effectiveness of our quality systems and to ensure the continuous improvement of our service to clients, we gained accreditation to an internationally-recognised quality standard in 1991. This is constantly reviewed and updated so that clients have an independent assessment of our capability and a guarantee of our efficiency and effectiveness.”

Despite being a multi-million euro business T Bourke & Co still retains a strong family ethos. That said, the input of all personnel is highly-valued. While the principal directors are Edward (Ted) Bourke, Chairman; Niall Bourke, Managing Director; and David Bourke, Director & Company Secretary, there are also non-family members on the board. These include Jerry Hennessy, John Lavelle, Richard Moran and Liam Hinch.

The appointment of non-family members to the board is a relatively new development and reflects the beginning of the latest expansionary phase in the company. While traditionally very strong in mechanical services, greater emphasis will now be put on becoming a full service provider across the entire building services industry.

T Bourke & Co can now provide mechanical, electrical, air conditioning and process engineering solutions to the commercial, industrial, educational, pharmaceutical, medical, hospitality and entertainment sectors.

To reinforce this all-embracing commitment the company recently acquired the business of Deegan Contracts, which is perhaps better known as DC Engineering. This is a significant deviation from the traditional T Bourke & Co organic growth pattern and one which reflects, and reinforces, its determination to embrace a more outward-looking trading philosophy in the pursuit of ensuring service excellence for clients.

To coincide with this development it has also moved its Limerick office. Having spent 10 years in Hartstone Street, it is now located in new, purpose-designed premises on the Dock Road.

Nonetheless, these developments do not herald an about-turn in the operating strategy which has served the company — and its clients — so successfully for the past 40 years. Nor is it a major expansion plan merely for the sake of growth. Essentially, what the directors of T Bourke & Co have in mind for existing and prospective clients is to provide all services to the high quality for which it is already known ... but with some added strengths and a new sense of enthusiasm.
DC ENGINEERING

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— Electrical Services Contractors
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Part of the T Bourke & Co Limited Group
As one of Europe's leading water heating companies, Heatrae Sadia has completed a €8 million, two-year investment programme to create what the company believes is "the perfect cylinder". As part of the investment, a unique €3 million state-of-the-art piece of automated plant has been commissioned at the company's factory in Norwich. Utilising renowned German technology, the equipment has the ability to create what the company believes is the "perfect cylinder" for its Megaflo HE and PremierPlus unvented water storage systems — with flawless welding, an extremely precise cylindrical shape and exact, smooth-cut edges.

An unvented storage water heater is fed directly from the cold water mains, ensuring a powerful, consistent flow of water at high pressure to all taps and showers, without a significant loss of performance if more than one tap is used simultaneously.

Large unvented systems are proving the ideal solution for domestic and commercial premises where a number of sinks and/or showers are in use simultaneously. In fact, research by the WMA (Water Heating Manufacturers Association) and MODUS (Manufacturers of Domestic Unvented Systems) suggests that the demand for this type of system increased by 30% during 2003 and this growth is continuing year on year since.

As unvented systems are fed with mains pressure water, it is vital that the storage cylinder is extremely strong, durable and corrosion resistant.

Heatrae Sadia manufactures its Megaflo HE and PremierPlus cylinders from high-grade stainless steel, having pioneered the use of this material over a decade ago. Since then the market has recognised stainless steel's benefits — namely excellent corrosion resistance, tolerance of high flow rates, strength, relatively lightweight, ease of fabrication and excellent durability — and it has become the preferred material for unvented cylinders.

The material's excellent resistance to corrosion eliminates the need for a sacrificial anode. Inferior grades of stainless and glass-lined steel require an anode to achieve a degree of corrosion resistance. Anodes need to be inspected annually to check if they are still providing corrosion protection or need replacing.

Megaflo HE is Europe's market-leading unvented storage water heating system, and its cylinder is manufactured from Duplex stainless steel. Its structure has a very high resistance to stress corrosion cracking and increased resistance to fatigue, erosion and chloride ion attack, which are enhanced qualities over normal grade stainless steel.

Heatrae Sadia has always been synonymous with high quality, durable, premium products and brands. Heatrae Sadia's ability to closely monitor and control production has also been significantly enhanced.

For longer life, Megaflo HE's Duplex stainless steel cylinder also undergoes comprehensive post-weld treatments. Enhancements to this post-weld facility formed part of the investment programme and Heatrae Sadia believes no other manufacturer can match that technology.

Heatrae Sadia has developed the large unvented market through a combination of innovation, the use of quality stainless steel and in-depth customer support. The company's investment in a "perfect cylinder" for its Megaflo HE and PremierPlus large unvented systems will help to ensure the Heatrae Sadia and Santon brands continue to be seen as the first choice for commercial water heating — leading through innovation, performance, reliability and energy efficiency.

Watch out for details on a brand new range of Heatrae Sadia Electric panel heaters which will be available this summer from Potterton Myson Ireland Ltd.

Contact: Sales Office, Potterton Myson (Ireland).
Tel: 01 - 469 0870;
email: post@potterton-myson.ie
designing BUILDING SERVICES

reliable fire detection

The purpose of any fire detection system should be to prevent a fire breaking out as the damage from smoke and fire can be costly in terms of lost business associated with downtime. The cost associated also with the suppression or containment of a fire can be considerable, hence an underlying principle with fire detection should be to provide the most reliable smoke detection possible (see Figure 1).

It will never be possible to eliminate the possibility of fire entirely but it is possible to avoid loss of life and minimise the damage to property by following the standards as laid out in the code of practice for fire alarms and detection systems, IS 3218:1989. This code is currently in review and is expected to be re-issued later this year as part of EN 54. At present all fire detection and alarm equipment must comply with the European Standard EN54 Parts 1 to 14.

It is common for the local fire authority, insurance company or client to determine the level of fire detection coverage required, and whether it should be life protection or property protection. L1/M, the most complete coverage which protects persons and property, is usual when starting any design. Other factors which will drive the design of a system include:
- Type and speed of fire/smoke detection;
- Cost of equipment;
- System performance and reliability relating to anticipated/expected fire type;
- Aesthetics of any proposed system;
- Expected maintenance of proposed system.

With the advance of electronics, manufacturers have developed addressable fire detection systems providing the exact fire location, thereby reducing substantially the response time to a fire and consequently the extent of fire or smoke damage. Analogue addressable systems are very flexible as they provide the exact fire location and a reduced false fire alarm rate due to the filtering out of unwanted alarms. Detectors can be grouped into zones corresponding to the building layout and not the wiring path taken by the electrical contractor.

The fire alarm system will usually have programmable outputs to drive external equipment such as voice evacuation systems, bells, sirens, klaxons, building management system signal, etc. All analogue addressable detectors are continually monitored with specific fault indication. Pre-warning of fire may be given for any area thereby eliminating full evacuation, a feature which is particularly useful for hotels and hospitals which may require a phased evacuation.

Figure 1

![Diagram of fire detection systems]

The purpose of any fire detection system should be to prevent a fire breaking out as the damage from smoke and fire can be costly in terms of lost business associated with downtime. The cost associated also with the suppression or containment of a fire can be considerable, hence an underlying principle with fire detection should be to provide the most reliable smoke detection possible (see Figure 1).
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reliable fire detection

The types of fire detectors commonly found in today's market include:—

- Ionization smoke-type point detector;
- Optical smoke-type point detector;
- Fixed temperature/rate of rise, heat detector;
- Multisensor point type of detector (a combination of smoke and heat);
- Break glass unit;
- Beam detector;
- Aspirating smoke detection;
- High-sensitivity aspirating smoke detection;
- Linear heat detection cable;
- Ultraviolet/Infrared (UV/IR) flame detection;
- Radio-linked fire detectors, ionisation, optical.

All smoke detectors generate a fire signal when a suitable level of smoke particles pass across a beam generated by an LED or radioactive Isotope. Ambient smoke levels are analysed and processed and compared with set fire patterns or algorithms. Suitable software protocols, such as pre-warning or fire are set in motion and may instruct the fire alarm panel to operate in an evacuate mode. The system may lay inactive, thereby avoiding a nuisance alarm, or may set an evacuation procedure as already defined by the client and fire officer.

Point-type smoke detector's are very common and are generally highly reliable. With poor maintenance these items will become ineffective after approximately six years.

Ionization or optical smoke detectors are suitable in areas whose aesthetic content will not be spoiled. Maximum coverage area of a smoke detector is 10 metres square as defined in the Irish Code of Practice (IS 3218:1989). It must be stated that an ionization detector detects a non-visible smoke plume, such as that found from an over-heating PVC cable, quicker than an optical detector, but is not suitable for humid areas. If in doubt of the source of fire, a combination of ionization and optical smoke detectors gives maximum protection against a fire. Heat detectors are suitable only in areas that will not allow the siting of a smoke detector on account of potential nuisance alarms, typically in areas such as kitchens, truck delivery lobbies, stables and flour mills. Heat detectors operate by means of a fixed temperature level and/or rate of rise sensing element, typically a non-linear resistor element which provides a signal if the detection element senses a fire by a rise of air temperature. Heat detectors provide a signal too late for protection of life, as fire has already occurred and the source of the fire may be increasing.

A combination of the smoke and heat detection elements in one unit yields a "multisensor detector" which requires both heat and smoke before an alarm signal is activated. Multisensor detectors have less false alarms. However, they operate slightly slower than a point-type optical smoke detector.

The most common means of detection and still the best is the human nose. IS 3218:1989 calls for the installation of manual call points at all final exits and on escape routes. By the nature of their operation they are meant to be obvious and so they must be sited as recommended in IS 3218:1989.

Standard point-type detectors are commonly found to operate effectively in most cases. However, when the area is non-standard then other detection units are required and are listed as follows:

**Beam Detection**

Large open-plan areas such as warehouse or shopping centre concourses may be protected using beam detection. Beam detectors operate by measuring the concentration of smoke through the attention of a light beam transmitted from one point and received through another. These units are ideal for high-open-plan clean areas but they do have their limited applications as access must be readily available, not always an easy task. Beams may be affected easily by dust/mist or larger flying objects such as balloons, bats/birds.

**Line Heat Detection**

A bi-metallic strip cable (up to approx 500m in Length) will provide a noticeable change in resistance to an abrupt temperature differential. This provides the basis for a detector that may detect a fire by its heat. This system is ideal for covered car parks, tunnels, conveyer belts, or cellars but as the detection is heat, fire damage will already have occurred.
Duct Detection
A duct detector operates by taking a sample of air from a probe placed in the airflow path. The sample air flows over a smoke detector placed in an enclosure. This type of detection is common for high airflow ducts or air conditioning ducts. It is necessary in all types of building and is commonly overlooked as an early means of detection.

Flame Detection
Ultra-violet/infra red-flame detectors operate by detecting the natural UV/IR energy given off by the flame from a fire. The ranges of these units are somewhat limited as they must see the flame. Their cost and limited line of sight means that they are not commonly used. The unit is fantastic for protecting lube oil tanks for instance.

Line heat detection, flame detection and duct detection operate by detecting the heat, flame and smoke, respectively, coming from a fire. Obviously, a fire is developing rapidly at this stage and damage is already done. These forms of detection are slightly more advanced than the first three mentioned, ionization, optical and heat, but they do have their limitations.

The following two systems provide us with a means of protecting difficult access areas such as domes, or inaccessible roof voids commonly found within buildings with high-entrance lobby/atriums.

Radio-Controlled Fire Detectors
As the name suggests, these detectors communicate by means of a radio signal and this is a field with great potential. They are ideal for installing in places where cables are unacceptable or too difficult to install.

Panel-to-panel communication is about two kilometres. The ability of the equipment to change with use provides great flexibility and a site test will check the system’s suitability. Remember, detectors can only be placed in accessible areas, as the batteries will require replacing at regular intervals.

High-Sensitivity Smoke Detection System
The damage limit for differing detection systems diminishes with response, naturally enough. Very early detection system yields least damage and provides us with a very effective detection system without compromising the aesthetics of the premises to be protected. The sensitivity of detectors and systems are expressed as normal, enhanced or very high. Typical very high sensitive detectors detect by light scattering obstruction per metre, particle counts per unit volume, or a combination of the two.

A high-sensitivity smoke detector consists of a central, very early warning, detector which analyses samples of air taken from a network of pipes. The pipes are routed along ceilings with holes drilled in positions where a normal detector would be sited. The decorative ceilings found in great buildings, for example, are areas where we may discreetly place air sample capillaries.

Most aspirating detection systems employ a range of sensitivities depending on site conditions and provide an ideal fire detection system. Air from each area is drawn through the pipes back to the detector. The graph in Figure 2 indicates the reduction in fire damage by detecting an incipient fire at the earliest possible moment. This now provides us with a very effective unique way of
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reliable fire detection

protecting previously difficult/sensitive spaces such as heritage buildings, churches, highly decorated rooms, domes (Figure 3).

Future Trends
It is impossible to predict the future of detection principles. However, technology advances all the time and one manufacturer has developed a system whereby the detector performs a self-check or "self verify" process that actually tests the detector fully each day and will print out a log of faulty units on a site. This increase in reliability will further increase the protection of people and property from a fire.

Another manufacturer has developed a unit that detects the presence of a person within a room and provides the fire brigade with the room location at the fire panel to aid in evacuation. Yet another system supplier has developed a "video detection" system that "sees" a flame and will yield a fire signal in the event of a fire.

Disregarding future detection developments, it is clear that the most important factor in providing a reliable detection system is to install a suitable detection device into the area of protection. The fire detection coverage within any premises should be "complete", meaning that there should be no possibility of a fire causing death or building damage.

So, it follows that reliability is what is required above all else from any fire detection and alarm system. A reliable fire detection system may be achieved by applying the most suitable detector for each area and by applying a good maintenance regime which regularly tests the detectors, sounders and associated ancillary items.

Martin Carpenter, PM Group is a Senior Electrical Engineer specialising in fire safety. He is a Fellow of the Institute of Engineers in Ireland (FIEI) and has over 18 years experience in systems design, construction, project management and engineering across a broad range of projects. These include power generation, hospitals, hotels, and internet hosting and data centres, in Ireland, the UK and US. Martin's expertise includes high-technology installations, power systems and design of life safety systems in engineering design and management, project management, contract and installation management, procurement and project planning, and business development.
Up to 25% Energy Saving Possible with Building Management & Automated Systems

As discussions on climate change and the rising cost of energy continue, the focus on buildings — and building services in particular — has never been greater. The burden of responsibility on consulting engineers, mechanical and electrical contractors, and manufacturers serving the sector has never been greater. Both individually and collectively, they are now charged with devising innovative building services solutions which are higher-performing, yet more energy-efficient and cheaper to install and run.

According to estimates revealed at the Light+Building international trade fair in Frankfurt last month, approximately 40% of the world's energy is consumed by the building services sector. Intelligent building services technology can contribute to a significant reduction in this usage by unlocking the dormant potential for energy savings. To this end, a key role is played by automated systems — so far largely in non-residential buildings, but increasingly in residential buildings too.

At the recent Light+Building show world-leading manufacturers, as well as noted experts and representative organisations from all sectors of house and building automation, showcased new products and systems which are designed to save energy while, at the same time, increasing security, convenience and comfort for users.

"Installing energy-efficient building automation can effectively reduce energy use by up to 25%" explained Werner Ueberrhein, Chairman of the Professional Association for Automation + Management in Homes + Buildings. He maintained that there are now excellent opportunities for progressive and innovative suppliers to capitalise on the growing need and enthusiasm of the marketplace for products and systems which are high-performing, energy-efficient and eco-friendly. He also suggested that both the business and home market segments are willing to pay a premium for such well-designed products and systems.

"There is an enormous potential for saving energy lying dormant in our buildings, just waiting to be exploited with the application of appropriate technologies", said Ueberrhein, "be it in new builds or refurbishment. Modern automation technology helps to reduce energy costs in sustainable ways and thus significantly increase energy efficiency. The future clearly belongs to system solutions.

"The current discussions on energy issues will give innovative providers the opportunity to establish their energy efficient products even more firmly and broadly in the market. The reluctance to invest in this area up to now will turn into a growing enthusiasm for investment.

"In concrete terms, this also means that energy efficiency will not be bought at the expense of comfort, security or reliability. On the contrary: carefully-planned use of the latest technology makes possible long-term, sustainable improvement in the overall performance."

"This begins with the collection of data. It is only when we measure correctly and know how much and where energy is being used that we can also regulate its use appropriately. To this end, a key role is played by automated systems - so far largely in non-residential buildings, but increasingly in residential buildings too.

When asked how important integrated system solutions are at present Mr Ueberrhein said: "Unfortunately, too little thought is given in construction to solutions which cross over between the various trades in terms of a total building solution. This is an historical situation..."
Up to 25% Energy Saving Possible with Building Management & Automated Systems

due to the many different contributory trades in the construction industry. Traditionally, there was a clearly-demarcated system for awarding contracts which was oriented towards individual trades and this leads to a blinkered approach. It makes for a lot of unnecessary redundancy, which the developer and the client could well do without.

"A holistic approach, coupled with the necessary experience and technical competence, is crucially important. The future clearly belongs to system solutions, even if we are a long way away from this in many places today. In the light of ever-increasing pressures on costs, I would hope for interdisciplinary integrated system solutions.

Further reinforcing this trend, the European Building Automation and Controls Association is campaigning for a standardised certification of products which would be valid throughout Europe.

According to some leading sources over a third of the energy requirements for buildings can be attributed to non-residential buildings, especially for heating, ventilation, air-conditioning, process heat, hot water and lighting. Most important are those integrated solutions which, alongside energy efficiency, focus on security, convenience and flexibility.

Moreover, an energy management system helps to evaluate the potential for energy savings and, through the implementation of appropriate economy measures, to bring down running costs sustainably on a long-term basis. All involved in the sector agree that larger, non-residential, buildings can only become energy efficient through the use of building automation systems and of functionality which crosses traditional trade boundaries.

Offering greater comfort in domestic dwellings with lower heating costs, intelligent house technology is increasingly finding its way into the home. Modern house automation systems control heating, ventilation, blinds and lighting according to need, and thus provide for a comfortable indoor climate with appropriate mood lighting. More to the point, they do so in a cost-effective and energy-efficient manner. The application of internationally standardised communications interfaces such as EIB (European Installation Bus) and KNX (Konnex Association) ensure solutions that are both flexible and future-proof. Security features, such as smoke detectors, window contacts and light controls can also be added.

The technology is already in existence; it is tried and tested; and it is suitable for daily use. It is now up to building services professionals to convey that message to commercial and industrial clients, as well as householders, so that the benefits of the many innovative building services management systems and products now available from manufacturers can be realised.
DESIGO combines flexibility, scalability, simplicity and openness making it the ideal building management system for the control and supervision of HVAC and other building services.

DESIGO uses future orientated communication based on BACNet standards.

DESIGO can provide a comfortable working environment for building occupants, ensure compliance with current energy legislation and contribute significantly to reducing energy usage leading to a smaller carbon footprint.

DESIGO is available exclusively from our nationwide network of solution partners. Talk to us to find out more. Telephone: 01 - 460 2600 email: sales@sirus.ie

www.sirus.ie
Cylon provides an energy management solution for hotels which not only highlights areas of wastage but is also intelligent enough to automatically reduce unnecessary energy load. The Cylon system can control all the heating, ventilation, air conditioning and lighting in a single system, thereby ensuring occupant comfort while energy savings are achieved by having rooms at lower energy setback when rooms are not booked. A digital signal is picked up from the reservation system when the room is checked in. The Cylon BEMS then puts the room into comfort conditions. Up to 2000 rooms can be handled using a single gateway.

The Cylon BEMS is a fully integrated suite of products that can be easily combined for deployment at any size organisation, from the single-property hotel to global, multi-branded hotel chain environments. Integration can be easily achieved with related building systems such as fire and security.

Unitron Energy Manager can help save between 5% and 25% on annual utility bills. It is a software package that allows hotel operators to identify and minimise wastage by monitoring and tracking energy usage in real-time. Real-time information on utility usage allows the hotel owner to keep a close eye on energy consumption.

Cylon Controls is the Irish market leader in BEMS and its products are entirely manufactured and sourced in Ireland. Cylon’s business model is built around its partnership with local system integrators. Indeed, Cylon works through a network of 10 leading Cylon Approved System Integrators throughout Ireland. This offers plenty of options when it comes to supplying and maintaining a Cylon system and ensures competitive service and support for all projects, big or small.

Contact Richard Gladney, Ireland & UK Sales Manager, Cylon. Tel: 01-245 0500; email: richard.gladney@cylon.com

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The Cylon solution includes an optional in-room controller for individual fan coil control. This simple low-cost thermostat allows the guest to select his/her desired temperature within the bands set. It can also be linked to the in-room key card to save even more energy. When the room is unoccupied the room will automatically fall back to a more energy efficient setback temperature.
Building Management Systems

Sirus Makes BMS Solutions Easy With Siemens

The need for the energy efficient operation of buildings has two main drivers — businesses looking to reduce their energy costs and carbon footprint, and the need to comply with legislation. The Energy Performance of Buildings Directive (EPBD), coupled with the requirements of new elements of Part L of the Building Regulations, means that building owners need to find a way of recording and demonstrating energy usage. This is where building management systems and automatic targeting and monitoring comes in.

Siemens is one of the market-leaders in BMS with many years experience in the field. Its extensive range of systems can be customised to suit each application to provide a comfortable working environment for building occupants, while also delivering significant energy savings, reducing the carbon footprint, and ensuring legislation compliance.

All too often the capabilities of BMS systems are not fully utilised and the potential benefits are lost. This does not happen with Siemens BMS solutions. At the centre of each is the Desigo range which combines flexibility, scaleability, simplicity and openness, making it the ideal building energy management system for the control and supervision of HVAC and other building services.

Sometimes the most vital components in a HVAC control system are forgotten. High quality field devices are vital in guaranteeing that accurate monitoring and control is achieved. This helps to ensure energy efficient operation of the site. Siemens takes pride in having a comprehensive product portfolio of high quality, reliable, robust and accurate field devices that deliver these requirements. Included are valves and actuators, damper actuators and sensors.

Take for instance the magnetic valve range. With a positioning time of less than two seconds and at a stroke resolution of at least 0.001, they are unbeatable with regard to energy efficiency and comfort.

Then there are the high efficiency motors and variable speed drives. Fitting an energy efficient motor to a pump or fan can lead to considerable energy savings. Siemens offers a comprehensive range to meet all needs. Adding a variable speed drive can further improve energy efficiency as the device being controlled is only working at the required percentage rather than at full power the whole time.

It is also vital to have an accurate way of measuring the current energy consumption using meters. Owners of larger sites are not only required to monitor their incoming utilities with primary meters but to install secondary sub-metering at key areas. This means consumption can be measured for individual zones allowing fairer cost allocation. Siemens has an extensive range of heat meters and gas, electricity and water meters. All comply with the Measuring Instrument Directive (MID). They feature communication options allowing data transfer to a BMS for further analysis.

When it comes to control algorithms Siemens units are proven in a multitude of projects, be it the standard range such as the Sigmagyr heating controllers or the the freely-programmable Desigo PX automation stations.

Correct time scheduling is also critical to the energy efficient operation of plant and Siemens' Desigo Insight allows central programming of scheduled functions for building services plant. This can be done direct on site or remotely using telephone or web-based technology.

Moreover, information from field devices such as sensors and meters can be automatically collected by the Desigo system and logged. This can then be recorded and analysed, helping to identify problem areas where energy usage is high, and to then put in place corrective action.

Contact: Martin Keogh, Sirius Engineering Systems. Tel: 01 - 460 2600; email: sales@sirus.ie
The first BTU outing of the year took place on last month at the prestigious new 27-hole Dunlaoire golf club in South Co Dublin. The challenging course is complemented by the excellent facilities in the new club house while the visit was made extra special in that this year's Dunlaoire Captain is Michael Morrissey, a recent past captain of the BTU.

Over 50 members and guests enjoyed the day which was sponsored by American Standard / Armitage Shanks with Jim Ennis in attendance to present the prizes. Results were as follows:

**Overall Winner**
Des Haughton (H15), 36pts

**Class 1**
First — Gerard Hutchinson (H6), 36pts;
Second — Robert Kenny (H9), 34pts (Back Nine);
Third — Dermot Ryan (H9), 34pts.

**Class 2**
First — Derek Whelan (H14), 35pts (Back Nine);
Second — Shemas Kiernan (H16), 35pts;
Third — Bernie Costelloe (H14), 32pts.

**Class 3**
First — Martin McKeon (H24), 33pts;
Second — Bill Treacy (H18), 30pts;
Third — Stephen Jones (H20), 28pts (Back Nine).

**Front Nine**
Sean Stenson 16pts.

**Back Nine**
Michael Morrissey 18pts.

**Visitors Prize**
Brendan Blake 29pts.
Carrier has devised a range of heat pump solutions incorporating a contemporary and original heating design aimed at providing optimum comfort, reducing energy consumption while caring for the environment.

The core concept of the design is simple — reduce energy usage by the addition of naturally-occurring energy sources such as air (air source) and ground (ground source). By incorporating advanced, hi-tech, centralised controls, multi-zones, and all the necessary detection and programming devices, it is possible to provide the ultimate solution for virtually any application.

Designed as the electronic brain of the system, the system interface is the module in charge of the heat transfer via the water circuit to the heat distributors, which it also controls. Provided with the latest-generation microprocessors, the interface acts intelligently according to the chosen settings and the data that it receives on a continuous basis from the outside and inside room temperature sensors. It also monitors the installation safety and, depending on the design, may supply supplementary energy.

The choice of heat distributors varies according to each project and is governed by the nature of the particular application and/or aesthetic design preferences. All options are possible, be it low-temperature underfloor heating, radiators or even fan coil units.

Hot water production is particularly energy-intensive but the ODBI water heater Carrier incorporates into the system can divide electricity consumption by three in all cases, compared with a standard water heater. It uses the leaving hot water to heat 280lt of water. For an electrical consumption of 1 kW/h, the water heater provides up to three, 11 kW/h.

Contact: Paul Scheppe, Core Air Conditioning.
Tel: 01 - 809 8912;
email: paul@coreac.com
Rock climbing as a sport is extremely popular on the Continent but it is definitely a minority pursuit in Ireland. Enthusiasts are numbered in their hundreds at most, Hugh Reynolds, Manager, Mechanical/HVAC at Jacobs Engineering Ireland, being one.

Having hiked extensively throughout Ireland, Scotland and Wales, Hugh and some friends planned a climbing trip to the Alps. As part of their preparations they sought to learn some basic safety skills, including rope-handling techniques, and so enrolled in an introductory course run by the Irish Mountaineering Club. Hugh did his introductory course in Dalkey Quarry, a very popular spot for rock climbers. There are something like 250 routes in the quarry, all of varying levels of difficulty. It is quite an amazing facility to have within a city/urban setting and one which novices and experienced climbers make great use of.

On returning from the Alps trip Hugh developed more and more contacts in rock climbing and gradually became immersed in the sport. Apart from the obvious exhilaration of climbing sheer rock faces, Hugh is equally taken with the mental intensity it requires. When climbing he is totally focussed on the task at hand with all other thoughts banished from his mind. Concentration is absolute as the consequences of a mistake can be very serious.

Safety is paramount with rock climbing and people rarely climb on their own. The norm is for two to climb. It is like a buddy system where climbers work very closely together, their respective safety being totally inter-dependent. More often than not people climb with the same person, or might have a number of regular partners.

As a qualified mechanical engineer (he did his degree at Trinity), Hugh is well suited to rock climbing. It demands a very detailed and disciplined mentality, in addition to patience and an ability to be very considered and calculating. Hugh is all those things.

Then there is the kit. Apart from obvious items such as the harness, ropes, chalk bag, helmet and rock boots, there are tricams, hexes, friends (not the human type) and nuts, all of which are attached to the harness on a special rack. It seems odd enough that anyone would want to scale sheer rock faces for fun but, to don a massive weighted harness while doing so seems — to the uninstructed — suicidal.

That said, serious accidents are very rare. The whole nature of the sport and the safety protocols are such that serious climbers generally don’t make mistakes. Even when they do, the planning and preparation is such that they have all the required safety measures in place and so serious injuries are thankfully relatively rare.

Such is Hugh’s confidence in the sport that his five year old daughter, Hannah, is already learning the ropes (so to speak) ... wonder if she is going to be a mechanical engineer as well?
Under the steerage of the NSAI, the current initiative aimed at compiling a Code of Practice for plumbers is an excellent first step but, what comes next?

Whether occupied with new-builds or maintaining domestic installations, the work output of a plumber is usually driven by the demands of the builder and/or the householder. Rarely are these demands for officially-compliant, by-the-book, work. In these circumstances, and with no higher power to answer to, it is easy to see why standards have slipped. There are obviously plumbers who take to cutting corners very well but the vast majority have merely "lost their way", mainly because they have had to compete with unscrupulous, price-driven, competition.

Against this background it is unlikely that individual plumbers will volunteer to constrain themselves by adopting more stringent rules while those around them can get away with doing it the haphazard way.

Is a compulsory certification scheme the only way forward? To implement such a plan we certainly have enough experiences to draw on from other trades, both here and abroad. Moreover, the Bord Gais Registered Gas Installer scheme has also smartened up many individuals. Then there is the Commission for Energy Regulation's legislation which could see regulation of electrical and gas installers coming on stream as early as January 2009 (see pages 16/17).

The real challenge is who is going to support, police and protect plumbers following the righteous path? For a certification system to work properly, there needs to be a significant body of inspectors capable of, and eager to, punish wrongdoers with more than a stern look and a gentle warning.

Nor should plumbers be held responsible for all plumbing issues. For instance, what about suppliers selling effectively "illegal" equipment? Having different rules and regulations as you move from one council area to another doesn't help the cause either.

A positive benefit of certification is that there would now be a clear path down which to disseminate new rules, regulations and advice. Realistically, churning out new policies and expecting the target market to embrace them isn’t going to work immediately but it will provide a positive framework to build on.

Who else should be involved in the process of certification? Insurance companies should have a vested interest in ensuring compliance. Manufacturers could also decide not to honour warranties on their products if they are incorrectly installed and/or commissioned.

Overall the better option is for the plumbing industry to move together as a single body made up of all interested parties — contractors, suppliers, manufacturers, education institutes, government bodies and trade associations. Working together they can gain the power to control certification and clean up the business.

Motivating the relevant parties to get involved is another issue but, with the development of the forthcoming NSAI Code of Practice, we at least have a base to start from.

John Kealy is a time-served plumber, has a degree in mechanical engineering and a Masters in electronic engineering. He has worked as a plumber and engineering consultant, and now runs his own business Plumber on Duty. He is also a member of the Plumbing Working Group of the NSAI's Plumbing & Heating Committee.
As one of the leading distributors of heating equipment in Ireland, Precision Heating has always been to the forefront in introducing cutting-edge technology from industry brand leaders. This is particularly so with Viessmann with whom Precision has had a long-standing and very successful trading partnership. The latest innovative products to be added to the Viessmann portfolio are the Vitosol solar thermal systems and the Vitodens range of high-efficiency gas condensing boilers.

Vitosol solar panels are designed and manufactured for performance and long-term reliability. The high-quality, corrosion-resistant materials used include stainless steel, copper, borosilicate glass and Sol-Titanium absorber coating which ensure high efficiency. Both flat panels and tubes are available, the two product options offering outstanding efficiency and performance.

Tube systems represent a greater initial investment but they offer more flexibility in terms of positioning. Individual tubes are also more easily transferred to the roof. Flat panels, while larger, have optional colour-coded frames and are considered to integrate better visually.

All Vitosol panels are easily connected to form a series of solar collectors to match any given hot water requirement. Viessmann and Precision also provide comprehensive training for installers and offer a specially-devised software programme to aid system sizing and design. Both solar panel types can be sited almost anywhere on flat or pitched roofs and walls, while individual tubes can be rotated to best capture energy from the sun’s rays.

As for the new Vitodens system and combi-plus boiler range, these are suitable for both new-build and replacement applications on sealed systems. All boilers in the range combine great performance with easy installation, simple maintenance and a 3-year warranty. Key features include stainless steel heat exchanger; modulating stainless steel burner; integral Aquabloc hydraulic unit for easy service and maintenance; pre-heat function on the combi-plus; and extremely quiet operation.

The modulating action of the stainless steel burner accurately matches output to the heat requirement for comfort and efficiency, while the pre-heat function on the combi-plus provides speedy hot water delivery. Thanks to Aquabloc, all hydraulic connections, along with the diverter valve, are centrally mounted and easily accessible for quick and easy routine maintenance. With internal and external controls, these models also have the option of plug-in timers. A kit will be available shortly to enable the boilers work in weather-compensation mode.

Thanks to the modular platform technology, all Viessmann condensing boilers are 100% compatible with all Viessmann heating products, including the solar panels, heat pumps, heat recovery units and underfloor heating.

Contact: Stephen Browne, Sales Manager, Precision Heating. Tel: 01 - 809 1571; email: sbrowne@precisionheating.ie
Leading service providers in the building services sector, be they consultants, contractors or product suppliers, are increasingly aware of the growing diversity, complexity and sophistication of the systems they provide. Indeed, in recent years they have had great difficulty in identifying suitably-qualified staff to fill these new-emerging roles.

What the marketplace now demands is competent electrical services engineers who can straddle the divide between what was traditionally viewed as a mechanical or electrical product. DIT recognised this some years ago and is now producing graduates to fill this role.

This year's students will shortly come on stream and so are now in the market for employment. Additionally — and given the time of year — many of the higher certificate students are also available to undertake summer contract work.

All are specialists in electrical services design and have invaluable attributes at both technician and engineer level. They also have extensive knowledge of related engineering disciplines. These include:

- Electrical Services Systems;
- Lighting Design;
- Electrical Services Plant;
- Project Management and Estimating;
- Industrial Automation and Environmental Control;
- Building Services Design;
- Computer Aided Drawing (CAD).

If you have a current or impending vacancy within your organisation (be it full-time or part-time), one of these students will fit the bill.

Contact: Keith Sunderland, Industrial Liaison Officer, Department of Electrical Services Engineering, DIT Kevin St, Dublin 8.
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Having heard of Denis Judge's recent resignation as Vice President of the AECI, bs news took advantage of a chance meeting with him in Dublin to discuss his position and also his thoughts on the future of the electrical contracting industry in Ireland as a whole.

Denis is third-generation electrician in the Judge family. He follows in the footsteps of his late father who worked on many of the hospitals around Ireland and his late grandfather who worked on the early power generation stations. Electrical contracting is firmly in his blood and he also has two nephews in Cork who provide fourth-generation continuity in the business.

In addition to running his own contracting firm, Denis has always taken the broader view and actively contributed to the well-being of the industry at large, primarily by way of various roles within the Association of Electrical Contractors of Ireland (AECI). Having risen to the position of AECI Vice-President Denis would normally have assumed the role of President from this month's AGM. However, because of certain issues he felt it necessary to resign as Vice-President recently and so this will not now happen.

Denis is very saddened at how the role of electricians/electrical contractors is perceived within the construction industry in general. He feels their experience, expertise, qualifications and the quality of their workmanship counts for nothing any more, the only deciding factor when it comes to winning or losing a tender/quotation being the figure on the bottom line. While talking specifically about electrical contracting, much of what he has to say also holds true for plumbing and mechanical contracting.

Denis has a jaundiced view of the tendering process. He believes that far too often the standard of materials specified on the original tender documents somehow gets changed into the "similar" category and then, during installation, falls into the "spurious product line" category. The result can be shoddy, and downright dangerous, installations. The day of the difference between tenders being in the region of 5% is long gone; now it can be 20%, 30% and even 50%. "This should be ringing alarm bells with everybody involved in a project", says Denis. "Surely not all are coming up with the wrong answer to the sum.

"The workmanship on some electrical installations — whether industrial or domestic — is of such a poor standard that the ratio of apprentices to qualified electricians on those projects must have been 20/30 apprentices to every one qualified man. Not too many years ago we had a ratio of two apprentices to every qualified man, ensuring that the apprentices were properly trained and supervised to the highest standard. Alas, the Celtic Tiger must have swallowed that page in the rule book as it has not been implemented or enforced in such a long time.

"Electricians were always the most multi-faceted tradesman on a site. In addition to their own work they also had a fair working knowledge of the mechanical, and could cut and fit a trapdoor and lift and lay some floor boards.
"Electricians were always the most multi-faceted tradesman on a site. In addition to their own work they also had a fair working knowledge of the mechanical, and could cut and fit a trapdoor and lift and lay some floor boards."

"Now all I hear from electricians looking for a job is that they are domestic electricians or commercial electricians. Where they came up with that distinction I don't know. An electrician is a person, a competent person who can pick the right type of cable, size cables and number of cores required, install cable containment, install cables, and terminate cables into whatever it is feeding or controlling or taking signals from.

"Compounding this general malaise is the very serious matter of non-compliance, especially by black economy operators. This is destroying our standards and our businesses, not to mention our industry. The fact of the matter is that unless all big, medium and small contractors, including the one-man operators, pay the correct pay rates and pension contributions — and this is regulated professionally and swiftly — many electrical contractors will go out of business.

"I welcome the setting up of the National Employment Rights Authority (NERA) by the Department of Trade and Enterprise. However, on very carefully studying its Employment Law Compliance Bill 2008 which was unveiled on 18 March 2008, I feel that this has not gone far enough. In my view there are some fundamental flaws. For example, this Bill has no in-built preventative measures to deter someone from becoming non-compliant in the first place. It only deals with the defaulters after the fact. Nor does it address subcontractors working under a main contractor.

"The wage rates negotiated every year in the industry are based on a now-antiquated dysfunctional analogue system. Like the pay increase in 2007, this year's increase has come up with a rate that will only widen the percentage difference between compliant and non-compliant contractors, thereby putting further pressure on compliant contractors. There is something radically wrong when, on the one hand, we have employee bodies fighting for more money for qualified electricians while, on the other, these qualified electricians are being forced to work for third-year rates."

Denis says there is a relatively simple solution to all these problems. He has worked on this issue since 2004 and sent his Draft C2E Proposal to all government ministers and relevant bodies. However, he has heard nothing back. In his opinion they are trying to reinvent the wheel all over again. Essentially, Denis believes all Government bodies should set up reporting lines to each other with the final say resting with the Department of the Revenue Commissioner's C2 Section. "This was done very successfully when they formed CAB — why not apply the same principles to regulating electrical contracting?", he asks.

The aforementioned points are only some of the many issues relating to electrical contracting which Denis Judge wants to bring to the attention of the Government. He is currently making independent representations to Government ministers and relevant Government bodies. However, there are many like-minded electrical contractors throughout the country and the signs are that they will come together shortly in a new initiative to coordinate this representation process.

Those interested in talking to Denis Judge about the issues raised in this interview can contact him at Tel: 0909 - 645544; Mobile: 087- 254 0080; email: denisjudge@eircom.net
Croke Park Lighting
Design by Vietnam-born Expert Who Was Inspired by Irishman!

The SLL technical evening held in the DIT Kevin St last month had 60 attendees and was a most successful event. The first speaker was Mark Reilly of Arup who is also a recent graduate of the Electrical Services Engineering programme in Kevin Street. He presented his award-winning Young Lighter 2007 paper on Stadia floodlighting.

The second speaker was the world-renowned lighting designer Huu Chi Tran of Thorn Lighting. He has designed floodlighting for Wembley Stadium, Telstra Stadium in Sydney, Super Bowl XLI in Miami, the world's largest-lit racecourse in Ryadh, and the largest lit golf course in Asia in Shenzhen China. That said, his presentation was on the design of the floodlighting of Croke Park, Dublin.

Mark Reilly of Arup, in a thorough and insightful presentation, explained the importance of luminaire selection that aims to maximise efficiency and minimise lightspill. He emphasised the importance of lamp selection with regard to colour-rendering and colour temperature (4000K to 6500K).

The demands for adequate illuminance and uniformity for colour television were highlighted. The vertical illuminance for good visibility of players was essential to meet broadcasting requirements for slow motion replays and close-up shots, because the resulting small depth of field could mean that players in different planes might not be in focus at the same time. Glare depends on luminous intensity distribution, the aiming of...
luminaires, their number arrangement and mounting height. This all laid a perfect foundation for the next speaker.

Huu Chi Tran of Thorn Lighting provided a comprehensive, informative and entertaining report on the Croke Park project. Born in Vietnam, he first acquired an interest in lighting design from an Irishman in the 1960s. He arrived in Ireland for the Croke Park project 40 years later and immediately requested illuminance requirements for Gaelic games – there were none. He was faced with a horseshoe-type stadium with the famous Hill 16 development restricted because of planning restrictions.

High definition television requirements were also raised for the first time with the suggestion by television companies that the illuminance requirements would now need to be higher. Not so, according to Huu Chi, who proved that the signal to noise ratio for high definition transmission was not such as to require higher levels of illuminance – thus saving the client considerable capital and running costs, not to mention reductions in greenhouse gas emissions.

Croke Park is designed for nine different light levels. Maximum horizontal illuminance is 2000 lux but the much more critical vertical illuminance is 1400 lux. There was much animated angst expressed by Huu Chi when the clients decided to install a large (black) back net behind the goal for health and safety reasons, to protect spectators from risk of being hit with a very hard and fast hurling ball. This net resulted in significant attenuation of light at the Hill 16 end. Huu Chi minimised this problem by ensuring the light hit the net at 90°, thus minimising light loss.

Similarly, Huu Chi was very upset when the decision was made to install giant screens in positions that blocked the light. Huu Chi also overcame this and other adversity in his most efficient and charming way. His presentation delighted the large audience gathered at the Dublin Institute of Technology.

This was undoubtedly one of the most informative, and entertaining, technical evenings in the current programme and augers well for the high standard now set for forthcoming events.

Contact: Kevin Kelly, SLL Representative.

email: kevin.kelly@dit.ie
**Plumb Lines**

heard it on the grapevine...

**Road Energy to Become the Rage?**

According to some experts, road energy can generate half the energy of a solar roof panel at about a 12th of the cost. Not surprisingly, officials are also testing the technology to heat and cool buildings with a number of pilot schemes already up and running.

For instance, a school is experimenting with pipes buried underneath the playground; a supermarket car park is being similarly tested; a tennis court in the garden of a large house is being used with a view to collecting enough energy to heat the swimming pool; while airports — which currently use chemical sprays to keep runways ice/snow-free — are also very interested.

Green is running training courses to help the industry get to grips with the invader.

Dr Eleanor Ballard of the company said: “One application of weed killer will not solve the problem. We are working with a range of public and private sector organisations to identify the plant on their sites and produce management plans to assist in its removal”.

Be on your guard!

**Knotty Japanese Invasion**

Property developers across Northern Ireland are facing a knotty problem that threatens local wildlife and has the potential to damage buildings. The culprit is Japanese knotweed, described by consultants at White Young Green Ireland as “an ecological bully”.

The weed can cause extensive damage to buildings and is such a threat to the environment that it is illegal to cause it to spread in the wild. White Young

**All For One and ...**

Still on the subject of the CIBSE Conference, it is also important to note the emergence of a somewhat new phenomena within the building services sector — unity! This event is noticeable for the manner in which it brings consultants and product suppliers together in a structured but relaxed format where information-sharing is the order of the day. Something like 50 leading manufacturers and product suppliers not only sponsored the event but also sent delegates to participate. They engaged with one another, and the large number of consultants and contractors present, in a unique forum which is fast becoming the primary building services event of the year.

**Gas Regulator Body Shoe-In?**

Talk within the industry at present is that the appointment of the designated body to act as the Gas Safety Supervisory Body is a foregone conclusion. No one has any real problem with the body being named but there is concern that it is said to be conducting telephone surveys among installers before the announcement is made.

Moreover, a key element of the CER transition strategy towards the implementation of the new regime is also causing concern. While no one is against the CER encouraging installers to become members of the Bord Gais Register of Gas Installers, its proposal in the recently-published Criteria Document that members of the Register will automatically transfer into the new regulatory regime on 1 January 2009 is being questioned.

There is no problem with installers on the Register automatically transferring but, why then should bona fide installers not on the Register be treated differently? Normal practice in these situations is for the “grandfather clause” to apply. It seems inevitable that a challenge will be made if some installers get an unfair advantage over others without there being clearly-defined reasons.

**Tall Tales of Tall Buildings**

As we went to press the CIBSE Annual Conference on “Building Services for Tall Buildings” took place at Clontarf Castle in Dublin. The speaker line-up of international and home-based experts was exceptional and they delivered an informative and thought-provoking array of papers throughout the course of the day. Full marks to all involved, bs news will have a comprehensive report in the June issue.
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