It never rains, but it pours

Seeing is believing

What lies around the bend

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Welcome to your latest newsletter....

Welcome to the latest SoPHE News. The editorial team are committed to providing the right mix of articles to motivate, inspire and provide insight to deliver more from your membership, as well as assist you!

This newsletter has been written by public health engineers, for public health engineers to bring you the latest on technology, technical updates, changes to codes and legislation, as well as highlight what's occurring in our field around the globe.

Just in the nick of time for the Annual SoPHE Dinner, this issue of SoPHE News focuses specifically on what is going on behind the scenes and how you can further assist in redefining the Public Health industry.

Inside this mammoth issue, you'll find also find our regular columns and features.

SoPHE Chair Steve Vaughan provides an insight into how far we have come in recent times and the strategy moving forward.

Brian Whorlow provides a further update on progress of the innovative and exciting LUNA (loading unit normalisation assesment) project. Incidentally, the LUNA group are still seeking commercial sponsors, so if there are Industrial Associates who would like to be associated with this important project, we would welcome further discussion with you.

Ian Fellingham, discusses the forward thinking strategy of the Education Working Group in his column reviewing the problems associated with enticing engineers to PHE.

Paul Angus discusses retrofit projects, reviewing the issues associated and thinking out the box solutions.

The SoPHE Newsletter Sponsorship, courtesy of Andrews Water Heaters, who delve into the ERP and highlight how this affects you.

Whether its making your day a little more enjoyable, or helping you increase your knowledge and awareness with the technical articles, SoPHE News wants to hear and share what matters to you.

Connect with SoPHE News online. Tweet us @The_SoPHE or search for the SoPHE News group page on LinkedIn.

Now sit back, relax and enjoy the read as we help accelerate your success - The SoPHE Editorial Team.

Advertising or editorial queries Paul Angus info@sophe.org.uk
A very warm welcome to you all as I write on behalf of SoPHE as your new Chair, following the society annual general meeting in June when the then current Chair, Chris Northey handed over this position to me after five extremely enthusiastic and productive years at the helm. It is without doubt that I am very fortunate to continue to build on such a stable platform that Chris and indeed so many of the steering committee, regional representatives and members have laid down over previous years. The enthusiasm of all past chair’s and steering committee members (all of which are volunteers) which has been such an important part of the society since its formation 13 years ago provides me with a very auspicious position, allowing me to support the society in hopefully forging yet another successful chapter in its history.

So, as I step up to the mark you would think that Chris would be taking it a little easier but that couldn’t be further from the truth as not only will Chris be retaining his position on the societies membership panel, but late last year he became President of IHEEM and high on his agenda is forging better relationships between other societies such as ours, so as always Chris continues to fly the flag for public health engineers. I personally thank Chris for his tireless efforts as immediate past chairman and also wish him, on behalf of myself and all SoPHE members good luck in his new role within IHEEM.

Moving on to our societies plans for the future, we will continue to focus on technical development, building and growing the already successful regional technical events. With the recent formation of two new regions (East Anglia and West Country) as well as the resurrection of the Scotland region, we have never been in a better position to serve our members with structured technical events, SoPHE Technical Bulletins (as detailed within the technical steering group update). However, I would like to see more emphasis on what some outside of our profession would consider specialist technical conferences, such as the successful building drainage conference earlier in January (2014 and 2015) as such events provide significant value for our members and also continue to elevate the status of not only our society but for public health engineering as a whole.

Also at the forefront of my mind is the current lack of structured training routes particularly for trainee and graduate engineers who wish to progress a career in public health engineering. In recent months, the education committee have been investigating opportunities to work closer with establishments such as City & Guilds, and it is this collaborative working whether it is with local providers or further afield with organisations such as the American Society of Plumbing Engineers that we wish to work alongside with the ultimate goal of providing a SoPHE endorsed training matrix that employees and employers can refer to for advice on the suitability of courses. Furthermore, we are also fortunate to have many very supportive Industrial Associate members, many of which have first class training facilities which we can also tap into (excuse the pun!). As an example, I was lucky enough to attend and witness testing at the highest drainage test tower in the world (+120m tall), which is, believe it or not, located in Northampton (the next highest is in China!) and all thanks to some of our industry members; we plan to arrange a similar SoPHE members visit in the near future.

We have also seen an astounding 30% growth of membership in the last 18 months, now with well to over 400 members. Many of the new members are at student grade which is really great for the society and industry as it gives us the opportunity to reach out to the future leaders of our industry and support them with much needed training and mentoring. I therefore ask that if you are willing and able to assist at any level with the Education steering group please do get in touch with a steering group member or myself. As you will have read in the last newsletter the SoPHE young engineers group is also developing as an integral part of the CIBSE YEN which aims to provide a forum and support network for young engineers within CIBSE and again this will assist to bolster the much needed support for less experienced engineers.

So to round up my first of many columns on behalf of our wonderful society and public health engineering industry I would like to thank you for present and future support and ask that if you are not already involved to please consider assisting the existing volunteers who make all this possible. Please do read on for all the latest updates from the steering groups and regions, I look forward to seeing you soon and hopefully at the Annual dinner on the 5th November!

**Sitting on the throne!**

In his new SoPHE Chair Column, Steve Vaughan provides an update on our strategy moving forward and how you can assist.

Due to the new building demands in Europe, in particular London where over 230 high-rise buildings are being constructed over the next 5 years, ranging from 20 floors up to 80 floors or more, plus with floor space becoming even a premium, major developers are looking at new solutions to maximise sellable space. High rise buildings push the boundaries on drainage ventilation capabilities, due to being subjected to greater loadings in differing zones at any one time. Negative and positive transients can become an inherent issue to the designer.

Extensive testing, research and proven project case studies is what we, as designers, require in order to provide us with the reassurance and confidence to further understand the complexities of designing drainage systems in high rise buildings.

But, seeing…..is believing!

**Seeing…..is believing!**

Did you know the tallest drainage testing facility in the world is virtually on your doorstep?

Sourcing facilities to test drainage systems of a suitable height that reflects the types of high-rise construction that is occurring around the world is limited, especially for testing purposes.

Previously in the UK, testing on buildings at the end of their life, as Heriot Watt University undertook at the 17 floor building in Dundee or the tallest test tower at the British Research Establishment 5 floor rig restricted the test data available for high-rise building. That was until Studor acquired the 128 meter National Test Tower in Northampton, UK.

As mentioned in Steve Vaughan’s Chair column, SoPHE will be arranging a visit, courtesy of Studor, for our members to access, inspect and interrogate the Test Tower facility, which demonstrates the full characteristics of a drainage ventilation system operation on a tall building.

Studor recently attended the CIB W62 2015 conference in Beijing publishing data on two test towers available on their website www.studor.net

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It never rains, but it pours!

Athanasios Lykartsis provides further insight into research into resilience of buildings to extreme weather events, which has the full support of SoPHE

This 3 year project is a collaboration between CIBSE and the University of West London, it aims to study the effect of extreme weather events on the resilience of buildings. More specifically this research will look into the impact of extreme hot, extreme cold, strong winds and heavy rainfall on a variety of building types. Their vulnerability to each of the extreme events will be assessed and analysed. The purpose of the study is to identify and present solutions towards increasing the resilience of buildings to those extreme weather events.

Our climate is changing and current research suggests we can expect to experience warmer and wetter winters, hotter and drier summers, rising sea levels and more extreme weather events. The impacts of those changes are already visible. According to the Met Office the two month period of December 2013 to January 2014 was for England and Wales one of, if not the most, exceptional periods of winter rainfall in at least 248 years.

SoPHE Industry Working Group & Industrial Associates - Update

The Committee is currently undergoing a re-structure, the aim being to put greater emphasis on activity in the regions such as sponsoring regional events. Suggestions from (SoPHE members) Industry Associates for an event would be most welcome, just contact any member of the IWG Committee or e-mail me at craig.chamberlain@heatraesadia.com.

There have been a number of Technical Evenings sponsored by the Industry Working Group, all of which has been a huge success. These events have taken place on The Tattershall Castle on the Embankment in London.

The Annual Dinner, again being held at the Royal Kensington Garden Hotel in London, continues to grow from strength to strength with more tables than ever, all of which were taken by sponsors soon after release. This year, with the increasing number of Industrial Associates (and their willingness to sponsor a table), each sponsor has been restricted to one table each due to the growing demand. The Northern Dinner has also been an ongoing success, with numbers increasing significantly year on year. Congratulations on all involved.

On the subject of Industrial Associates, we now have a total of 61. Over the coming year we are hoping to encourage more input from all Industrial Associates to help with SoPHE, whether it be sponsoring a table at the Dinner or the Newsletter, hosting a Technical Evening or becoming a Committee member.

On behalf of the Industry Working Group and all Industrial Associates, we look forward to working even closer with SoPHE over the coming months.

For anyone wishing to contact the IWG & IA, please contact Craig Chamberlain via sophe@cibse.org

The changes of the climate will affect the performance of new and existing buildings. In order to estimate the effect of heavy rainfall suitable weather data will be generated and will be used to perform software simulations. Based on the simulation results, this research will aim to provide optimum drainage systems and water supply solutions for each of the examined cases. Furthermore it will explore water conservation possibilities which can be linked to extreme weather events, such as rainwater harvesting, which can reduce the wholesome water demand and reliance on the services infrastructure.

SoPHE is supporting this project by providing assistance to the researcher relating to the considerations that should be given to public health and fire protection services which will significantly help this research achieve its goals. SoPHE will provide suggestions on the methods and specific areas of study to ensure the applicability of the research outputs.

SoPHE is supporting the research, offering a part time research position to assist Athanasios. Applications have been flooding in, Steve Vaughan, SoPHE Chair has been reviewing the applicants suitability with successful candidate being notified no later than 15th November 2015.

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What lies.....around the bend?

It's time to take a closer look at the importance of water conservation. Paul Angus discusses how an effective design strategy to prevent issues in future retrofits & upgrades to an existing plumbing system.

We've all been there. In unfamiliar surroundings within a building or facility and the necessity to pay a visit to the amenities unexpectedly rears its head.

For me, this is exactly how it occurred one evening last week, whilst attending a seminar in a well-established high-rise building in Sydney. As soon as I opened the door to the meeting room, I was immediately subjected to an eye-watering pungent odour, which, upon striking the back of my throat, caused me to struggle to breathe any last remaining tears from my eyes. I struggled to find any indication of how the foul smell was being maintained, only to realise that these were no ordinary urinals, these were waterless urinals.

In new buildings, waterless urinals provide a successful method of assisting in the overall reduction of water usage. Even in existing buildings, retrofitting waterless urinals can be installed quite successfully. However, an easy decision to install waterless or low-flow systems to the existing sanitary pipework requires to be carefully considered to carry the drainage pipework gradient can effectively convey low-flow rates from water efficient sanitary fixtures and fittings. In this case, the building was approximately 25 to 30 years old and would have undergone a refurbishment in the last two to three years. How this odour could possibly have gone unnoticed or not been reported to the facilities management team was a mystery in itself. Does this sound like a similar scenario? Are we only scratching the surface of future plumbing problems that may already exist in your building?

The building’s plumbing infrastructure would not be considered as being at the most critical or even a high business risk by most; however, a significant risk lies in the operation of the plumbing system as it is more important where public health can potentially be compromised, which is paramount to the continuity of any business. For example, should the water supply not be available for a significant period of time the building will effectively become uninhabitable, unproductive and, as such, a loss of earnings will be incurred, whatever the nature of the business. Could the existing plumbing system or retrofit recently installed potentially have an impact upon your tenant’s productivity and profitability? What’s around the bend and what impact could it have on you?

Avoid reactive fixs

Facilities management teams are continually implementing innovative and cost saving methods to improve existing plumbing infrastructure. In order to instil confidence with tenants and investors alike, it is paramount to ensure the operation, maintenance and inevitable replacement strategy is in place. Regular preventative maintenance can greatly assist in extending the life expectancy of hydraulic related plant, pipework and sanitary fixtures; however, upon failure these can often very quickly escalate to become a major issue resulting in the need for immediate action. When carrying out these upgrades, it is recommended that reactive or quick fix practices should be avoided, as they will inevitably cause more financial burden than relief further down the track. Taking a proactive and preventative approach to upgrades is extremely beneficial. Consider replacing out of date, inefficient plumbing fixtures with low-flow outlets or, alternatively, providing fixtures with aerators to reduce water consumption are effective methods of addressing water efficiency issues that can provide significant savings, associated within a complex building with multiple fixtures and fittings.

However, the full extent of other consequences should be considered. For example, as previously demonstrated, installing low-flow fixtures or waterless fixtures – and in conjunction with existing sanitary drainage pipework configurations – can inadvertently cause significant blockages.

Retrofitting waterless urinals may seem an effective solution; however, the existing waste pipework and sanitary fixtures and fittings configuration must be fully assessed, as the pH content of urine can very quickly corrode existing copper waste pipework, making a quick solution an expensive high priority issue to replace the pipework.

New tenant fitouts may also require trade waste drainage – which requires significant plant area designated for grease arrestors – as well as the implementation of pumps, plus mechanical ventilation, which requires substantial sized risers to the roof and to atmosphere. Retrofitting trade waste pipework (HDPE) in these scenarios can, of course, be overcome by careful coordination in the design phase at an early stage of the project.

Concerns associated with hot water plant, pipework and pumps that have exceeded their working life often escalate and more often than not require immediate action. Taking a proactive approach to upgrades is beneficial. Sustainable hot water systems, such as ground or air source heat pumps, plus solar hot water systems can be easily implemented on new buildings at the design stage; however, retrofitting can be somewhat troublesome due to a lack of plant room space or the orientation of the building’s roof.

Any hot and cold water replacement strategy requires the mitigation of any risks, as well as the full exploitation of opportunities. Such opportunities may include a review of the payback and life cycle analysis of system upgrades, while, in parallel, an assessment of water reuse, recycling opportunities and legionella risk assessments should be fully evaluated. Unfortunately, these situations are rarely budgeted for, straining an already inadequate budget, as well as causing frustrations for building operations staff and tenants alike.

An environmentally sustainable hydraulic design on the refurbishment of the University of Technology Sydney | Central Campus has been provided by Erbas and Associates. This development aims to be at the forefront of environmental sustainability initiatives, not only within the campus, but also within Australia, by seeking both a six-star energy and water rating, which the university takes extremely seriously in all of its projects.

At a very early stage, following an audit of the hydraulic system, a matrix was introduced scoring each system to evaluate the most effective solution to suit the building’s needs and requirements. The water usage overall, as well as an ageing hot water plant, was recognised early in the project as a primary consuming element, which will be minimised and replaced with recycled water, as well as plate heat exchangers integrated with the new mechanical heating and cooling system, an opportunity that will assist in reducing energy consumption, as a result.

Other sustainable measures include green roof technology, as well as irrigation water being provided from rainwater harvesting from the main roof area, effectively reducing potable demand by up to 50 percent.

The robust water strategy should focus on operational measures, as well as engineering solutions. It needs to avoid reactive measures, identifying both short- and long-term solutions that can be staged. It must also be integrated with other strategies; for example, energy management, for a building is a complex web of interconnected systems that cannot operate in isolation of one another.

A strategy can be aligned with a range of industry benchmarking tools such as LEED, Green Star and NABERS. These tools can help a building’s performance to be publicly recognised and, as such, increase its overall asset value. A forward-thinking water strategy is an important aspect to a building, to not only mitigate the risk of business continuity, but also take advantage of opportunities, be they environmental, cost or reputation related opportunities.

This article was originally published in the Facility Management Australia Magazine October / November 2015 edition and reproduced with kind permission.

What ERP means for water heating

This September saw a watershed moment – the European Union’s ErP legislation finally came into force for water heaters and hot water storage tanks, meaning that those with certain outputs and storage volumes will need to meet minimum energy performance criteria and have an energy label. Jonathan Tedstone, Category Manager for Andrews Water Heaters, takes a look at what the changes mean for 2015 and beyond.

In October 2009, the EU adopted the Directive 2009/125/EC: establishing a framework for the setting of ecodesign requirements for energy-related products (ErP). Commonly referred to as the ErP Directive, it applies to energy-related products – which either use energy, or do not use energy yet have an indirect impact on energy consumption – sold in the domestic, commercial and industrial sectors in the European Economic Area.

These products account for a large proportion of energy consumption, and also have significant potential to be improved to reduce their environmental impact and achieve energy savings, which in turn leads to economic savings for consumers and businesses.

As well as the new Ecodesign requirements the Energy Labelling Directive has been introduced to work in conjunction with the Ecodesign performance criteria.

Products are given an energy label based on a standard laboratory test regime – a process which already applies to domestic appliances such as fridges, freezers, TVs and washing machines.

In 2013 the Ecodesign and Energy Labelling Regulations for water heaters and hot water storage tanks were published. They established minimum requirements (which manufacturers must meet in order to legally place their products on the market in the UK and other countries in the European Economic Area) and an energy labelling scheme for the products in their scope. Water heaters with a storage and instantaneous design, gas, LPG, oil and electric heaters, dual fuel heaters, solar thermal hot water products and dedicated heat pump water heaters are all included.

Since September 26 2015, water heaters with a rated output of equal to or below 400kW and storage tanks with a storage volume of up to 2,000 litres have needed to meet minimum energy performance criteria, and those with outputs of up to 70kW and storage volumes of 500 litres respectively have required an energy label.

The energy efficiency bands for water heating products ranges from A to G, but will eventually extend to A++, with band G being removed in 2017. Conventional products tend to have an A-G classification (A-F from September 26 2017), while A+, A++ and A+++ are reserved for renewable technologies.

Of course, it’s not just the individual components of an installation that are important; a combination of products can also greatly increase efficiency. In recognition of this, if a number of components are installed as a system then an overall efficiency rating and customised package label is required for the system as a whole, as well as the individual products having a specific label.

Manufacturers are responsible for providing product labels, whereas whoever supplies the package and processes the transaction (officially known as the ‘Dealer’) is responsible for generating the package label and undertaking the necessary calculations. In most cases this will be the contractor.

For the purpose of ErP, a water heating package will contain one or more water heater/s and one or more solar device/s, which do not need to come from the same supplier or be delivered together. It’s worth noting that according to the relevant definitions in the Regulations, a solar device always contains a solar collector.

While it’s important to recognise that ErP is a significant piece of legislation, the changes won’t be seen immediately. For instance, direct gas, LPG and oil fired water heaters won’t be overly affected by ErP this year; the regulations don’t necessarily mandate condensing products, so it will still be possible to sell many of the non-condensing options available today.

However, over time the requirements will become even more stringent. On September 26 2017 the Energy Labelling scale will be updated to A+ to F, and on September 26 2018 mandatory NOx emissions will be introduced for gas, LPG and oil fired water heaters (electric heaters do not directly produce emissions of this kind, so aren’t regulated for them).

For gas/LPG fired products the maximum NOx emissions will be 56mg/kWh and for oil fired products 120mg/kWh – and we can expect this to result in significant changes to the water heating market. In terms of product alterations, gas and LPG products don’t pose any major R&D issues, but it will be relatively difficult for oil fired products to meet the new requirements without some redesign work or the addition of emission abatement technology.

Further energy efficiency requirements also start to apply from September 26 2018, and a review of the Regulations is anticipated.

Manufacturers like Andrews Water Heaters have been preparing for the implications of Ecodesign and Energy Labelling for months, and as a result are best placed to help advise building designers looking for clarity on how the legislation impacts them. For more information please visit www.andrewswaterheaters.co.uk.

About Andrews Water Heaters:
Andrews Water Heaters, part of Baxi Commercial, offers the widest range of products in the UK commercial water heater sector, and is the first choice for energy efficient water heating solutions for commercial, industrial and large residential properties. For more information, visit www.andrewswaterheaters.co.uk.

As well as stating the energy efficiency band, product labels for direct water heating products also include a size (load) profile to aid specification. The profiles will range from 3XS to 4XL; to give some guidance, S would be a water heater typically suitable for a shower and single basin at 35°C, M would be suitable for showers and a sink at 55°C and XXL would be appropriate for simultaneous baths and showers.

The label doesn’t have to appear on the actual product unless the unit is on display, but it must be provided with the product and within the product literature. Additional performance and efficiency parameters will also need to be disclosed via a ‘technical fiche’ and within product data, which must be included on company websites and in installation instructions included with the product.
The biggest challenge we currently face is attracting more young people into the industry in order to become the engineers who will design and deliver the Public Health project of the future. As the older generation retires, an abundance of skills, experience and knowledge is lost forever.

In order to combat this prevailing issue, the Education Working Group (EWG) have recently formulated a new strategy to further enhance the groups objectives for the benefits of the industry.

A three pronged approach has been developed, which consists of the following sub-groups, as illustrated in the chart below.

The EWG recognise that SoPHE can significantly influence consultancy practices, universities, colleges, CIBSE Mid-Career college, including kindred organisations, such as ASPE and AHSCA to play a big part in assisting the engineers of tomorrow, as well as the engineers of today. For the benefit of our members each region is continually organising interesting and thought provoking Continuing Professional Development (CPD) seminars, with the assistance our our Industrial Associates.

The technical training sub-group aim to create a SoPHE ‘approved’ framework. The framework aims to operate in parallel with existing Higher Education facilities that focus on Building Services. The aim being to inject the training required to provide that ‘missing’ specialised PH knowledge, as well as assist engineers with an industry relevant degree seeking to specialise in public health engineering.

The bulk of this sub group is to review and endorse any existing courses and not to create new training material, unless absolutely necessary.

The success of the Young Engineers Award led by Ed Clarke, in conjunction with WaterAid provides an opportunity to challenge, inspire, as well as for our entrants to make a significant difference seeking solutions to benefit those in need. Winning teams gain a valuable insight to third world countries, where sanitation and drinking water is not accessible. This years entrants have once again impressed the judging panel and we look forward to announcing the winning team at this year’s Annual SoPHE Dinner.

Education and training requirements that are not currently covered by the conventional educational establishments requires further development. This involves:

- Determine the skills set employers want from young trainees and engineers.
- Review content of current courses currently available with PH elements and determine their suitability for the current training requirements.
- CPD Records
- Liaise with other education establishments.
- Review and keep abreast of current trends
- Ideas for covering education & training short fall.

An extension to this initiative involves setting up a communication network with the participating colleges/universities, offering assistance, advice on the PH elements of their courses. In addition, an initiative being considered is a mentoring scheme aligning those wishing to further their skills set with an experienced engineer out of their current organisation.

The Education Group currently comprises of Ian Fellingham (Chair), Ed Clarke, Peter White, Tom Byrne, Phil Henry, James Day and Duncan Hough. We would welcome your thoughts, input and suggestions, as well as reach out and provide an opportunity for those wishing to get involved to make a difference and help by contacting: sophe@cibse.org

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Water sources & cross-connections

Modern water-efficient dwellings could have three different sources of water to be managed within the plumbing system – mains supply, recycled greywater and rainwater. Industrial premises could easily have up to seven, with the addition of a private water supply (for example, from a borehole), closed circuit cooling systems, recycled industrial effluent and process water. This multiplicity of sources increases the risk of accidental interconnection of pipes (cross-connection), leading to contamination of ‘wholesome’ water used for drinking, cooking and bathing.

Contamination of drinking water by cross connection has occurred involving rainwater harvesting equipment in eco-houses in East Anglia. The cross connections resulted from incorrect initial installation and from later modification of existing systems. In other cases, untreated borehole water and even sewage effluent has entered drinking water systems due to accidental cross connections.

Legal requirements for marking

Identification of pipe contents will help to reduce the risk of cross-connection. Schedule 2(14) of the Water Supply (Water Fittings) Regulations/Scottish Byelaws requires water fittings carrying other fluids to be easily distinguished from any supply or distributing pipe carrying wholesome water provided by the public water undertaker. The Regulations Guidance recommends use of colour schemes complying with British Standard BS1710.

The standard includes colour codes for water, steam, oil, waste effluents, air, specialised gases for industrial or medical purposes and for electrical and ventilation ducts.

The labelling uses a basic identification colour for the nature of the contents, with a secondary ‘safety’ or ‘code’ colours banded over it to further indicate the nature of the contents (Figure 1).

For water services, identification follows an assessment process. In the example in Figure 1, the pipe is carrying water – hence a green basic identification colour. Next, the source water is determined to select the first code colour (blue for water from a public supply in the example above), followed if necessary by assessing the end use water quality to select the second code colour (black for central heating).

Additional information on labels

Labels are used to give supplementary information, for example showing temperature or pressure and the precise nature of some fluids. For fluids predominately flowing in a single direction, a “single direction of flow arrow” is used; where fluids are able to flow in either direction (e.g. in a ring main), a double headed arrow is used. To indicate separately the flow and return pipes for central heating systems and other closed circuits, the direction of flow arrows are supplemented by the word FLOW or F on one pipe, and the word RETURN or R on the other.

Labels should be durable and resistant to deterioration for their expected life and the environmental conditions or surroundings where they are to be used, particularly below ground. Accepted methods include painting, adhesive colour bands or labels, colour clips, wraps or coverings or application during manufacture.

Availability of marking tapes

Six months on from revision of the standard, regrettably suppliers of marking tapes appear to be slow to respond to the changes, with many only selling tapes complying with the out-of-date 1984 version. On behalf of water suppliers, WRAS is consulting tape manufacturers and encouraging them to meet the market requirements. In the meantime, if suitable tapes are not available, the advice is to contact the local water supplier to agree an alternative method or style.

Industry News Updates

CIRIA launches BeST SuDS tool

CIRIA has launched their new Benefits of SuDS Tool, W045 (BeST). It and the technical guidance are available free for download on the CIRIA.org website. The tool itself is PC-based and uses Excel. The purpose of the tool is to allow for easier SuDS assessment. For additional information about SuDS, you can also visit CIRIA’s sustrains.org website.

CIBW62

Congratulations to Lynne Jack, who was recently voted as the new Chair/Coordinator of the CIBW62 Water Supply and drainage for Building commission, whilst in Beijing last month. Lynne will be providing a summary in the next newsletter.

The energy performance gap

FMJ Facilities Management Journal, August 2015 This article reviews the issues and reasons for the energy performance gap in the building environment. According to the author there is a growing body of evidence that shows many buildings are not performing as well as their designers intended. The paper commences with a brief overview of CIBSE’s project work and research in this area, including building CarbonSuz, which is a RIBA/CIBSE benchmarking platform for tracking energy use in projects from design to operation. The author suggests that a key reason for the performance gap is often the design and construction process on a given project lacks a champion to steer a building’s in-use energy performance from the start of the design through to handover and post-commissioning. The article then goes on to outline reasons for the performance gap from the facilities managers’ point of view and to offer advice on managing these issues. The soft landings approach is also explored.
Our technical evenings continue, on the 20th May saw Home Engineering (Angus Home) provide a presentation entitled “Engineering v’s Legionella” which was a joint event between ourselves and our very good friends from HEEM North West. This event was very well attended (27 no. in total); as always, a lively debate entailed afterwards, since this is a very emotive subject.

Continuing on the theme of Legionella, on the 15th July Durapipe / Girpi’s (Eric Martin) presentation entitled “How plastic piping systems for building services can help you meet current L8 Legionella Regulations on domestic hot & cold water networks, and bring viable solutions in building services”. 18 engineers attended this evening in which comparisons were made between the legislation here in the UK, as opposed to that in France.

At the time of compiling this column, our previous seminar occurred on 16th September, Clearwater Technology (Ken O’Brian – in place of Peter Tyson) provided a presentation entitled “Catalytic Chlorine Dioxide & Engineering Service” on a very warm & humid September evening.

Having recently attended the H&V News Combating Legionella & Water Treatment 2015, 2-day conference in Birmingham, I was able to meet with some very “interesting and important” people; not least, the “Red Adair of the Bug Busters” himself Mr David Harper who I have managed to persuade to do a technical evening presentation for us here in the North. At this moment, details of where & when, etc., have yet to be finalised – watch this space!

Steve Ingle & myself are CIBSE NW committee members and the primary topic of discussion at the moment is centred on the education of young students with regards to Building Services.

This education topic is aimed not just at University level, but also at college & secondary school students; if anyone has any ideas as to how we may be able to portray the whole subject of Building Services as an interesting but exciting one to these students, please get in touch - your ideas / suggestions are gratefully received. In addition, if there are any other issues to which you’d like us to raise on your behalf, specifically for CIBSE and also applicable for the North West of England please let either of us know either via email or the telephone; this is also applicable for SoPHE NW as well. Also, if there are any “younger” engineers out there who would like to get more involved in the organisation of various events in the SoPHE NW region – not just the technical evenings – please do not hesitate in contacting me to discuss further. I consider the “post” of NW Secretary to be very rewarding but challenging at the same time. You do get the opportunity to meet some very interesting people along the way!

Regional round up

Thank you to all SoPHE members, including our Technical, Industry and Contractors group members for their continued support for the various regional groups.

A small group from SoPHE recently attended the tour of the Duker factories in Karlstadt & Laufach, Germany. The educational visit to review the manufacturing facilities, as well as attending multiple seminars was arranged courtesy of Alumasc.

Technical Publications

PD CEN/TS 54-32:2015 Fire detection and fire alarm systems. Planning, design, installation, commissioning, use and maintenance of voice alarm systems. Published 31 July 2015.


BS ISO 16075-3:2015 Guidelines for treated wastewater use for irrigation projects. Components of a reuse project for irrigation. Published 31 August 2015.

BS EN 124:2015, Parts 2-6 Gully tops and manhole tops for vehicular and pedestrian areas. Published 31 July 2015.

BS EN 752. Drain and sewer systems outside buildings. Sewer system management. Published 20 August 2015. Status is current and draft for public comment

BS 8559:2015 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages. Complementary guidance to BS EN 806. Published September 2015
In collaboration with the University of Sunshine Coast and The Association of Hydraulic Services Consultants Australia (AHSCA) a three level Roof Drainage Research Facility and dedicated test rig is currently being constructed.

What makes this roof drainage research test rig a little different is that it is being used to develop methods of roof drainage design for flows up to 100 l/s that will greatly assist in further developing cost effective engineering solutions for significant sized projects.

Results from the research facility will be analysed to further develop performance based design solutions to cater for tropical rainfall characteristics that regularly exceed the maximum flow rates currently covered in the regulated Australian Standard 3500.3.

The research team headed by Dr Terry Lucke will have the ability to replicate extreme rainfall events from anywhere in the world (up to 100 l/s) and observe the related flow characteristics in various roof drainage design configurations.

The test rig is specially designed to allow gutters to be tested at various gradients, with multiple outlet combinations and is fully adjustable to cater for a variety of gutter width and depth combinations.

On 17th September the industry working group sponsored event on board the Tattershall Castle, as reported in the IWG report in this newsletter.

We welcomed guest speaker Adam Tattershall to examine.

Steve had a range of product examples for types of systems and installation guidance.

In addition to answering queries, Julian and Waumsley spoke about liquid leak detection systems. With 26 attendees this was a well attended event, it covered the reasons for installing systems including BREEAM credits, the types of systems and installation guidance. In addition to answering queries, Julian and Steve had a range of product examples for all to examine.

Matthews, CIBSE chief executive, with the main speaker Michael Gormley presenting an interesting and entertaining explanation of the contents of the book.

Michael reflected on the life of John Swaffield, his achievements and his great work in the field of public health engineering. In addition, he covered an overview of the different subjects covered by the book, a summary of findings and potential future impacts on drainage designs.

It was great to see public health engineering so well represented in the audience, as well as those that personally knew or were close to John Swaffield.

Since setting up the new region in May, its been busy in East Anglia with technical seminars occurring monthly.

Craig Bond of ACO Drainage, presented on ‘Effective grease management systems for food processing areas’, which was very well received.

Cheryl Louise-Taylor and Adrian Aylett of HydroTec, with their presentation on Scale Control, specifically in the Cambridgeshire region.

With the recent holiday season in full motion it was agreed to have a break for two months, however pleased to report we are back on track with the fourth technical evening recently taking place early October.

The technical seminar from Lochinvar discussed the integration of heat pumps into domestic hot water systems.
Feedback, contributions and sponsorship

We would welcome any comments on this newsletter or contributions to future editions, in particular with regards to:

- Future events for consideration
- What should SoPHE be providing to our members
- Items or comments you think may be worth raising or informing your fellow members
- Technical articles from members, giving situations encountered and how they were overcome

Please email any comments, feedback or suggestions to Paul Angus who can be contacted by emailing: info@sophe.co.uk

@ The_SoPHE

SoPHE LinkedIn Technical Discussions

The SoPHE LinkedIn group has 560 members and an ideal platform to reach out to your SoPHE colleagues to discuss new technologies, raise technical queries and keep up to date with what’s going on with SoPHE in your region