

bafsa sprinkler FOCUS

BS 9251 2014

An updated and revised BS 9251 Fire Sprinkler Systems for Domestic and Residential Occupancies – Code of Practice was published in October. This British Standard is intended for the use of designers; engineers; architects; surveyors; contractors; installers and Authorities Having Jurisdiction. It provides much clearer guidance in a number of areas and has taken account of the lessons learned from the increasing number of installations and projects utilising residential sprinklers since the previous revision.

The review panel chaired by Steve Seaber was drawn from a wide spectrum with representatives from the sprinkler industry; approval bodies; government regulators; Fire and Rescue services; insurers; the water industry; building control bodies and house-builders.

This is a full revision of the standard, and introduces the following principal changes:

- ❖ introduction of building categorisation based on occupancy risk
- ❖ change of building height limit (from 20m to 45m)
- ❖ variation in sprinkler head design density
- ❖ increase in sprinkler head spacing
- ❖ expanded guidance on preliminary work and consultation
- ❖ expanded guidance on water supplies
- ❖ additional measures for vulnerable people and multi-occupancy premises

The revised document has expanded guidance on the important area of preliminary work and consultation which will help to ensure that systems are fit for purpose, take account of the occupancy and are able to satisfy the requirements of Authorities Having Jurisdiction (AHJs).

Continued on next page »

Lifetime achievement award



Ronnie King OBE, OstJ, QFSM, F.I.FireE. is the worthy recipient of the inaugural **Excellence in Fire and Emergency Lifetime Achievement Award**.

Ronnie served as a Chief Fire Officer in Mid and West Wales for close to twenty years, having previously served in West Yorkshire, London, Fife, and with the Fire Service Inspectorate. He retired in 2003 after 41 years in the Fire and Rescue Service. For the past ten years Ronnie

has been more active than ever in the fire world, campaigning tirelessly for improvements in fire safety standards.

Ronnie has won the respect - and affection - of all his peers and is probably one of the most impassioned and dedicated supporters of domestic fire sprinkler systems in the UK. Ronnie is the Vice Chairman of the National Fire Sprinkler Network and Honorary Secretary of the All Party Parliamentary Fire Safety & Rescue Group. ❖

Contents

BS 9251 2014	1	Collaboration & co-operation	7
Lifetime achievement award	1	Scottish economy continues to improve	8
More Standards' changes	2	Welsh Sprinkler Pilot Study	8
Skills & Qualifications	3	Sheffield to retrofit 'Ranch style' flats	9
BAFSA Warehouse seminars	4	Training for Belfast Building Control	9
Watermist - new Standards to be published	4	Why Third Party Certification for sprinkler installers	10
BAFSA Makes Contribution to safer Recycling Centres	5	From Rubens to Botticelli	11
2015/2016 BAFSA Yearbook	5	Sprinkler Saves	12
BAFSA celebrates 40 years	6	All expectations exceeded	14
Timber framed buildings	6	Members' meet in historic surrounding	15
BAFSA publishes history of the first 40 years	7	Happy 40th birthday	15
		BAFSA Events	16

» Continued from page 1

This section highlights the need to consider factors relating to the likely fire loading, occupancy, water supplies and special circumstances where enhanced performance, reliability and resilience may be required. It also draws attention to the need to consult with appropriate AHJs and how sprinklers may be used as compensatory features.

Three categories of building

A major change in the revised document is the introduction of three categories of building based on occupancy and size as opposed to the generic term residential and domestic previously used.

Category 1 occupancies include single family dwellings (houses, flats and maisonettes), Houses in Multiple Occupation, Bed and Breakfast premises and blocks of flats lower than 18m or with maximum floor area of 2400m².

Category 2 occupancies are larger blocks of flats, small care homes (fewer than 10 residents) and sheltered/extra care housing.

Category 3 covers larger care homes, dormitories and hostels.

Design Densities

Another key change associated with the new standard and the categories, outlined above is the replacement of the flow rate requirements with



minimum design densities.

Where a system is installed in addition to other fire protection measures or in compliance with Approved Document B or Scottish Building Standards, (eg. blocks of flats over 30m in England, blocks of flats over 18m and new care homes in Scotland and all properties included in the Welsh Measure) then the standard requires design densities lower than the previous version of the standard.

This is 2.04mm/min for Category 1 with 10 minutes minimum duration of supply and 2.8mm/min for Categories 2 and 3 with 30 minutes supply. The number of design heads is varied depending on the category.

When sprinklers are used as compensatory features for other fire safety measures then higher design densities are required. The appropriate design densities and how they are to be applied are detailed in the standard.

The minimum design parameters and associated guidance have been agreed with the regulators in England, Wales and Scotland.

All design aspects

In addition to the revised guidance on design densities the Design section provides enhanced guidance on all aspects of design, the components used and water supplies. This takes account of changes in technology and the experience gained by the industry since the publication of the 2005 version of the document. It also provides information on the alarm systems with particular reference to the configuration of alarms in multi-storey blocks of flats and interfacing with an automatic fire detection and alarm system.

The section on Installation, commissioning and documentation has been updated and now includes information on a system data label which should be attached adjacent to the main stop valve. An example of which is included in an annex to the document. This label is not the same as a compliance certificate which is also required to be provided.

More detailed guidance is also provided on the requirements and methodology for carrying out maintenance on the sprinkler system once installed and record keeping associated with it.

The revised document also contains a number of appendices and drawings to provide greater clarity and more detailed technical information to support the main text. ❖

More Standards' changes

Despite many more sprinkler systems in the UK being installed to NFPA 13 and FM-Global datasheets, the sprinkler standard most widely used in the UK for industrial and commercial sprinkler systems is still BS EN 12845. Its most current iteration is the 2009 version.

The CEN committee responsible for the production of this standard is Task Group 2 of CEN/TC191/WG5. Several years ago this task group proposed a number of amendments to the 2009 version of EN 12845 but were advised that the number of amendments was such that CEN procedures required these be issued as a full revision. This has proved to be quite a complex process but agreement was finally reached and a revised document was issued under the Universal Acceptance Procedure (UAP). This permits only a 'yes' or 'no' vote by national standards bodies. Following completion of the consultation process a revised document will be published.

TG2 is 'mirrored' at BSI by FSH/18/2 and while this group was generally content with most of the contents of the revision, there were issues which the UK was not happy with and the chair of FSH/18/2 has asked BSI to vote 'no' unless our reservations were seriously considered. Voting closes

in mid November. If the UK is overruled on this, EN 12845: 2015 will appear early next year and will, we are informed, be followed by a revised edition of the LPC Rules.

One particular change which BAFSA is happy with is the proposal to retitle Annex F, removing references to 'life safety'. The new National Forward to the British version of the standard will include specific reference to this and an explanation of the anomalous situation which has existed in respect of Annex F systems.

In parallel with the discussions on Revision 1, work is underway on a second, major revision to the structure and contents of EN 12845. The TC191 convenor has set an ambitious time scale of 12 months for completion. The work is being carried out in seven sub groups, some of which have no UK representation. The UK expressed serious concerns over proposals for changes to the Hazard Groups (which would impact on fully hydraulically calculated systems) and the fact that the seven groups are working independently of each other. This will cause some conflicts when the draft is complete and as the UK is not represented in all groups it will be unaware of some proposals.

Because of these concerns it is likely that the second revision of EN 12945 will not be published before 2016. ❖

Skills & Qualifications

Investment and support is needed to ensure the maintenance and growth of the fire sprinkler industry

Over two years ago, BAFSA instigated the development of the first National Occupational Standards for the Mechanical Fire Sector (NOS), a freely available management tool providing statements of competence for individuals working within the sector. The standards, developed with industry representatives clearly state what is required of a worker in terms of performance and knowledge and provide the building blocks for the future development of national qualifications.

Skills & Development Committee

This Committee formed in November 2012 was formerly known as the Training Committee. Chaired by Mike Green, Hall Fire Protection, the Skills and Development Committee meets four times a year with their core remit being to 'develop vocational qualifications and training to ensure competency for persons working within the sector'.

In line with the BAFSA Skills & Qualification Strategy outlining the future development of skills and nationally recognised qualifications to evidence competency of the workforce, a Labour Market Information & Intelligence Survey was undertaken in 2014 across the membership gathering:

- ❖ Nature of the sector – size, type of employers, composition of workforce, economic contribution
- ❖ Drivers of demand – key factor driving change in the sector
- ❖ Current and Future Skills Needs – assessment of current skills and how the demand for skills and labour are likely to change. This will include insight into the likely volume and composition of the workforce in the future
- ❖ Current Learning Provision – an overview of the type of learning in the sector and how well that provision meets the needs of the sector. Key findings of the survey indicated:
 - ❖ The future of the industry is positive with the majority of employers having recruited staff in the past 12 months
 - ❖ Training is recognised as a vital part of doing business
 - ❖ A high proportion of organisations have training plans and dedicated training budgets
 - ❖ ageing nature of the workforce with more than 16% of the workforce over 55, the majority over 40 and employees under the age of 16-24 numbers less than 12%
 - ❖ Half of businesses have hard to fill vacancies



Welsh Assembly Member Anne Jones visits NPT Group to see how the College is progressing re training tradesmen

- ❖ More than one third of organisations feel that employees have skills gaps
- ❖ Evidence of a need to develop skills directly related to the industry

This research established that there is a shortage of young people within the industry and that the workforce is an aging workforce. This means people are retiring from the sector, taking their skills, knowledge and vast experience with them. With little or no widespread industry led focus on the development of skills and qualifications there is now an urgent need to attract a new generation of young people into all areas of industry including installation, design, project management and maintenance. In doing so we will be ensuring that the workforce remains fit for purpose and ready for the challenges ahead.

Focus is needed now to ensure the industry raises its profile to encourage and show those looking for job opportunities that the Fire Sprinkler Industry is a career to look forward to. Establishing clear career pathways will offer potential recruits a glimpse of the diverse range of opportunities within the industry.

Qualifications and training must be at the forefront of BAFSA activities so that our continued promotion of the benefits of fire sprinklers is not to be wasted. This is now taking place and the establishment of the first upskilling award in Wales where those already working within the plumbing sector can gain additional new skills to work in the domestic sprinkler sector is an important start. The BAFSA Skills and Development Committee is now focussing on the development of national qualifications aimed initially at installation and is also considering the introduction of a skills passport which will allow BAFSA members to share their skills and knowledge alongside the developing new skills within the industry.

Crucially however members, too, need to get involved. Investment and support is needed to ensure the maintenance and growth of the fire sprinkler industry. Please contact BAFSA for further information. ❖

BAFSA Warehouse seminars

The publication of two important pieces of research by the Business Sprinkler Alliance gives the sprinkler industry a powerful additional tool to promote wider use of sprinklers in warehouses and large single storey buildings.



DCFO Adam Eckley, Acting Chief Fire Officer signing MOU with BAFSA

BAFSA felt that it was important that the contents of the two papers, by The Centre for Economic Business Research (Cebr) and the BRE Global reports (*The Financial and Economic Impact of Warehouse Fires: Cebr* [<http://goo.gl/WsCVON>] & *An environmental impact and cost benefit analysis for fire sprinklers in warehouse buildings* [<http://goo.gl/pA9gnm>]) received wider promulgation.

The Communications & Market Development committee had earlier decided to devote resources to the warehouse sector in 2014/15, recognising the need to focus on this sector and promote automatic fire suppression systems in warehouses, logistical facilities and large single storey buildings. It was agreed that this could best be done by producing a new DVD and organising a series a series of seminars co-hosted by Fire and Rescue Services in different parts of the UK.

The proposal was met with enthusiasm and within weeks Essex County, Buckinghamshire, Scotland, Staffordshire and South Wales Fire & Rescue Services had begun seeking venues and suitable dates whilst BAFSA lined up a team of

speakers which would present a multi-sided, impartial but convincing argument.

The series of “warehouse roadshows” started in Essex on October 23rd at Essex County F&RS HQ in Kelvedon. More than 40 delegates attended from a variety of disciplines including warehouse developers and operators, approved inspectors and surveyors along with local authority representatives and the chair of the Fire Authority, Councillor Anthony Hedley, a longstanding and knowledgeable supporter of automatic fire sprinklers.

The speakers covered fire safety management in large single storey buildings; the financial and economic value of the damage and disruption caused by fires in commercial warehouse premises and the environmental impact and cost benefit analysis for fire sprinklers in warehouse buildings; sprinkler effectiveness; the insurers perspective; an installers point of view and finally, two case studies comparing the after effects of a fire with and without sprinklers.



The all day event was deemed successful and our delegates left with a greater knowledge and understanding of the fact that fire sprinklers prevent major losses by turning what could be a potential disaster into a minor inconvenience and they do so time and again with irrefutable reliability.

Next stop will be Milton Keynes on 27th November. To book places at any of the venues go to <http://goo.gl/SpXEWI> ❖

Watermist - new Standards to be published

While watermist is not new, the technology dating from the 1930's, the topic still appears to generate more heat than light. Recent changes to BSi practice has resulted in what is seen by some observers as a precipitate move to convert the watermist drafts for developments into full British Standards.

BS DD 8458 Fixed fire protection systems – Residential and domestic watermist systems – Part 1: Code of practice for design and installation was published in October 2010 and would normally have been expected to be reviewed in 2015 and to have become a full BS in 2016. However as a result of the abandonment of the ‘Draft for Development’ as a type of document, BSi asked for a revision in 2014 and this was completed with the publication of a new BS 8458 as a Draft for Public Comment on 22 August 2014. It's likely that the new standard will be formally published as a BS before the end of 2014.

At the same time, the five parts of BS 8489 - Fixed fire protection systems - Industrial and commercial watermist systems. were also published as a Draft for Public Comment. The consultation period closed on 31 October and it's likely that, subject to the comments received, a BS 8489 Parts 1, 4, 5, 6 and 7 will be published as full British Standards early in 2015.

However its entirely likely that the new standards will be short lived as work within CEN may result in a European watermist standard being published sometime in the next two years. A CEN Technical Specification (TS) for watermist has been around for many years but recent proposals submitted to CEN TC191 WG5 TG3 have asked that TS 14971 be converted to a full CEN Standard. If this does happen then BSi will be obliged to publish the document even if it is not a harmonised EN standard and withdraw BS 8458 and the b489 series. ❖

BAFSA makes contribution to safer Recycling Centres

There will be no doubt that readers of SF will be only too well aware of the extent of fires in the recycling industry. Even casual monitoring of the national press suggests that a serious fire in such locations is probably a weekly occurrence. In fact in 2013, more than 230 fires in recycling centres were recorded - more than 4 per week - and of course, these are only the fires to which the Fire and Rescue Services were called.

The problem is more the scale of fires than their frequency. A number have burnt for days and many for weeks. A fire at Smethwick, for example, in which 100,000 tonnes of recycled plastic was involved, required the attendance of 39 fire appliances and 200 firefighters over 200 hours of firefighting activity. This same fire consumed 14 million litres of water simply to contain it and released an estimated 19,000 tonnes of carbon into the atmosphere.

Present legislation allows little scope for either building regulation or fire legislation provision in recycling centres - probably because there are no fatalities and few injuries in such occupancies. However new licensing requirements will in future restrict the volume of certain types of waste material. This action is supported by guidance issued by the Waste Industry Safety and Health forum (WISH). This included input from BAFSA and it was agreed with WISH and CFOA that BAFSA should provide additional detail and information on how fire suppression systems could be



utilised more effectively in the recycling and waste industry.

The result is BAFSA Information File No 26 *Fire Suppression Systems for the Waste Management Industry* published in October 2014. This succinctly summarises the fire safety management principles and provides simple non-technical advice on measures ranging from portable extinguishers through hydrants to sprinklers and watermist systems.

This accessible and clearly written document has been well-received and is now available as a download <<http://www.bafsa.org.uk/pdfs/publications/3/00000133.pdf>> or in printed format, single copies free. BAFSA members may request multiple copies for seminars or training courses. ❖

2015/2016 BAFSA Yearbook

This sixth edition of BAFSA's Yearbook continues to provide a key tool

in the Association's objectives in promoting the wider and more effective use of automatic fire suppression systems using water as the best way to protect people, property and the environment from the effects of fire.

The contents, as always, include a collection of current news, technical information, and updates on BAFSA activities and publications. This edition includes a report on the outcomes of important research on sprinklers in warehouses; and a look forward to the full introduction of legislation in Wales to make the installation of automatic fire suppression compulsory in all new and converted residential properties in Wales.

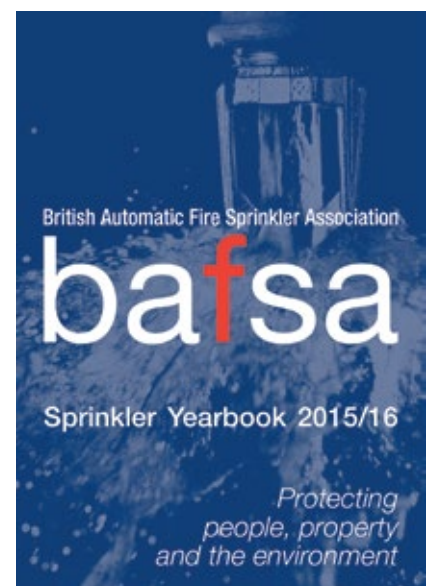
As always, a key section of the Yearbook is the comprehensive list of BAFSA member organisations and

affiliates, the bodies which, together, offer a unique range of services and activities in the field of fire protection.

For its mixed audience of industry experts and potential users it is an invaluable resource, to be retained for future reference.

Chapters include Review of the year: a personal view; Sprinklers in warehouses; Sprinklers in Wales; Fire suppression in heritage buildings; BS 9251 revision; Standards update; Skills & Development Committee; CFOA Sprinkler Week; Personal protection fire suppression systems; Fire suppression in waste management facilities; Sprinklers and the Fire & Rescue Service; BAFSA at work; List of BAFSA members; Sprinklers at work; Formulae, SI units and conversion factors; BAFSA publications.

2000 copies will be printed and will remain in use over the next two years, it will be distributed at all BAFSA events



and other supported activities and it is certain that the 2015/2016 Yearbook, as in previous years, will be considered a publication of record. ❖

BAFSA celebrates 40 years

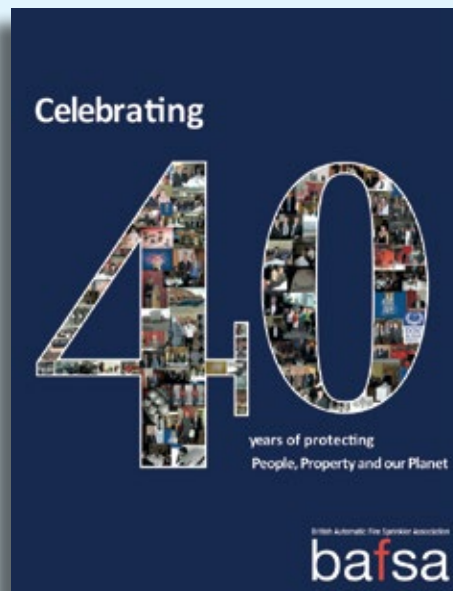
On 23 December 1974 the British Automatic Sprinkler Association was registered as a company. The association had been operating as an unincorporated body since February of that year.

To celebrate BAFSA's 40th Anniversary it was decided that a commemorative publication would be published and now, 12 months later after much research and hard work by its editor, Celestine Cheong, ably assisted by members old and new who have provided documents, images and articles the 40th Anniversary book is ready.

The colourful, well-designed, profusely illustrated 64 page publication not only details the association's many achievements but also looks forward to the wider utilisation of automatic fire suppression systems as a primary means of protecting people, property and the environment.

Highlights include:

- A very personal introduction from the Chairman
- A brief history of fire sprinklers
- The development of the UK fire sprinkler market and why BASA was formed
- A tribute from the Chief Fire Officers Association on BAFSA's 40th Anniversary
- A BASA/BASFA timeline



- Some blasts from the past
- Personal Touches
- BAFSA's vision for the future

All BAFSA members will receive their own copy of this interesting, which they will want to keep as a souvenir of an important year in the life of the sprinkler industry. ❖

Timber framed buildings

As part of a move to increase the supply of sustainable and affordable housing, changes to the building regulations in 1991 for England and Wales cleared the way for more timber framed housing to be built - even as high as eight storeys. Since then, timber framed building methods have gained popularity particularly growing in popularity among social housing landlords. However, the problems associated with fire protection of such structures are increasingly becoming a cause for concern.

Of course, timber framed housing is not new; however, compared to buildings constructed in the past, the challenges posed by modern timber framed construction are different and the risks are said to be growing. These fears have been recognised by fire and rescue authorities and others such as the Fire Protection Association and Greater London Assembly.

In July 2006, a timber framed housing development under construction in Colindale north-west

London burned to the ground in less than nine minutes. The intensity of the fire from the six-storey building caused Hendon Police Training College, a student hall of residence and a number of homes to be evacuated; astonishingly, up to 2,500 people had to be moved to safety and it took approximately 100 fire-fighters five hours to put out the fire.

Following this and four other serious fires in timber framed buildings under construction in London alone, the Greater London Assembly carried out a detailed investigation into fire safety in high-rise and timber framed buildings.

The London report was published at the end of 2010 and highlighted the valuable role fire sprinklers can play - particularly in relation to ensuring the safety of firefighters called to tackle a fire in a timber framed building. It also called for an urgent review of the Building Regulations. Unfortunately, to date, the Westminster government has set its face against any changes at all.

One common denominator all studies reveal however is that

fires, starting during construction, are a particular problem and while guidance documents issued by timber trade groups and the FPA have sought to raise awareness of the issues, fires in timber buildings under construction are still a regular occurrence.

BAFSA has therefore produced additional guidance in the form of BAFSA Information File No 18 'Fire Sprinkler Systems in Timber Framed Buildings'. This publication seeks to highlight the problems associated with timber framed construction and encourages owners/builders to consider installing fire sprinklers into their buildings at the earliest opportunity. However, the document also emphasises the challenges timber framed construction poses to sprinkler installers - particularly for those asked to provide protection to buildings under construction.

This accessible and clearly written document is now available as a download <http://www.bafsa.org.uk/pdfs/publications/1/00000131.pdf> ❖

BAFSA publishes history of the first 40 years

As part of the activity to mark its 40th birthday, BAFSA will be publishing a brief account of the history of the association from its foundation to the end of 2013.

Relying on original sources such as minute books, registers and even accounts, the 44 page booklet describes why the then BASA was founded, details the seven original members and the problems they faced in setting up a new organisation.

The compiler, Stewart Kidd says that the main problem was the fact that Council Minutes for the years 1979 to 1985 are missing, possibly lost when the registered office moved from Leicester to London. The coverage of this period is of necessity sparse. Stewart said 'If anyone has any documentation from this period, we'd love to see it so we can copy it. Perhaps if material does turn up, a 50th anniversary edition could be issued.'

Even a brief dip into this work is instantly rewarded by finding out something new about BAFSA. Think that problems with insurers accepting systems from non-certificated contractors is new? Check out the

entry for 12 January 1977: 'BASA Council invites the two senior technical personnel from the FOC to attend the meeting at which the installation industry complains about insurers ignoring the FOC list of approved installers.'

Some of the items will bring a smile, such as a comment from a council paper also in 1977: 'Council discussed the possibility of creating a membership address list on 'magnetic tape or other such mechanical systems'.

Technology was also on Council's mind 20 years later: ...there was money in the budget for a new computer which would be capable of being used for 'e-mail and perhaps in due course, a web site'.

Also in 1997 there's another prescient touch: Concern was expressed at the fact that interest from the fire service in domestic sprinklers was growing but BASA was not involved.

It's clear that some of the frustrations which the industry still feels today is a recurring theme. In November 1985 we find: *Regret was expressed that significant efforts by BASA to lobby the Popplewell Enquiry (into the fire in the stand at the Valley*

Parade ground of Bradford City Football Club in 1985) had not been very successful. One BASA member had in fact installed sprinklers in a stand for a London football club but had not been allowed to publicise this fact.

Given the current interest in developing skills for the industry, it's interesting to reflect a more recent entry from 2102:

'The question of industry training was still generating conflicting messages; on the one hand, the largest installers believed there was no appetite for qualifications while strong messages from Warrington FIRAS (the primary certification body for residential installers) suggested that mentoring for new entrants was a highly effective way of getting companies into certification'.

Henry Ford may have said 'History is more or less bunk' but a more apt quotation would be: 'Those who fail to learn from history are doomed to repeat it', BAFSA's own history contains lots of lessons worth learning .

40 Years of Service to the Sprinkler Industry, edited by Stewart Kidd, November 2014, BAFSA. ISBN 978-0-9571838-5-8. ❖

Collaboration & co-operation

Throughout its history BAFSA has recognised the importance of close relationships with the UK Fire & Rescue Services and in 2013 it was decided to formalise the way this was managed. Following successful collaboration with London Fire Brigade, it was decided to record a series of agreements in a Memorandum of Understanding. LFB's Deputy Commissioner, Rita Dexter and Stewart Kidd signed the first MoU on 19th March. The second was signed in London at Fire Sprinkler International 2014 with Lewis Ramsay, Assistant Chief Officer of the Scottish Fire & Rescue Service.

The latest, with Essex County Fire & Rescue Service was signed at the BAFSA Warehousing & Logistics Facilities seminar held on 23rd October by DCFO Adam Eckley, Acting Chief Fire Officer. Agreements in principle have been reached with several other services including Buckinghamshire.

These MoUs incorporate a series of commitments in relation to collaboration and co-operation in the wider

and more effective promotion and use of automatic fire suppression systems in the following areas:

- ❖ Liaise regularly to exchange information on matters of relevance and mutual interest including:
 - proposed sprinkler system installations especially in social housing or in large developments
 - fires in buildings which are fitted with AFSS
 - the sharing of non sensitive statistics and anonymised data
- ❖ close co-operation in the organisation of seminars and other activities
- ❖ BAFSA will offer
 - its expertise and impartial assistance to relevant public bodies
 - training courses
 - technical and promotional literature and other materials
 - information on technical issues
- ❖ both sides will cooperate and mutually support each other in other relevant areas and forums. ❖

Scottish economy continues to improve

The Scottish Referendum may now be over, but the fallout continues with both the First Minister and Leader of the Labour Party in Scotland resigning. The timetable for greater devolution of powers to the Scottish Parliament is causing considerable debate, however despite this uncertainty the economy continues to improve particularly in the construction industry. Demand for new homes could fuel the creation of nearly 30,000 extra construction jobs in Scotland over the next five years, a report has suggested.

The Construction Industry Training Board (CITB) said that the private housing sector was expected to see average annual growth of 4.7%. It cited the Scottish government's 'Help to Buy' scheme as a major factor. The scheme helps eligible buyers with an equity loan of up to 20% of the purchase price of a new-build home.

CITB also forecast that major housing projects would provide a boost to the sector. These include a £100m eco-village in Aberdeen and a £1.5bn sustainable housing development in

the Douglas Valley. With growth and investment in the housing sector in Scotland of this magnitude it is a good time for Scotland to reassess the need for automatic fire sprinklers in new housing.

BAFSA is pleased to report that is exactly what they are doing, in September the Building Standards Division of Scottish Government announced that it was undertaking a research project to update the cost-benefit analysis for residential sprinklers in Scotland.

The contractor for the project is Optimal Economics Ltd, who has carried out previous research work into the use of sprinklers for schools in Scotland. This research will undertake a cost-benefit analysis for the installation of fire suppression systems in the following building types: houses, flats, houses in multiple occupation and halls of residence for students.

BAFSA also continues to receive excellent support from the Scottish Fire and Rescue Service since the signing of a Memorandum of Understanding between SFRS and BAFSA in May of this year.

In November, BAFSA will provide training in the use of automatic fire sprinklers for forty SFRS officers over a period of two days. This will be followed by a seminar on the advantages of sprinklers for housing in Scotland; Clare Adams MSP who has been a strong supporter of residential sprinklers will open the event.

In February 2015, Scottish Fire and Rescue will host one of five warehouse fire protection seminars which are being run in various parts of the UK. This event has already attracted significant attention

A number of sprinklered NHS (Scotland) projects have also come to fruition lately. These include South Glasgow University Hospital and the Royal Hospital For Sick Children. The latter is the largest project ever undertaken by NHS (Scotland) so it is appropriate that it is fitted with the highest standard of protection.

With the support of a number of interested groups in Scotland, BAFSA believes that there will be a significant increase in the number of sprinkler systems installed Scotland over the next few years. ❖

Welsh Sprinkler Pilot Study

To prepare for the implementation of the second stage of the Domestic Fire Safety (Wales) Measure, in January 2016, the Welsh Government is funding a pilot project involving the installation of sprinklers into a number of new social housing developments across Wales. The project is to be monitored by the Building Research Establishment (BRE Global) and will be fully funded by the Welsh Government to a maximum of £1,000,000.

The aim of the project is to gain evidence pertinent to sprinkler installations that will establish good practice or reveal problems that can be addressed before the full impact of the legislation takes effect post 2016. A key concern of government and home builders alike being the availability of skilled installers sufficiently competent to take on the work, therefore BAFSA and Neath Port Talbot College Group are to be closely involved. Monitoring by BRE consultants will include telephone discussions, site visits and on-line questionnaires.

To date, the study includes thirteen separate developments involving 217 social housing units spread across 10 local authority areas in Wales. The majority of the schemes are new build although two are conversions which may create additional challenges. They cover all the categories i.e. flats, bungalows, houses, extra care

schemes and supported housing.

Those responsible for the social housing projects accepted for the pilot study have already begun to procure the services of fire sprinkler contractors and the installation of equipment into their developments. The systems will be designed and installed in accordance with BS9251: 2014 and will include direct main connections, boosted main connections and independent tank and pump supplies.

An interim report is expected in the autumn of 2015 when nine of the development sites should be completed, and a full report is to be with the Minister by mid 2016. Two seminars are also being planned to share the findings of the study with interested parties but especially social landlords, care providers and builders. ❖



Carl Sargeant, Minister for Local Government and Communities, who announced the Pilot Study at BAFSA's seminar hosted by Mid & West Wales

Sheffield to retrofit 'Ranch style' flats

Following the success of the Callow Mount Retrofit project in the city, and the continued efforts of South Yorkshire Fire & Rescue Service, BAFSA has cooperated with Sheffield City Council to assist in the development of specifications to inform the tendering process for the installation of sprinkler systems into 541 existing three-storey 'Ranch Style' flats. The properties, in 23 blocks, are in 4 locations around Sheffield.

The buildings are split into two distinct types of location:

Sloped site

The first and second floor properties are at first sight of standard layout. However due to a sloping site the ground floor dwellings extend only halfway into the block, with the rear bedrooms relocated to the front of the property making the dwelling twice as wide as the properties above.

The properties are provided with a horizontal service shaft containing the domestic water supply running the full length of the building and providing access to all three storey.

It was envisaged that a single connection could be made into the water main at a suitable position from which the sprinkler supply pipework would feed all the homes in the building.

Level site

The ground, first and second floor properties are all of a standard layout, with one flat sitting directly above the other.

There was no obvious safe and convenient route to install sprinkler supply pipework and it was decided that a connection would be made at ground level into the existing service mains with a dedicated feed taken into the end stairwell. A rising main would be routed up through the encased riser shaft to roof level and the sprinkler supply run across the flat roof with a



connection taken at each rising vent position to drop down through the building into each flat.

It was estimated that the cost, without allowance for associated builder's works, would be £810,000 excluding costs associated with boxing-in, decorating, making good and roof penetration.

The retrofitting of sprinkler systems to these properties will no doubt present some interesting challenges but given a flexible approach, BAFSA could see no reason why sprinkler could not be successfully installed.

Following the completion of a feasibility study, the City Council decided to award the main contract to its in-house construction partner, Lovell. However, a BAFSA member Armstrong Priestley has been awarded a sub-contract to design install the sprinkler system.

Subject to Council approval it is hoped that BAFSA will follow the project and produce a 'Callow Mount' style report on it for the benefit of BAFSA members and local authorities, the Fire and Rescue Service and housing associations. ❖

Training for Belfast Building Control

In conjunction with Local Authority Building Control (LABC) and Belfast City Council, BAFSA provided two Continuing Professional Development (CPD) seminars to over seventy building control officers in Northern Ireland in October this year.

The seminars were hosted by Belfast City Council Building Control, at their prestigious offices in Lanyon Place, Belfast; and attracted delegates from a number of other local authorities across Northern Ireland.

Feedback from LABC indicates that the events have been well received and Ian Gough, BAFSA's Senior Technical Advisor, reports that there is clearly a growing interest in the use of automatic fire suppression as an aid for compliance with Northern Ireland's building standards and in conjunction with their Technical Handbook 'E'.

Indeed, subsequently, BAFSA has received further enquiries for sprinkler training which it is hoped can be arranged during 2015. ❖

Why Third Party Certification for sprinkler installers?

Third Party Certification is the recognition of the competence of a sprinkler installer to fulfill their client's fire protection needs strictly in accordance with specifications and the current standards for the design and installation of automatic fire sprinkler systems.

Accredited installers must employ staff who have passed strict examinations as proof of their competence to design, install and commission automatic sprinkler systems according to their clients' or client's insurers specified requirements.

3 existing schemes

In the UK the sprinkler installers are accredited by two main organisations, The Loss Prevention Certification Board which is a division of The Building Research Establishment and FIRAS which is a division of Warrington Fire Research. More recently IFC Certification Ltd has set up an approved scheme for residential and domestic installers.

These organisations are themselves accredited by a government body, the United Kingdom Accreditation Service, UKAS. Only organisations approved and listed by UKAS can provide third party certification. It's important to note that just being accredited by UKAS is not enough, the scheme operated must itself be accredited. You can verify the scope of accreditation at: <http://www.ukas.com/about-accreditation/accredited-bodies/>

All government departments, the insurers and the Fire and Rescue

Services recognise the benefit of third part accreditation and this is made clear in the preamble to the Building Regulations and Scottish Building Standards. The official guidance to the fire regulations also makes it clear that utilisation of an accredited installer is the best way of discharging legal duties.

Employing an uncertificated installer could result not only in a non-compliant system but also prevent the issue of a completion or occupation certificate by the building authority.

Installers must use products that have been approved by a recognised testing authority and listed as such. These products are rigorously tested to European and international standards by the manufacturers and have a long history of excellent performance.

4 levels of competence

The capabilities of sprinkler installers working on industrial and commercial systems are covered by the LPS 1048 scheme run by the LPCB, part of BRE Global. Each installer is assigned to a level of competence. There are four levels of competence within the scheme, with 4 being the highest attainable level.

A level 4 LPS 1048 accredited company can design, install, maintain and self-certify all types of sprinkler contracts. As the level of accreditation reduces the type of sprinkler system that can be undertaken becomes less complex and some contracts will be supervised and over stamped by the LPCB.

The technical requirements for industrial, storage, commercial and retail sprinkler systems installed in the UK are set out in the LPC Sprinkler Rules, incorporating BS EN 12845, both with subsequently published Technical Bulletins. The technical requirements for domestic and residential sprinkler systems are set out in BS 9251.

Full control

In order to ensure that automatic sprinkler installations meet and continue to meet the requirements of this scheme, Contractors are required to maintain full control of their design, supply of materials, pre-fabrication of sprinkler pipework, installation, commissioning and maintenance processes through a management system audited by their third party accrediting organisation. All accredited sprinkler companies must have ISO 9001 certification and their management system is audited against that standard.

BAFSA Member companies which are listed under the FIRAS Domestic and Residential Installer scheme are classified together with LPCB Level 1 installers. Unlisted companies, installing such systems, are admitted as Associate Members and are required to obtain third party certification within two years of joining the association. Companies which fail to do this have their membership terminated.

A list of third party accredited companies can be found on RedBookLive, FIRAS and BAFSA websites. ♦



From Rubens to Botticelli

Installing a Victaulic fire protection system enabled the Engineering & Procurement Contractor at the Musée du Louvre in Lens, to adhere to stringent safety legislation and overcome the challenging architectural design.



The Musée du Louvre, Lens in Northern France houses one of France's premier art collection and is a satellite of the famous Louvre Gallery in Paris. Around 6,000m² of exhibition space is provided in five different buildings within the 28,000m² complex.

To guarantee maximum protection of the museum and its contents, the museum's Security and Safety team specified a pre-action sprinkler system. The design and installation which would be overseen and ultimately signed off by the National Centre for Prevention and Protection (CNPP), which is effectively France's public body for safety and fire protection. A premature water discharge which would wet valuable artefacts while not as disastrous as a fire, was to be avoided. By specifying a pre-action system, the fire safety team would get prior warning before the system activated and released water. The pre-action system has been designed to prevent sprinklers being activated in the event of a false alarm and, depending on the setup, a sprinkler broken by accident will not trigger the system. The device is also easily drained and reset if the alarm is activated.

The entire sprinkler system in the museum consists of around 3,800 sprinkler heads and covers an exhibition surface of around 6,000 square metres across the five zones. These include all exhibits and the restaurant, plus around 15 kilometres of piping in the lower level where the three machine rooms, one exhibition room and delivery entrances are housed. Twelve pre-action devices control the system by individual zones.

Stéphane Delannoy, Project Manager, and his team at Eiffage Energy Thermie Nord, the engineering procurement contractor tasked with selecting and installing the fire protection system, started their search and one of the companies shortlisted was Victaulic which Mr Delannoy, had worked with on a number of previous projects and knew that its systems had proven to be

reliable and durable on past projects thus a Victaulic fire protection system was selected.

Following the tender process and an initial engineering meeting, Victaulic delivered the Series 769 FireLock NXT devices to the site partially pre-assembled with installation-ready couplings and valves already in position, so the installation team only needed to place them in the system and make minor adjustments to have them working. Their light-weight design with fewer internal moving parts makes them easy and quick to install, service and maintain – reducing labour costs – whilst their compactness reduces the installation footprint. Requiring lower operating pressure, the valve systems offer fast trip time and water delivery and eliminate air-to-water differential. The team began installing the 12 pre-action devices in the three mechanical rooms.

Another reason why Victaulic solutions were selected for this construction was the confined spaces the team was working in. The grooved mechanical systems are a practical solution in such small spaces, as grooved couplings allow for a full 360 degree rotation of the pipe



and system components before tightening, so that proper alignment can be achieved. Due to the very low ceiling, the Eiffage team was installing a piping system with a diameter of between four and five centimetres, in spaces of seven to eight centimetres between the roof and platform.

The installation in the 28,000m² museum has proven its worth to the security and safety team at the museum Eiffage Energy Thermie Nord and Mr Delannoy commented: "To date, the fire protection piping systems have been easy to maintain and have functioned smoothly." ❖

SPRINKLER SAVES

Primary School: West Midlands 1 May 2014

Fire in a fan in an IT room was reported and a single sprinkler head operated to extinguish the fire before the arrival of the West Midlands F&RS. Fire damage was estimated at £30,000.

Domestic Property: Essex

A fire started in a housing association home in the bedding and mattress of the lower bunk in a bedroom. A single sprinkler head actuated. Essex County F&RS did not undertake any fire suppression activity as the fire had been extinguished.

Shopping Centre: Glasgow 7 May 2014

A fire occurred in a first floor toilet in a mobile phone shop within a shopping centre. The alarm was raised early in the morning when the shop was closed and unoccupied. A single sprinkler head operated and the fire was extinguished by the time the Scottish F&RS gained access. The shop was closed for a short period due to the incident but otherwise the rest of the shopping centre traded as normal without interruption.

Poultry Processing Plant: Suffolk: May 2014

Suffolk F&RS reported a sprinkler save when a motor unit, situated in the boiler room of a poultry processing plant in Holton, caught fire, resulting in the operation of two sprinkler heads which extinguished the fire.

Laundry: Watford: 30 May 2014

A fire started in a large wheeled cage containing laundry in the ground floor drying machine area of a large commercial laundry. A single sprinkler head quickly controlled and suppressed the fire. Hertfordshire F&RS crews reported that the fire was out on arrival with one firefighting jet used to ensure the fire was fully extinguished.

Firefighters in breathing apparatus ventilated the premises.

Factory: Corby: 6 June 2014

There was a successful sprinkler activation following a fire at a factory engaged in bio-refining. The fire began when gluten ignited following a system blockage on the production line. One sprinkler head activated preventing the fire from taking hold. Two pumping appliances were mobilised to the incident and one hose reel jet was used by Northants F&RS crews.

Warehouse: Barnsley 20/21 June 2014

The serious fire at the warehouse occupied by on-line fashion retailer ASOS resulted in the loss of around 20% of the stock in this 40,000m²+ warehouse arranged over four mezzanine floors. South Yorkshire F&RS' Head of Prevention and Protection, Phil Shillito, said: "The fire suppression systems installed by ASOS worked effectively and played a significant role in reducing the spread of the fire. This was still a major fire and our firefighters did a tremendous job in tackling the blaze. But there is no doubt that the sprinkler system in place greatly limited the damage, and probably saved the warehouse from being destroyed."

As in all fires in warehouses handling clothing, smoke damage was significant and may have accounted for 20% of the stock present. The building itself was undamaged and back in use three days after the fire.

College: Barnsley: 23 June 2014

A fire in the reception area at the Old Mill Lane site of Barnsley College was caused by an electrical short circuit. One sprinkler head actuated and South Yorkshire F&RS crews attending reported that the fire was out on arrival and there was no disruption to the student's work programmes.

Factory: Burton on Trent 12 July 2014

An industrial hopper at Pirelli Tyres caught light in the middle of the factory. About 20 firefighters from Staffordshire F&RS wore breathing gear as they tried to bring the outbreak under control. They also used a thermal imaging camera to pinpoint fire 'hotspots' within the building and spent five hours at the scene damping down the premises.

Investigators concluded that the blaze was believed to have been started by an electrical fault. Burton fire watch manager Gary Phillips said sprinklers within the factory had been crucial in keeping the fire contained so it did not spread to other parts of the site.

Warehouse: Strathclyde 28 July 2014

A fire in clothing on high racks at the single storey distribution warehouse on the Olympic Business Park, Dundonald resulted in the mobilisation of three pumping appliances and an MIU. One upright sprinkler head on the tank-fed, wet pipe system activated to extinguish the fire, with total firefighting action being limited to 20 minutes and about 60m² of the premises being affected.

BAFSA was subsequently advised that the total value of the stock within the warehouse was £10 million. The value of the damaged stock was £48,000. The warehouse employed 250 staff all of whom are still at work. Reportedly the warehouse was uninsured as the company was unable to find insurance cover 'due to the high value risk'.

Industrial Building: Southampton: 8 August 2014

Fire broke out in a milling machine on the second floor in the listed Solent Flour Mills building at Western Docks. Hampshire F&RS firefighters in breathing apparatus entered the building and put out the fire. The damage was limited to the affected machine thanks to the sprinkler system.

Bedroom Fire: Lincolnshire 19 August 2014

Lincolnshire F&RS reported a successful activation of a Personal Protection System (PPS) installed to protect a vulnerable person living in a sheltered housing scheme. The fire occurred in a waste bin located in the occupant's bedroom. No firefighting action was required by attending crews.

Factory: Towcester 20 August 2014

A fire occurred in premises used for the manufacture, research and development of high technology printed circuit boards on the Caswell Science and Technology Park. The accidental fire, involving a combustible surface, caused one sprinkler head on the wet pipe system to operate in the affected area. Fire damage to the value of £10k is reported to have been limited to one specialist machine and covering about 1m².

Northants F&RS reported that action was confined to clean up operations as the fire was 'out on arrival' (OOA). There is no report of what Business Interruption (BI) took place but had the factory been lost to the fire, it is reported that the costs could have been as high as £1.5 Billion.

Factory: Banbury 29 August 2014

Oxfordshire County Council F&RS were called to a fire on the Beaumont Industrial Estate. Two appliances from Banbury attended and confronted with heavy smoke emerging from open roller shutter door of a warehouse. The factory's sprinkler system had activated and suppressed the fire.

Firefighters using a high-pressure hose reel jet and wearing breathing apparatus quickly extinguished the fire. The warehouse was fully smoke-logged and two high-pressure fans were used to help push the smoke out of the building.

Warehouse: Bermondsey London: 3 September 2014

London Fire Brigade were called to a home and leisure warehouse store on Surrey Quays Road. The blaze started in an outside yard at the back of the store when some rubbish caught alight.

A number of propane cylinders were also involved in the fire. It is also reported that fireworks were stored close to the seat of the fire.

The blaze destroyed a shipping container in the yard containing around two and a half tonnes of refuse and spread to a small part of the warehouse. Thankfully the warehouse was fitted with sprinklers, and this, along with the hard work of fire crews, helped to limit the amount of damage caused.

58 firefighters and eight appliances from East Greenwich, Dockhead, Old Kent Road, Deptford, Peckham, Whitechapel, New Cross and Lewisham fire stations attended.

Student Accommodation: Greenwich: 4 October 2014

A sprinkler system in a halls of residence operated to successfully suppress a kitchen fire. London Fire Brigade despatched 20 firefighters and four appliances to the location.

The block was fully sprinklered and single head activated and limited the amount of damage caused to the kitchen.

Theatre: Birmingham 11 October 2014

A fire believed to have been started by a faulty electric sign caused minor damage to the mezzanine of the Birmingham Hippodrome. Hot smoke from the blaze activated the theatre's sprinklers.

Nine firefighters from West Midlands F&RS spent two hours at the scene. Theatre staff then worked quickly to clean up ahead of two performances by the Birmingham Royal Ballet, which went ahead as planned.

Bedroom: Wisbech, Cambs 15 October 2014

A fire in the bedroom of a dwelling was extinguished by a sprinkler system and everyone had safely evacuated before Cambridgeshire F&RS fire crews arrived and ensured the fire was fully extinguished, minimising the damage of what would have been a severe fire.

Flat: Cumbernauld, Scotland 14 October 2014

Cumbernauld House is the former HQ of Cumbernauld Development Corporation but during the conversion to residential use, residential sprinklers were installed. A fire started in one of the apartments when a candle, located in a bathroom, apparently disintegrated setting fire to nearby towelling. The fire was extinguished by the sprinkler head located in the bathroom.

BAFSA comments: The 2005 issue of BS9251 advises that bathrooms with an area of 5m² or more should be sprinkler protected and this was so in the case above. The 2014 revision however, suggests that the need for this extension of coverage should be subject to a risk assessment. Given that these pages have previously reported several bathroom fires in dwellings (including an arson fire,) it is suggested that the widespread use of candles etc should inform any assessment. ❖

“ Not only do sprinklers save lives and prevent fire and smoke damage, they use less than five per cent of the water we would to extinguish a fire ”

All expectations exceeded



Diners patiently wait to board the bus taking them to the Gala dinner

guest removes the cover, the drinker drinks, wipes the rim of the cup with a napkin provided, the cover is replaced and the two bow to each other again. This procedure continues around the table with the original drinker turning around to mount guard on the new drinker's back.

Many of our international guests were intrigued by this opportunity and enthusiastically joined in.

The organisation of Fire Sprinkler International benefitted hugely from the support of sponsors Rapidrop Global, Potter Electric and Victaulic as well as Globe Fire Sprinklers, Reliable Sprinklers and FM Global and as a result of their involvement Potter Electric have become members. ❖

When the idea of holding a joint conference with the European Fire Sprinkler Network (EFSN) was first discussed it was never envisaged quite how successful the outcome would be. But after 2 years of planning the two-day conference held in a sprinklered hotel in London exceeded all expectations. With 344 delegates and 37 exhibitors from 28 countries, it was almost certainly the largest sprinkler- focussed event ever held outside of the USA. The complex and often challenging programme of events were well received and went without a hitch with several delegates commenting that it was “a truly excellent exhibition/conference”.

No successful conference is complete without its social events and the Welcome Reception proved to be an excellent opportunity for delegates to network whilst being thoroughly entertained by Bowjangles, a string quartet whose theatrical performance inspired audience participation from many of the 300 guests.

The finale was a Gala Dinner in the historic surroundings of Stationers Hall, a 400 year old livery hall in the City of London. 196 diners arrived from the hotel in traditional, red London Routemaster buses and enjoyed a first class meal and wines. Maintaining an air of tradition and history everyone was invited to partake in the ancient



The signing of the MOU between BAFSA and the Scottish F&RS

ceremony of the Loving Cup. A tradition which is upheld by all of the livery companies of the City of London and one which is said to date back to 948AD when King Edward the Martyr was assassinated whilst drinking a toast. It became customary at banquets to pass round a large covered cup from which everyone drank in turn whilst a companion defended the drinker's back from attack by an enemy.

Nowadays the “Loving Cup” is passed round the table and when someone is about to drink, the guest on one side stands with his back to him so as to protect him from attack. The drinker and the guest to the other side bow to each other, the second



A packed conference hall shows their appreciation

Members' meet in historic surroundings

In mid September more than 50 members gathered within the historic walls of the sprinklered Hollins Hall Hotel for their 2014 Autumn Members' Meeting. One of the key presentations focussed on the progress and plans of the Skills & Development Committee whose remit, Mike Green explained, was to develop vocational qualifications and training to ensure competency for persons working within the sector. His compelling argument centred on the need for BAFSA members to support training and skills development "as the effort that it puts into the promotion of the industry will be diluted or even wasted if there are insufficient resources in the future. Supporting

BAFSA in the drive to continually professionalise the industry will result in an increased pool of competent and talented individuals across all disciplines i.e. installation, service, design, management".

After much discussion and a break for coffee, delegates sat back down to listen to Chris Selby, CEO of the Confederation of Construction Specialists, which BAFSA has recently joined. Through his presentation, members learnt that they could take advantage of the services offered by the Confederation including:

- ❖ Training
- ❖ Legal Guidance
- ❖ Contract Analysis

- ❖ Decision Support
 - ❖ Value Added Services
- After an excellent lunch, members were joined by 22 guests from local housing associations and local authorities who heard a number of presentations covering fire protection in recycling plants; sprinkler saves and insight in to London Fire Brigade's "Sprinkler Competition" aimed at encouraging housing providers to fit sprinklers through funding from the Brigade. Delegates learnt that 5 London Boroughs had been successful in obtaining matching funding. LFB is to make available £187,000 for projects which include sprinklers, water mist and personal protection systems. ❖

Happy 40th birthday



Marking BAFSA's 40th birthday has been a running theme in 2014 and will continue into 2015. With FSI 2014 making an international statement whilst the November Gala dinner, complete with music and magic, being a more intimate affair for BAFSA members and their guests.

By contrast, in December, MPs and members of the House of Lords

together with Government officials and the wider fire community will meet in London to launch the 40th Anniversary publication and share BAFSA successes.

But the best is yet to come...on 3rd June at the Marriott Forest of Arden, all BAFSA members and their families are invited to pit their imagination, skills and sporting prowess (!) in an afternoon of enjoyable challenges

followed by a "beer and barbecue" supper.

After a welcoming bacon roll and a briefing, teams of 10 will find themselves literally challenged to take part in six activities ranging from clay pigeon shooting to "storming a castle" and 'Human Shepherding' (very entertaining to watch).

"Team spirit" is the order of the day along with fun and frivolity. We are looking for team sponsors but every individual BAFSA member is encouraged to come along and be part of a team. What better way to network with your BAFSA colleagues than through working as a team?

We hope that even non participant members and their families will attend the prize-giving and barbecue in the evening.

The day is planned to coincide with the Annual BAFSA Golf competition which will take place in the morning and it is hoped that the golfers will, collectively, join the afternoon as "The hole in one" team.

Individuals keen to compete and sponsors wanting to support this day are asked, in the first instance, to email marketing@bafsa.org.uk ❖

BAFSA Events

2014

Date	Events	Venues
19 November	Residential & Domestic Committee	Tyco, West Bromwich
19/20 November	Sprinkler CPD Training	Scottish F&RS, Glasgow
19/20 November	F&RS Sprinkler Training	Scottish F&RS, Glasgow
21 November	Scottish Housing seminar	Glasgow
27 November	Warehousing & Logistics Facilities Seminar	Milton Keynes
4 December	F&RS Sprinkler Training	Bucks F&RS
10 December	Launch of 40th Anniversary publication	London

2015

14 January	BAFSA Council, Armstrong Priestley	Leeds
30 January	Skills & Development Committee	
4 February	Technical Committee	
11 February	Communications & Market Development committee	
12 February	Warehousing & Logistics Facilities seminar	Glasgow
16/22 March	Sprinkler Week	across the UK
18 March	Warehousing & Logistics Facilities seminar	Burton-on-Trent
19 March	Warehousing & Logistics Facilities seminar	Cardiff
27 March	Skills & Development committee	
15 April	Communications & Market Development committee	
6 May	BAFSA Executive & Staff meeting	
13 May	BAFSA Council	South Yorkshire F&RS Training Centre
3 June	BAFSA Golf Day & BAFSA Family Challenge Day	Marriott Forest of Arden
26 June	Skills & Development Committee	
1 July	Technical Committee	
15 July	Communications & Market Development committee	
9 September	BAFSA Executive	
16 September	BAFSA Council	
17 September	BAFSA Autumn Members' Meeting & Local Authority Seminar	
14 October	Communications & Market Development committee	
21 October	Technical Committee	
30 October	Skills & Development Committee	
4 November	BAFSA Executive	
12 November	BAFSA Council, Marriott Worsley Park	
	AGM Marriott Worsley Park	
	Annual Dinner Marriott Worsley Park	

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BAFSA is happy to receive suggestions for topics to be covered in future issues. Please make contact via info@bafsa.org.uk.

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