2004, Issue 4

The Catalyst

The Official Newsletter of JOIFF

December 2004

www.joiff.com

From the Editors

This is the fourth edition of The Catalyst for 2004 and we welcome our growing numbers of Readers. Our policy is to bring you high quality articles on new developments and other happenings in the area of Emergency Services Management. In addition to The Catalyst, current information relevant to Emergency Services Management is posted on the JOIFF website.

As always, we thank those JOIFF Associate Members who have contributed articles - for this edition, DuPont Personal Protection and Kidde. We also thank John Bellamy of Sonic Communications for his contribution and we particularly draw your attention to an interesting letter to the Reactor Column on the introduction of FiReBuy, an initiative in the United Kingdom under its changing policy on Municipal Fire Brigades. We support Mr. R's call for your response to this letter.

Don't forget to make a note in your diary of the forthcoming Industrial Fire Journal / JOIFF First Worldwide Firefighters Conference which will take place in Manchester, UK on 15th and 16th March 2004. JOIFF seeks your support in making this Conference a success.

We sincerely thank our advertisers / sponsors without whom we could not function.

We look forward to your continuing support and wish all our Readers a very Happy, Safe and Healthy Christmas and New Year.

About Joiff

JOIFF, the Joint Occupational Industrial Fire Forum, the Organisation for Emergency Services Management in Process Industry, is a grouping of Companies, represented by their Emergency Services Manager - or equivalent position - and nominated Deputies.

For the purposes of JOIFF Membership, a Process Industry is considered to be any Industrial / Commercial Organisation that is engaged in processing, storage, handling and/or transport of high risk materials and that has nominated personnel as Occupational Firefighters /Emergency Responders.

Associate Members of JOIFF are Organisations or Individuals who do not comply with the requirements for Full Membership but who share the same interests.

JOIFF provides a forum for discussion amongst peers, accredited training, information dissemination and technical advice.

JOIFF welcomes interest from suitable Organisations who wish to become Members or Associate Members - contact the JOIFF Secretariat, details on the back page.

JOIFF Ltd. Registration number 362542.

The Catalyst
The Official Newsletter of Joiff

New Members

During the past 3 months, the Executive of JOIFF were delighted to welcome the following new Members:

Members:

Dow Benelux BV, The Netherlands, represented by Pierre Houben Chief Fire Officer. Pierre is responsible for a large Team primarily of full time Firefighters and Medical Responders on duty in shifts 24 hours a day, 7 days a week.

South Tipperary Fire Service, Training Centre, Ireland, represented by Con Murphy Chief Fire Officer and Tadgh O'Driscoll Assistant Chief Fire Officer / Training Manager. As well as Training Fire and Civil Defence personnel, the Training Centre is widely used by Industrial Firefighters from all over Ireland.

Members - Associate / Corporate:

BW Technologies, Oxfordshire, England, represented by Gavin Boorman, Director of Operations, Europe. BW Technologies manufacture Gas Detection equipment.

Packsome Clothing Ltd., Derby, England, represented by Phillip Johnson, Managing Director and Kate Oates, Design Manager. Packsome Clothing Ltd. design and manufacture Firefighting and Fire retardant safety garments.

Trelleborg Protective Products, Hull, England, represented by Graham Haddington, UK Sales Manager and Lyn Dixon, Plant Manager. Trelleborg Protective Products manufacture PPE including chemical and fire suits.

Members - Associate / Individual:

Declan O'Shea, Cork, Ireland. Declan is a serving officer with Cork Fire Brigade, responsible for crews at incidents and Training and he has extensive qualifications in Fire and Fire Science.

We look forward to the involvement of our new and existing Members in the continuing development of JOIFF.

PRESS RELEASE

Fulcrum Consultants are pleased to announce that they have been approved as an Assessment Centre by the Awarding Body Edexcel, currently the only Awarding Body delivering Fire Service NVQs, for the Fire Sector National Vocational Qualifications (NVQ). Fulcrum Consultants have also been approved for Assessor and Verifier and Learning and Development NVQs and Certificates. This means that Fulcrum Consultants can now offer an Assessment and Internal Verification service to persons and Organisations for these qualifications.

The current Fire Service NVQs include Operations in the Community, Control Operations and Watch Manager. Assessor and Verifier qualifications includes conversion from existing D 32, D 33 and D 34 to A 1, A 2 and V 1, V 2 qualifications as well as the complete courses for assessor / verifier. Within the Learning and Development qualifications as well as the Learning and Development NVQ Fulcrum will be assessing and verifying for BTEC Cluster Awards.

Fulcrum Consultants are part of the Dublin, Ireland based GD Group of Companies and are Secretariat of JOIFF, the Joint Oil and Industry Fire Forum.
For further detail contact info@gdgroup.ie

LARGE-SCALE LNG FIRE TESTS

By
Jonathan Brittain, Angus Fire

Engineers from Angus Fire have conducted a series of large-scale tests of the efficacy of high expansion foam and application equipment on Liquefied Natural Gas (LNG) fires.
The tests were carried out at the new world-class LNG testing and training facility developed and sponsored by BP in collaboration with Texas A&M University Emergency Services Training Institute.
The test programme was organised in response to the strong global increase in demand for natural gas, the cleanest burning of all fossil fuels. When natural gas is chilled to -164oC, it turns into a liquid, takes up to 600 times less space, and can be economically shipped around the world aboard super tankers, just like oil.
The trouble with LNG is that if it catches fire it gives off three times the amount of heat of an equivalent sized oil fire. Heat emissions are the principal cause of damage from LNG fires.

Angus Fire has designed many LNG fire protection systems worldwide

Small-Scale Tests

Initial small-scale tests were carried out to assess the effectiveness of different types of foam concentrate and application technique on a range of LNG fires.
Foam concentrates are known to vary enormously in their effectiveness on LNG. Low quality brands exhibit poor stability as indicated by their faster drainage rates. In contrast, high quality brands like Expandol and Tridol ATF from Angus Fire are known to produce a more stable foam layer for optimal performance and minimal topping-up.
A variety of application techniques were used including low, medium and high expansion as well as compressed air foam systems. The tests were carried out in a 10 m2 square pit to simulate a small spill, and a 19 m2 L-shaped trench to simulate an LNG pipeline.

Angus LNG Turbex applies Expandol high expansion foam despite searing heat of LNG fire

In all tests a white cloud was observed where the vapourising liquid came into contact with moisture in the air. LNG is flammable when its vapour mixes with air in concentrations of between 5 and 15%. Such levels are normally expected on the fringes of the visible cloud, but portable gas monitoring equipment detected pockets of flammable vapours up to 150 metres from the cloud.
The vapour cloud was ignited at the edges and allowed to burn back through the cloud to the liquid pool in the pit. In one test, Tridol ATF foam applied gently through a hand-held medium expansion foam branchpipe was observed to control the fire and achieve a reduction in heat radiation of over 90% in only one minute.

Large-Scale Tests

Large-scale tests were carried out to simulate a major spill fire in the bunded or diked region surrounding an LNG storage tank. LNG was placed in a huge 65 m2 test pit, the largest of its kind in the world. When the vapour cloud was ignited, flames shot over 30 metres into the air and gave off so much heat that personnel were forced to retreat to a safe distance.
Such intense heat emissions from a major LNG fire mean that ordinary high expansion foam equipment is totally unsuitable. It quickly distorts, buckles and ceases to generate any foam. That's why the specialist LNG Turbex from Angus Fire was used

throughout the test programme. The exceptional heat resistance of the LNG Turbex ensures reliable operation even after prolonged exposure to searing heat. It has previously passed the demanding NFPA 11A fire exposure test with flying colours, withstanding temperatures as high as 1000oC.
Additional features of the LNG Turbex that proved crucial during the tests included a unique water-

Angus Tridol ATF medium expansion foam controls LNG spill fire

driven turbine motor and special aerofoil fan. These provided a consistent air flow through the foam generator that produced foam with uniform expansion ratio at all times. Its cocoon-shaped design generated a stable slow-draining foam blanket with uniform bubble size for optimal performance, while stainless steel ducting ensured reliable foam delivery even in high winds.
Expandol high expansion foam of 300 to 500:1 expansion ratio was found to achieve rapid fire control and subsequently a controlled burn-off , achieving 90% reduction in heat radiation in just one minute. Once control was achieved, the foam application rate was varied while maintaining full control.

Vapour Dispersion

The 65 m2 pit was also used to simulate an unignited spill in the bunded region around a storage tank. The LNG Turbex was observed to reduce ground-level vapour concentrations within seconds to well below the Lower Flammable Limit of 5% by covering the spill with a blanket of top quality Expandol high expansion foam. A layer of frozen foam formed at the LNG/foam interface that supported several feet of additional foam. Ice tubes also formed where the vapours boiled through the foam blanket. As the vapours ascended through the foam, they were warmed, became lighter than air, rose upwards, and dissipated safely in the air above potential sources of ignition.

System Design

The importance of applying the findings of this latest test work to the design of LNG fire protection systems cannot be overstated. NFPA 11A, for example, suggests that application rates and discharge times should be established by test work.
Designing a successful system is not limited to using foam generating equipment and concentrates that have been thoroughly tested on LNG. A detailed risk analysis should be carried out early on, and critical variables such as induction rate, expansion ratio, drainage time and foam depth, as well as application rate and discharge time, should be carefully defined to suit each individual risk.
Combining all these factors into a properly engineered system is the hallmark of Angus Fire. The company is recognised world wide as the leading provider of engineered systems for the protection of LNG facilities. Staffed by a dedicated team of design engineers with extensive experience of LNG contracts, it has a proven track record of designing systems that have no equal in the industry.
The research and test programme will continue in 2005 with the construction of additional LNG fire testing facilities, maintaining Angus Fire's leading position at the forefront of LNG fire suppression technology.

Flames shoot 30 metres into air during LNG fire tests

The Catalyst
The Official Newsletter of Joiff

DESIGN AND INNOVATION
SONIC'S IMPROVED HELMET MOUNTED COMMUNICATION SOLUTIONS

by John Bellamy
Sales Manager - Fire and Safety Products

Sonic Communications (International) Limited was formed almost thirty years ago with the intention of fitting communication headsets into Motor Cycle helmets, and has developed into a company employing about one hundred people in this country and others in various overseas countries. The Company has diversified in many ways, manufacturing many and various Audio and Video based products, mainly custom built to the end users specific requirements. Particular emphasis has been placed on body worn, motorcycle and vehicle mounted products.

Helmet communications is still at the heart of the company's product range, but now includes: - motorcycle, fire fighters, military, public order, helicopter landing officer and many other types of helmets. Sonic has always had current and future legislation in mind when designing products, probably the best example of this is the range of motor cycle helmets, which have communication headset of various types to meet the users specific needs and all approved to the current British Standard and carry the kite mark awarded to Sonic Communications. This is necessary as the helmet manufacturer approval becoming invalid once we start to interfere with the internal construct of the helmet, and Sonic has to accept responsibility for the product.

It is not always necessary to have a helmet of the various type re-approved, if the communication headset are not permanently fixed but it is always carried out in consultation with the helmet manufacturer, sometimes even at the design stage.

There are currently three main types of communication headsets to fit into the vast range and styles of helmets in use for the many occasions where head protection and good communications are of paramount importance.

The main product uses a boom microphone, which is general of low cost and readily accepted by the end user. It may be fitted with a pressure gradient noise cancelling microphone, for use in noisy environments, i.e. public order, fire fighting etc. These products normally only have a single receive earpiece to allow the wearer to also hear ambient noise. Attention must be paid to the location and fixing of the product within the helmet, to ensure maximum wearer safety whilst giving maximum product effectiveness.

The bone transducer is generally thought to be a newer innovation, but has been used for many years on throat microphones and nowadays onto various parts of the skull, including the crown of the head and on the jaw bone as well as within the ear. This is a particularly useful product where there is a high level of background noise, i.e. engines or pumps are running. Another advantage is it can be used if the outside environment would damage or destroy a conventional microphone i.e. fire fighting.

There are occasions where the product must be discreet and therefore unseen by other people in close proximity i.e. covert activities etc.

It is of extreme importance with every bone transducer that it is solid and in a fixed position to give maximum contact and therefore maximum effectiveness, these products in general do not pick up background noise, but may be a little more difficult to position initially. They will work through a fire fighter fire hood but not through his breathing apparatus, face mask headstrap or headset.

There is an increasing demand for receive only headsets within helmets, particularly the latest enclosed type of fire fighters helmets i.e. H.I.S.L. Cromwell F600, Gallet F1 or Pacific types. Whilst these products give the wearer additional protection they can in some cases limit his hearing. Most fire fighters carry their radio on the front of their tunic, they often do not hear incoming messages clearly but can transmit messages successfully. By fitting a receive only earpiece to the helmet, every message is received first time and clearly, Cheshire Fire Brigade have pioneered the development of this product and currently every fire fighter in the Brigade is to have a receive only headset fitted.

With the impending reduction of the level of noise that is acceptable in the working environment, hearing protection sometimes with Active Noise Reduction (ANR) is becoming increasingly important and in particular with good communications, thus important for the wearers safety and comfort.

The type of radio to be used is currently changing from analogue to digital (i.e. to Tetra or Tetrapol Schemes). It is often necessary to balance the output of the radio to the accessory fitted, i.e. headset etc. This is usually carried out by the electronics in the press to talk switch, as different radios have vastly different characteristics particularly digital radios.

The press to talk switch (P.T.T.) is an important part of the system, as in most cases fitting an accessory adaptor to a radio de-activated the radios own P.T.T. The size and the operation of the P.T.T. are

dependant on the application of use, i.e. fire fighters and ambulance/hospital personnel wearing chemical suits need a large and positive (heard to have operated) switch whereas the police or customs and excise personnel on covert duties require discreet and silent switches.
The ever increasing duties and responsibilities of emergency services and associated personnel keep Sonic Communications on its toes and therefore at the forefront of design and innovation

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WORLDWIDE FIREFIGHTERS' CONFERENCE
PLANNING TODAY TO SAFEGUARD TOMORROW

The 1st International Conference organised jointly by IFJ, the Industrial Fire Journal & JOIFF, the Joint Oil and Industry Fire Forum will take place in the Manchester Conference Centre, Manchester, England on 15th and 16th March 2005. This strategic 2 day Conference will examine the dynamics of today's emergency response environment through Conference sessions on Risk Assessed Competence, Assurance, International Operations and Response and Major Incidents - Lessons Learned.

World Leaders in their field will be presenting Papers in each of these sessions and there will be opportunities for questions and discussion throughout. Cost of registration is Sterling £ 395 plus VAT per delegate and this includes a Conference dinner on the evening of 15th March where those attending will have the opportunity of networking with colleagues across a wide range of disciplines.

The Conference will be opened by Sir Graham Meldrum, Her Majesty's Chief Inspector of Fire Services, and speakers will include John Judd, Assistant Chief Greater Manchester Fire Service, Peter Bowyer, Edexcel Lead Verifier for National Vocational Qualifications in Management , Randy Lawson and Nelson Bryner, National Institute of Standards and Technology, USA, Mark Scoggins, Corporate Liability specialist, Pine Pienaar, Emergency Services, Sasol Synfuels South Africa, Dr. Roger Klein, University of Bonn, Dwight Williams, Williams Fire and Hazard Control USA, Trevor Kletz, Consultant and Gene Allen, Senior Account Engineer, Allianz Global Risk USA.

Booking Forms are currently being circulated - please contact IFJ or JOIFF.

JOIFF MEETING AT FIRE EXPO 2005

Fire Expo will take place in Birmingham England from 16th - 19th May 2005. Visitors to this year's International Fire Expo will have the opportunity to see more exhibiting companies than previous years. With a record line up of companies already confirmed to take part including Apollo Fire Detectors Ltd, Nittan (UK) Ltd, Chubb Fire Ltd, organisers CMPi have also developed new features to cover subjects pertinent to JOIFF members.

Visitors will be able to take advantage of an informative programme of seminar sessions where exhibiting companies are invited to deliver generic presentations in their areas of expertise.

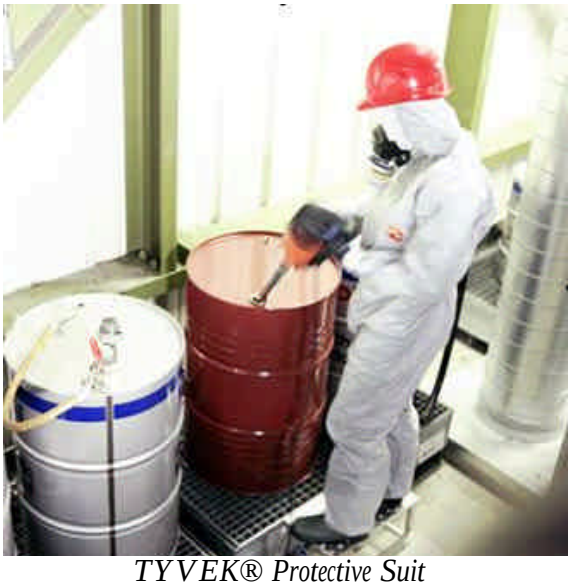
As well as JOIFF holding a meeting at the event, the Chief Fire Officers Association (CFOA), Fire Fighting Vehicle Manufacturers Association (FFVMA), Transport Officers Group, the Federation of British Fire Organisations (FOBFO) and the Fire Industry Confederation (FIC) are all taking an active role in supporting the event, which now caters firmly for the entire fire industry.

After a memorable debut in 2003, the popular Emergency Action Zone returns featuring a series of live demonstrations. Road traffic incidents simulations, fire rescue and outdoor extinguishing practices were some of the highlights and there will be more of the same for 2005. International Fire Expo is one of Europe's leading events and returns to Birmingham's NEC from 16 - 19 May 2005. Companies interested in exhibiting should contact Gerry Dunphy on +44 (0) 207 921 8063 or email gdunphy@cmpinformation.com.

The website address from which you can get more information on Fire Expo 2005 is www.fire-expo.co.uk

CATEGORY III TYVEK® AND TYCHEM® PROTECTIVE CLOTHING FROM DUPONT PERSONAL

Employers are responsible for their staff and are legally required to supply personal protection against hazards in the workplace. The need to use protective clothing, particularly when working with chemicals, is often overlooked when supplying other PPE such as respiratory protection. Many hazardous chemicals and ultra fine dusts and fibres can make their way into the body through the skin just as well as if ingested, so adequate personal protection when handling chemicals and other harmful substances is vital. Prevention, as the saying goes, is certainly better than cure.



TYVEK® Protective Suit

European CE categories for protective clothing differ in terms of risks and certification requirements - the higher the risk, the higher certification requirements are. Protective garments that carry the CE mark "CE" only are not be used for protection against any kind of hazard. A CE mark on its own symbolizes that the garment is Category I ("Simple design, minor risk"), the lowest level of protection for PPE.

European Directives require that all limited-use Chemical Protective Clothing must be certified as PPE of Category III. The CE-mark plus a four-digit code of the notified body stands for protective clothing of Category III, ie "complex design, high risk". All DuPont™ TYVEK® and TYCHEM® garments are categorized as PPE (Cat. III) Chemical Protective Clothing.

To carry the CE mark, Category III Chemical Protective Clothing must pass one or more of the garment "Type" tests, meet or exceed minim requirements for the fabrics' physical and chemical properties and be correctly identified and labeled. In addition, the protective clothing must be manufactured to a consistent quality, and the manufacturer must either hold a quality certificate, such as ISO 9000, or be subject to regular inspection.

There are six "Types" or levels of protection, as defined by the European Standards, for Cat. III protective clothing: Type 1 (gas-tight clothing), Type 2 (non gas-tight clothing), Type 3 (liquid-tight clothing), Type 4 (spray-tight clothing), Type 5 (particle-tight clothing) and Type 6 (limited splash-tight clothing).

Unfortunately, these six "Types" of protection alone are not sufficient for an accurate and safe garment selection. This is because two garments of the same "Type" can have very different protective, durability and comfort properties depending on the fabric from which they are made. Fabrics are thus tested and categorized into performance Classes" with respect to their mechanical and barrier properties. To a large extent, the level of exposure will determine the choice of garment "Type". The contaminant will dictate the fabric barrier properties and the nature of the work will determine the mechanical properties required.

TYCHEM® C Chemical Protective Suit

DuPont™ TYVEK® protects people from liquid or solid chemicals, asbestos, dusts and fibres, agrochemicals and paint, and also protects

processes from contamination by people such as in cleanrooms, pharmaceutical or food handling environments. By combining wearer comfort with outstanding functionality, TYVEK® and TYCHEM® cover all applications where it's important to keep what's inside the suit inside, and what's outside the suit, outside - from the basic protection offered in the TYVEK® Model Industry coverall through to the complete barrier protection of a fully encapsulating and ventilated emergency response suit.

What exactly is TYVEK® and how does it work?

Handle any TYVEK® garment and the difference is obvious. Tough, yet extremely light and soft, it's clearly an unusual material. Invented and manufactured only by DuPont, TYVEK® is made of millions of fine, continuous fibres of high-density polyethylene that are flash-spun and heat-bonded into a fabric that is permeable to air and water vapour.

TYVEK® (style 1431N) provides protection, durability and comfort in a single fabric. TYVEK® is extremely tough, tear and abrasion resistant. It is non-linting, antistatic, chemical splash resistant up to 0.12 bar, repellent to inorganic liquids and its smooth surface discourages solid particles from adhering.

The Extra Protection of TYCHEM® C and TYCHEM® F

For protection against ultra-fine hazardous dusts and powders, concentrated inorganic acids and bases and water-based salt solutions, body fluids, blood-borne pathogens and liquid splashes of pressures up to 2 bar, TYCHEM® C garments should be considered. Consisting of a substrate of TYVEK® plus a polymeric coating, TYCHEM® C capitalises on the high strength-to-weight ratio and flexibility of TYVEK®. 100% particle tight, it provides total protection.

TYCHEM® F has an ultra high chemical barrier performance. At only 120g/m2 , the fabric is very light yet strong and, like TYCHEM® C, is 100% particle tight. However, in addition to the qualities found in TYCHEM® C, TYCHEM® F offers outstanding protection against a wide range of organic chemicals, together with a resistance to liquid splashes up to pressures of 5 bar.

All TYVEK® and TYCHEM® garments are designed and made with wearer comfort as well as safety in mind. Details such as tailoring and sizing through to well-fitting hoods, snug facial seals, zippers and the option of stitched, overtaped and welded seams ensure high levels of comfort and protection. In addition to a range of coveralls, the TYVEK® collection now includes accessories such as lab coats, trousers, sleeves, aprons and a new garment with boot covers. All garments are CE certified as PPE (category III), Chemical Protective Clothing.

With a multitude of Categories, Types and models to choose from, it would be understandable to choose a garment with a level of protection inadequate or unnecessary for the job in hand. To answer all your technical questions and help you in the selection of the most appropriate protective garment, DuPont offers a technical consultancy service, Techline. The Techline team is supported by a database containing chemical permeation and penetration data for TYVEK® and TYCHEM® fabrics. Details of the DuPont Personal Protection Techline is available on DuPont's new website : www.dpp-europe.com.

DuPont has also a new newsletter – DPP News which provides regular, topical information about products offered by DuPont Personal Protection for protection against cuts (KEVLAR®), heat and flame (NOMEX®) and dust/liquid/chemical protection (TYVEK® and TYCHEM®). The first issue can also be downloaded on the website www.dpp-europe.com as well as register to receive it regularly by email.

DuPont Safety & Protection is focused on finding solutions to protect people, property, operations and the environment by leveraging and expanding 200 years of DuPont experience as one of the safest companies in the world; its recognized excellence in science and technology; and its knowledge of key markets. DuPont (<www.dupont.com>) is a science company. Founded in 1802, DuPont puts science to work by solving problems and creating solutions that make people's lives better, safer and easier. Operating in more than 70 countries, the company offers a wide range of products and services to markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation and apparel. Information about DuPont in the Europe, Middle East and Africa region is available in all major European languages at www.emea.dupont.com.

More information about DuPont Personal Protection's products can also be obtained by contacting elaina.harvey@gbr.dupont.com or +44 7881 836588.

The Catalyst
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Diary of Events

2005

Jan 15-17 **Intersec 2005 Security and Safety exhibition**.
Dubai World Trade Centre.

March 15-16 **Worldwide Firefighters' Conference**
PLANNING TODAY TO SAFEGUARD TOMORROW
Organised by JOIFF/Industrial Fire Journal Manchester England
19-21 **Foam Conference**
BASF Ludwigshafen, Germany.

May 4-5 **Irish Chief Fire Officers Association Conference**.
Slieve Russell Hotel, Ballyconnell, County Cavan, Ireland
17-19 **International Fire Expo**
Birmingham, England.
17 **JOIFF meeting**
at the Fire Expo

June 6-11 **Interschutz**.
Hanover Germany.

Please contact the JOIFF Secretariat with details of any event that you think that JOIFF Members might be interested in attending.

Note: The Catalyst is not responsible for the accuracy of dates and / or venues announced.

"THE REACTOR COLUMN"

Write to The Reactor, Mr. R., with comments, problems, ideas or anything at all that you would like to be heard. The Editors may decide not to print a letter or part of a letter and letters may be edited. No letter will be published unless the name and address of the Writer is given to the Editors, but names and addresses will not be published without the writer specifically requesting it. The opinions expressed in this Column are not necessarily the opinions of JOIFF, its Executive or the JOIFF Secretariat who publish The Catalyst.

As those of you who are regular readers of this column will know, one of my "prescribed reading" magazines is the quarterly journal of the NFPA USA. There was an interesting book extract in the May June 2004 edition. Ben Klaene and Russ Sanders have written a book entitled Structural Firefighting the guiding objective of which, they say, is to prepare fire officers to take command of structural fires using available resources safely and effectively. They make some very interesting points in their book with which I agree wholeheartedly and from which we can all learn. They contend that there is a direct correlation between the application of sound tactics and firefighter safety. Over the past 30 years, with the exception of the loss of firefighters in the 9/11 attack, NFPA statistics show that the number of firefighter fatalities in the USA has decreased by approximately 30% since 1997. There have been many safety improvements in that time - better PPE, fire safety education, code adoption and enforcement etc. They make the point - which I believe we accepted a long time ago in Europe - that it is no longer acceptable to expect firefighter injuries and deaths as inevitable. Nonetheless they say, statistics indicate that firefighters are dying on the fire grounds in the USA at nearly the same rate that they did in the late 1970s. For officers and firefighters to gain the experience necessary to become proficient when the number of fires they are responding to is dropping, they must complement limited experience with more realistic training and better education - a message that JOIFF has been preaching since it began. "It is unnecessary" they say, "even undesirable, to learn every lesson through personal experience. However it's important to take maximum advantage of limited personal experience by coupling post-fire critiques with formal training and education sessions. Studying basic strategy and tactics during informal drills" and other learning opportunities "can maximize the lessons learned on the job". "To complement these sessions, firefighters should spend more time training with realistic scenarios." "We need to learn the tricks of the trade through training and experience. First-hand experience is invaluable. However, firefighters and incident commanders who rely solely on experience will, without question, experience unnecessary loss of life and property."

Sounds like a book well worth reading - and I wish the authors and the NFPA well with it. You can locate the book entitled STRUCTRAL FIRE FIGHTING on the website www.nfpa.org =======

Big changes have been and are taking place in the method of operation and control of the Fire Service in the United Kingdom. One proposal that has been under consideration and planning for some time is that all Municipal Fire Brigades will centralise their purchasing of Protective Clothing under a plan called Integrated Clothing Procurement project. I received the interesting letter below and invite Readers to submit their own opinions - and to make up their own minds about the proposed ICP project and FiReBuy !!

==========

Dear Mr. R.,

I work with a British garment design and manufacturing Company. One of the ranges of garments that we produce is Firefighters' garments and we are currently struggling to make sense of the latest United Kingdom Central Government edict governing the selection and purchasing of firefighting clothing for use by Fire and Rescue Authorities. Historically, our Company has worked closely with many Municipal Fire Brigades in the UK with whom we have developed excellent working relationships notwithstanding that our business dealings have always been subject to competitive tendering in order to ensure value for money. This procedure is about to change with the introduction of FiReBuy, which is being put forward as a genuine step forward - I'm afraid that I and my colleagues do not see it this way.

FiReBuy is the organisation designated by the Draft National Procurement Strategy (DNPS) for the UK Fire and Rescue Service to achieve a number of key targets through a national strategy and oversight process. Whilst the Fire Service Procurement Association (FSPA) will retain responsibility for appliances, aerials and specialist vehicles, as a proposed limited liability company, FiReBuy will seek to establish an operational framework that includes:

- *technical services responsible for a national database;*
- *specification support; risk assessments and acceptance tests and*
- *a Lead Authority (in an area of existing particular expertise) which will be responsible for Personal Protective Equipment (PPE), Breathing Apparatus (BA), operational equipment and insurance etc.*

Under the FiReBuy framework, nine Regional Centres of Procurement Excellence (CPEs) will be established to replace the existing 47 Fire & Rescue Service purchasing departments, many of which are existing members of purchasing consortia.

A rough synopsis of the Strategy identifies two main themes:

1) the promise of cost savings achievable through the formation of a professional procurement body; and

2) the need for greater standardisation of specifications.

On the face of it these two themes represent a logical approach to the problem of value for money purchasing through the eradication of multiple designs and products. However, the dichotomy between the two becomes apparent as one examines the Strategy more carefully.

Chapter I states the vision contained in the White Paper 'Our Fire & Rescue Service', published in June 2003 ... "to increase flexibility so that public services are more diverse and more responsive to the public's needs; and to ensure the public benefits from consistently high standards of service, flexibility and choice, which in turn help to deliver better value for money" (page 7, emphasis added). Chapter 2, however, continues with the findings of a review in the Audit Commission report 'A Uniform Approach' which concluded that ... "achieving these [efficiencies] required greater standardisation of specifications but that this was being hampered by personal and local preferences" (page 9, emphasis added). Is the anomaly between the two statements quoted above a deliberate mistake?

In Chapter 3 the Strategy goes on to raise an issue that is currently exercising the minds of many of the suppliers to the Fire & Rescue Authority (FRA), that of competition across the fire product manufacturing industry. Herein lies a further dichotomy. For example, one of the key themes for local government procurement is, "stimulating markets and achieving community benefits", through the let of a national contract for PPE and non-PPE clothing. This suggests that we can have standardisation of these sectors under a single national contract whilst at the same time stimulating markets, giving flexibility and choice and achieving savings through best value for money. At the same time the vision suggests that the Strategy will ensure devolution and delegation to the front line wherever possible, giving local leaders the opportunity, responsibility and accountability for delivery. All this is coupled with the FiReBuy targets for sustainability and diversity whereby the Integrated Clothing Procurement project ... "delivers clothing that does not act as a barrier to the recruitment of women and ethnic minorities" while not losing sight of the need to ... "develop indicators by March 2006 to measure the percentage of environmentally friendly products purchased" and so on, and so on...

Going back to cost savings, accountants have apparently identified immediate savings of £5.5 million, although there is no mention of a time scale or clear reference to exactly where and how such cost savings could be generated. It would be useful to have a clear breakdown of savings, since these could then be set against the costs incurred in setting up FiReBuy, the nine new CPEs and the direct costs to non-host authorities including those incurred by the FRAs. There would also need to be account taken of the additional costs of collating the existing research into a single technical services function, the running costs for FiReBuy including the need to train personnel in order to beef up ... "the relative scarcity of professionally qualified and suitably experienced procurement staff" (page 25) and the IT resources presumably required to track all this activity. Perhaps a combination of 'top-slicing' arrangements set against the withdrawal of the New Burdens principle will sufficiently obscure reality to help the 'paper' exercise show genuine savings?

One cannot help but reflect on the problems experienced by the Child Support Agency (CSA) and the apparently vast expenditure incurred to date in what appears to be limited alleviation of the problem the Agency was originally created for. This comes on top of the House of Commons Select Committee investigation into the procurement activities of the British Ministry of Defence and the apparent failures experienced by that organisation to provide the right equipment required, to the standards specified, to the right place, at the right time to meet the needs of the British Army whilst engaged in hostilities.

Prior to the commencement of an effective system of Procurement, in an area as diverse as that to be covered by FiReBuy, is the need to establish an agreed range of technical standards to which each product conforms. The competing claims, standards, test methods and procedures, interpretation of standards when applied through differing interpretations of testing equipment and results produced by such equipment have technical experts disagreeing constantly and this is only at industry level - what happens when a standard is set by FiReBuy that is immediately contradicted by experience elsewhere? The desire to set consistent standards, across all areas of activity in the Fire and Rescue Services, is laudable but the aim of reaching national acceptance, by all participants to a vision frequently contradicted by reality is I am afraid illusory.

In conclusion, it is difficult to escape the feeling of the dead hand of bureaucracy permeating the Draft National Procurement Strategy and, though difficult to imagine anything dead being spurred, perhaps being driven by high blown rhetoric which will, in the final analysis prove to be no more than hot air acting under the guise of progress. Sober and sensible questions need to be asked of those having to perform emergency firefighting duties and the answers translated into products that meet existing standards and then go forward to set new levels of protection, rather than merely pay lip service to transitory, fashionable notions of change.

Yours etc.

(Name and address supplied)

JOIFF Training Notes

Training for Competence

Training for Competence requires the development of role maps which are collections of the job functions of an Organisation and how they relate to each other. From these, occupational standards that encompass each specific job role should be developed. Critical to confirming competence is the development of an effective system of assessment which measures performance to confirm attainment of the standard and to identify further training needs. A key outcome of Competency Based Training is that people have the underpinning skills and knowledge required to fill a post prior to taking up the appointment and the effect of following this path is to improve performance and to raise levels of safety.

In recent years, recognition of Work Place competence has grown enormously and an indication of the importance that current Management standards place on competence in the Work Place is the requirement of competence in the current version of ISO 9001, the International Standard for Quality Management Systems. ISO 9001 requires an Organisation to determine the necessary competence for personnel performing work affecting product / service quality, to provide training or take other actions to satisfy these needs and to evaluate the effectiveness of the actions taken. The newly published Safety, Health and Welfare at Work legislation in Ireland, which is derived from European legislation, incorporates a strong requirement for competence which in its definition, takes account of academic and vocational qualification other than primary degrees that recognise increased professionalism of health and safety. This includes National Vocational Qualifications (NVQ), a system of assessing competence in the Work Place usually based on National Occupational Standards (NOS).

NOSs are agreed standards of competence that define what is expected of each person in their work and how well they need to do it. They define the outcomes and expectations of workplace performance through performance criteria and consist of an accredited structure of units and elements describing the standard of role-relevant performance identified through the role-mapping process. To achieve this is it necessary for employers to consider:

- Task Skills – the routine and largely technical parts of the work
- Task Management Skills – how to manage a group of tasks and prioritise between them
- Contingency Management Skills – the skills to recognise and deal with things that go wrong and with the unexpected and
- Role / Job Environment Skills – ensuring safety, interacting with people and the ability to cope with the environment and factors required in fulfilling the wider role.

An **NVQ** is a qualification that fits into a National framework of competency-based qualifications to provide a single, coherent, more easily understood qualifications system for all levels of education and training. These frameworks are at an advanced stage of development in Countries all over the World, and many are linked to European Union and International developments to enhance learner mobility within and between National systems.

National Qualifications Frameworks set out the various levels at which qualifications are recognised. This helps Learners to make informed decisions about the qualifications they need and they can compare the levels of different qualifications and clearly identify progression routes for their chosen career. Internationally, there are 10 levels of NVQ, from Level 1 entry level which covers the ability to learn basic facts and repetitive skills as well as to sequence learning tasks, to Level 10 which relates to discovery and development of new knowledge and skills (equivalent to a Doctoral Degree). In general terms, Levels 1 to 5 are regarded as basic to “further education” and Levels 6 to 10 as “higher education”.

Until recently in the United Kingdom, there were 6 levels in the National Qualifications Framework, but to bring the system closer with International developments, this has been expanded to incorporate 9 levels which are:

- Entry Level – adult literacy covering basic knowledge, skills and ability to apply learning to everyday situations;
- Level 1 – equivalent to GCSEs Grades D-G;
- Level 2– equivalent to GCSEs to Grades A-C;
- Level 3 – equivalent to A levels;
- Level 4– equivalent to certificate of higher education;
- Level 5 – equivalent to diploma of higher education, foundation degrees, Level 5 BTEC Higher National Diploma etc.;

- Level 6 – equivalent to Bachelors degree, graduate certificate and diploma etc.;
- Level 7 – equivalent to Masters degree, postgraduate certificates and diplomas etc and
- Level 8 – equivalent to Doctorates and recognising leading experts or practitioners in a particular field.

There is great value in offering staff National Qualifications as part of the outcome of training although attainment of National qualifications should not take precedence over the development of a robust training and development programme for Emergency Services personnel. National qualifications that are recognised Internationally not only set universal bench marks of achievement and recognition but increase the comparability of the learning achievements of Learners with their peers Internationally, so there is great benefit in considering NVQs as the way forward. For Companies, this demonstrates a commitment to effective business planning and Organisational development.

Organisations must allocate sufficient resources to their Emergency Service personnel for effective Training and under modern Human Resources practice, staff should be encouraged to follow professional career paths which includes continuous personal development. The training of Emergency Services personnel should follow a programme from the time a person is inducted into the Service allowing them to fully mature in their abilities, knowledge, skills and understanding.

Recommended Training Path – Occupational Firefighter/Emergency Responder

YEAR 1

3 day Auxiliary Firefighter Course at accredited Training Establishment
On Site structured Training Programme - approx. 12 months. Internally assessed and externally verified.
Certification:

- JOIFF accredited Occupational Firefighter.
- JOIFF accredited Breathing Apparatus Wearer.
- Institution of Fire Engineers Preliminary Certificate.

YEAR 2

2 day Practical Firefighting Course at accredited Training Establishment
Firefighter Technician Programme - Approx. 6 months
BTEC Certification - Drive and Manoeuvre Fire Vehicles (FF 9 NOS)
Demonstrate maintenance of Competence
Certification:

- On-going Maintenance of Currency of Competence.
- Institution of Fire Engineers Intermediate Examination.
- BTEC Certificate Unit FF9 Operations in the Community.

YEAR 3 and onwards

National Vocational Qualifications as applicable (this can be fast-tracked by cross-mapping training and experience to the National Occupational Standards):

- Operations in the Community NVQ Level 3
- Control Operations NVQ Level 3
- Learning and Development NVQ Level 3
- Assessor and Verifier NVQ Levels 3 and 4
- Fire Safety (when available) NVQ Levels 2,3 and 4

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Food for thought

“The Technician of the future will no longer be an Operator, s/he will be the manager of an asset.”

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JOIFF TRAINING 2005

The JOIFF Training Standards Committee, having received a number of enquiries from Members who were reviewing their Training requirements for 2005, requested the UK based JOIFF accredited Training Establishments to provide details of the JOIFF accredited Team Leader, Auxiliary Firefighter and Practical Firefighting Courses that they are planning to include in their Training Programme for 2005.

The following dates have been provided. If your own specific Training requirements are not listed below, contact Fulcrum Consultants who will be happy to facilitate you.

3 day Occupational Firefighter (Part Time)

31st Jan - 2nd Feb.	Serco IFTC Teesside
29th June - 1st July	Serco IFTC Teesside
2nd - 4th November	Serco IFTC Teesside

2 day Practical Firefighting

3rd - 4th February	Serco IFTC Teesside
3rd - 4th March	Bristol Int. Airport
17th - 18th March	Bristol Int. Airport
19th - 20th May	Serco IFTC Teesside
7th - 8th September	Serco IFTC Teesside
19th - 20th September	Serco IFTC Teesside
14th - 15th November	Serco IFTC Teesside
21st - 22nd November	Serco IFTC Teesside
28th - 29th November	Serco IFTC Teesside
12th - 13th December	Serco IFTC Teesside

5 day Team Leader

28th Feb - 4th March	Serco IFTC Teesside
20th - 24th June	Serco IFTC Teesside
24th - 28th October	Serco IFTC Teesside

4 day BA and Firefighting

18th - 22nd April	Bristol Int. Airport

BA Refresher 3 day

2nd - 4th February	Bristol Int. Airport

BA Refresher 1 day

29th - 30th March	Bristol Int. Airport

BA Refresher 2 day

31st March 1st April	Bristol Int. Airport

IFTC Teesside also provide the following JOIFF accredited Courses and subject to numbers and availability of places will be pleased to discuss possible dates with interested Organisations.

- 5 day BA Wearer Course.
- Breathing Apparatus Instructor (BAI) Course
- Breathing Apparatus Instructor Refresher Course

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For further information about the JOIFF accredited Competency Based Training Programmes, the new range of Fire Service NVQs and any other aspect of JOIFF Training, please contact the JOIFF Secretariat contact details below.

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