2006, Issue 2

The Catalyst

The Official Newsletter of JOIFF

June 2006

www.joiff.com

From the Editors

This is the second edition of The Catalyst for 2006 and in this edition, there is a varied mix of articles. These range from a detailed account of the Buncefield fire through a number of issues on Personal Protective Equipment (PPE) and reports on a number of events that have taken place during the past three months. We are very pleased to bring to you the first of a series of articles by Dr. Margaret McCarthy on radiation and its relationship with Firefighting and as always, we are pleased to provide a platform to other Organisations engaged in similar fields of activity and in this edition and publish a report from the General Secretary of the Institute of Fire Safety Managers.

We would like to thank our advertisers and our sponsors who support the ongoing publication of The Catalyst - without them, we would be unable to function. We encourage our Readers to circulate The Catalyst amongst their colleagues and interested Parties and we welcome any comments.

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.

About JOIFF

JOIFF, the Organisation for Emergency Services Management, is a grouping of Organisations represented by their Hazard Manager - or equivalent position - and one nominated Deputy. Full Members of JOIFF are Industrial/Commercial Organisations that have nominated personnel as a Hazard Management Team / Occupational Firefighters/Emergency Responders and Corporate Members are Organisations which do not comply with the requirements of Full Membership but which nonetheless wish to associate with and support JOIFF.

JOIFF provides a forum for discussion amongst peers, accreditation of job competencies, information and technical advice. JOIFF welcomes interest from Organisations and persons who wish to become Members - contact the JOIFF Secretariat, details on the back page of The Catalyst.

JOIFF Ltd. Registration number 362542.

PPE Corner

How important is it for the Personal Protective Equipment (PPE) that you are wearing or that you issue to your Operatives, to be tested and certified to what you believe to be the relevant Standard for the PPE concerned ?? Because it is so certified, does this mean that it is safe and suitable for purpose ?? Are you aware of the content of the standard concerned and the performance characteristics to which the product has been tested ??

Standards are not intended to replicate Work Place hazards but are developed to provide a means of testing to specified performance requirements. On many occasions this results in an attempt to cobble together a number of different performance characteristics for which there are reproducible test methods. Many standards do not provide the comprehensive mix of protective properties that are required in the Work Place and indeed some of them are positively deficient.

Under best Health and Safety Practice - and under European Union Law - the responsibility for the choice of PPE to protect Workers against foreseeable risks during the task(s) to be carried out falls fairly and squarely on the shoulders of the Employer who is required to carry out a Risk Assessment of the Work Place. If protection is not provided by the PPE for one or more of the risks that have been identified in the Risk Assessment and these risks are not removed from the Work Place of the Employee, then the decision on the type of PPE to purchase is not complete.

Example: Operatives work with materials that are flammable and the main risk is exposure to sudden

flash fires if Work Place Safety procedures break down. The hazard is possible exposure to Heat and / or Flame and common practice is to provide protective clothing that is certified to what is identified as the relevant standard i.e. within the EU(European Union), EN 531:1995 "Protective Clothing for Workers exposed to heat" and outside the EU, ISO (International Standards Organisation) Standard ISO 11612:1998 "Clothing for protection against heat and flame - Test methods and performance requirements for heat protective clothing". The requirements of EN 531 and ISO 11612 are identical.

The laboratory tests for "clothing" to be certified to EN 531 are not carried out on clothing, they are carried out on small pieces of material from which the clothing is intended to be made and the material samples tested are destroyed in each test. The tests that are included in EN 531 are to achieve a minimum exposure to various sources before failure. These sources are Limited Flame Spread (A) - a sample of the material is exposed to flame - Convective Heat (B) - a sample of the material is exposed to a convective heat source - Radiant Heat (C) - a sample of the material is exposed to radiant heat source -molten Aluminium splash (D) - a sample of the material is exposed to splashes of molten aluminium - and molten Iron splash (E) - a sample of the material is exposed to splashes of molten iron. To be certified as complying with EN 531 the "clothing" has to meet the requirements of A and B and at least one other parameter in the standard - then it is deemed fit for purpose !! But is it fit for purpose ??

EN 531 does not include any tests for mechanical strength - tensile strength (stretching), tear strength, strength of seams, burst strength for knitted materials etc. There is no requirement for test against contact heat which is a very likely risk when working in hot environments, nor, other than a few pointers for garments to provide protection against molten metal splash, are there any design criteria or tests for the full clothing. There is no provision to test the clothing for resistance to water penetration, to test after use nor is there anything said about maintenance of clothing in use.

Yet when the number of the standard is printed on the label, the general perception is that the clothing has been comprehensively tested to the expected Work Place risks and is safe to use for purpose intended.

Despite the omissions mentioned, there have been few if any reports of injuries or deaths caused due specifically to failure of clothing certified to the standard. Certainly, during the past 11 years since the standard was first published, there are many reports of people being injured in the Work Place due to exposure to heat and flame, but the cause has not been identified directly as failure of certified PPE.

In 1999, the Working Groups in CEN and ISO responsible for the standard, identified what they believed to be certain deficiencies and established a Committee to revise it with the aim of removing as many of the perceived deficiencies as possible. The revision was distributed for vote in November 2003 and approved by ISO but not by CEN in March 2004. Currently, whilst most of the National Standards Organisations involved in the voting have agreed to compromise to allow the draft to become a standard, the draft is being held up by CEN bureaucracy.

As a User, have you compared your most recent risk assessments to the relevant standards in EN 531 and are they relevant ? Does the lack of a revised standard really make any difference to Safety in the Work Place ? Is the User worried about the delayed revision - in fact does the User even know that a final revision has been completed and what is in it ?

Who is the real "expert" when User Safety is at stake ? Obviously it must be the User - but where is the User on these standards committees ? Certainly through diligent Manufacturers and others who are very much aware of the activities on the Market Place, there is a considerable amount of feedback to the Committees but in general, Users are not well represented at the meetings of these Committees.

If the bureaucrats of CEN ever agree to finalise the draft revision and it becomes a new standard in both CEN and ISO, there will be a requirement for considerably more testing in order to have clothing certified. The Manufacturer will have to pay for this extra testing and the extra cost will be passed on to the User. As already stated, there have been few if any reports of injuries or deaths caused due specifically to failure of clothing certified to the standard, so why is a revision necessary ??

Who should be dictating what happens in the committees writing and revising standards ? The Test Houses who make a living from certifying the products ? The Manufacturers who must pay the cost of the testing, but in a commercial environment can justifiably pass on this cost to the end User ? Or the User, who until now has said very little about what s/he wants from a standard but who is ultimately left with paying the bill for compliance ?

Change is necessary, but what has to change, the standards themselves, or the people who decide on what should be in them ? Employers, specification writers, end Users, you should be asking yourselves these questions. If you don't you will be faced with extra requirements that you neither want nor need and you will also be required to pay the price for them.

SOME DETAIL ON DURALINE FIRE HOSE

From the Editors: In our September 2005 edition, we reported on the celebrations by JOIFF Members Kidde Angus of the 40th Anniversary of Duraline Fire hose. At the celebration party, Managing Director of Kidde Products, Alec Nightingale, proposed a toast to the hose and pointed out some detail about Duraline that we are sure many of our Reader will be interested to read, so we reproduce below a summary of his speech.

It's quite remarkable that we`re all here today celebrating something as apparently mundane as a "Fire Hose". However Duraline is no ordinary fire hose. It was as much a revolution in the layflat hose industry as the radial tyre was in the tyre industry.

The original idea for "through the weave" or "extruded hose" came from a Hungarian gentleman called Szabados, but Angus Fire soon realised the potential and acquired the world-wide rights in the early 60`s. One of the men responsible for that momentous decision was Desmond Hird, then Head of Research at Bentham and later Managing Director of Angus Fire, until his retirement in 1986.

Taking a totally novel, untried and untested process to produce a product like Duraline was no easy task but Desmond and his development team came up trumps. There was no fire hose like it and the ability to extrude lining and cover at the same time suddenly meant that previous constraints on maximum hose length became a thing of the past. Until that time fire hose had been made from largely natural yarns - flax and then cotton but with the advent of synthetic yarns such as nylon and polyester and synthetic rubber blends, all sorts of new features became possible.

Duraline revolutionised the way Fire Brigades operated. Flax and cotton warped hoses were very high maintenance needing to be cleaned and dried after every use. Double and often triple stocks were needed to keep vehicles on the run. Hose drying towers were a feature at every Fire Station. This soon started to change once Brigades realised that "wipe dry" and immediate return to vehicle was the way forward. So for a higher priced but lower maintenance, totally reliable product they could massively reduce hose and labour spend, leaving them more money for other essential requirements.

Hundreds of Fire Brigades are regular Duraline users, along with nearly all the major oil and petrochemical companies world-wide. They all have one thing in common - they have recognised over time that only one hose - DURALINE - can guarantee:- Fire fighter security; Reliability and low maintenance; Longevity; Innovation; Value for money.

So much so that Duraline has become a generic term for covered fire hose and still leads the way after 40 years. In addition the Duraline process has spawned a whole raft of new products for a wide range of different applications, so its impact on the Angus business during the last 40 years has been dramatic to say the least.

Angus and Fire Fighters everywhere owe Duraline a tremendous debt of gratitude. So please join me and raise your glasses in a toast to Duraline!

MEMBERS SECTION

Work continues on upgrading the JOIFF website, in particular in developing the Members Area of the site. We will shortly advise Members of a change in the access password.

Thanks to the efforts of JOIFF Member David Turvey and those JOIFF Members who are working with him to provide relevant information of their response capability, there have been a number of new additions to the Featured Fire Trucks page of the site. You can get a direct link to this page at http://www.joiff.com/trucks/

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JOIFF Member Trelleborg Protective Products (UK) invites all JOIFF Members and others with an interest in Hazardous Materials Response to a one day Seminar which will be held at Cleveland Fire Brigade Training Centre at Grangetown Cleveland on Wednesday 6th September 2006. Starting at 09.30 hrs. the days events will include presentations from Trelleborg Product Managers on standards, chemical permeations, methods of decontamination, comparisons on different types of suit material, managed packages and purchase options also practical presentations decontamination products and a presentation on air purity equipment and standards.

A buffet lunch will be provided with places limited to 2 representatives per organisations. For more information and to book a place at the event, please contact Trelleborg Protective Products (UK), Tel. + 44 (0) 1482 39119.

New Members

During March, April and May 2006 the Executive of JOIFF were delighted to welcome the following new Members.

Full Members

Alert Disaster Control (Asia) Pte. Ltd., Singapore, represented by Michael Allcorn, Managing Director and Michael Sorensen Manager - Business Development (Fire & Safety). Alert Disaster Control Singapore is part of an International Group of Companies that provide Global Emergency Response and Integrated Risk Management Solutions.

Manchester Airport Fire Service represented by Chris Formby, Chief Fire Officer and Mark Lakin, Deputy Chief Fire Officer. Details of the resources and activities of Manchester Airport Fire Service are published in an article in this edition of The Catalyst

Corporate Members

BTTG, Manchester, England, represented by Neil Sorensen Executive Manager - PPE Certification and Paul Eaton, Executive Manager - Fire Testing / Manchester. BTTG are the foremost Test Laboratory for PPE in the United Kingdom and are engaged in testing and certification of Textiles and related products with particular emphasis on protection against Fire: PPE; Construction Products; Furnishings; Marine Equipment. BTTG has long term direct involvement in CEN/ISO Standardisation work, particularly PPE for Fire Protection.

Safety and Fire Experts, Kuwait, represented by Maher Khalil, Sales Manger and Nisar Ahmed, Sales Engineer. Safety and Fire Experts is a leading supplier, agent & service centre of international manufacturers. The company owns a very modern workshop to handle customer after sales service. Active in the field of material supply, training & consultation Safety and Fire Experts always look to team up with new manufacturers of fire, safety, rescue & environment protection equipment.

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

Manchester Airport Fire Service

(From the Editors: Manchester Airport Fire Service was welcomed as a Member of JOIFF in March 2006 and this is some detail that they have sent us for publication. The Catalyst is always pleased to publish details on the activities of JOIFF Members.)

The Fire Service at Manchester Airport consists of a Chief Fire Officer, Deputy Chief Fire Officer, 4 Watch Commanders, 12 Sub Officers, 24 Leading Firefighters, 64 Firefighters, 1 Training Officer, 1 Fire Service Administrator, 1 Human Resources assistant and 1 Fire Safety Officer. Total staff 110.

There are 4 watches of 26 on 12 hour shifts covering category 9 dual runway 24hr operations from 2 Fire Stations. Currently the airport handles 24 million passengers a year. This is expected to increase to 40 million passengers in the next 10 years.

The Fire Service respond to all aircraft related incidents; chemical incidents on and off aircraft; road traffic accidents on the road systems airside and landside; activation of fire alarm systems in the 3 terminal buildings, 2 multi-storey office blocks, rail station, coach station and on site Hotels

There are 5 major foam tenders covering all aircraft related incidents, a "domestic" tender and an emergency tender cover all other risks.

Recently the Fire Service has achieved ISO 9001 accreditation and is currently working towards IIP accreditation.

The Fire Service Commercial Training Department has also received ISO 9001 accreditation and offers a wide variety of courses for internal and external customers including, HSE approved First Aid, Cabin Crew, Fire Wardens, Fire Safety Manual Handling, Breathing Apparatus and Hot Fire Training Courses. Fire Service recruitment to a reserve list is carried out annually beginning in October. Candidates who successfully pass the 4 phases of the selection process are placed on a reserve list and will be offered recruit Firefighter positions as they become available during the next 12 months.

The Fire Service will be taking delivery of a multi million pound fire training rig in May 2006 and it is anticipated that the new facilities will be commissioned by September 2006. The simulator is based on a Boeing 747 with internal fires utilising LPG and external fires using a combination of aviation fuel and LPG.

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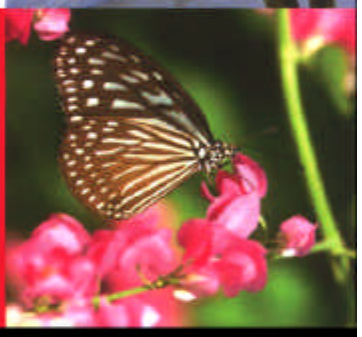

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A Kidde Company

PRESS RELEASE - DUPONT

DuPont launches new TYCHEM®C2 and TYCHEM®F2 chemical and biological protection clothing

A recent study by the International Labour Office (ILO) indicates that every year more than 2.2 million people die from work-related accidents or illnesses. This estimate has increased 10% in comparison with 2002. To help reduce these accidents, DuPont Personal Protection, a specialist in personal protection against chemicals, heat, cuts and abrasions, has assigned its Research and Development Department the task of providing new solutions designed to increase safety and comfort in the workplace. At A+A, Dupont Personal Protection launched two new heavy-duty suits for reliable protection against numerous chemicals and biological agents: TYCHEM®C2 and TYCHEM®F2.
The new TYCHEM®suits, which are available in the UK from early 2006, are ideal for use in many industries and applications where people may be exposed to oil, chemicals, biological agents and other hazardous substances. With Type 3 protection (against pressurised liquid chemicals), Type 3B (against infectious agents), Type 4 (against liquid aerosols), Type 5 (against solid airborne chemical particles) and Type 6 (limited protection against liquid spray), the new TYCHEM®C2 and TYCHEM®F2 suits combine lightness, flexibility and durability, thus affording safe and reliable chemical and biological protection in a single garment.

New multilayer systems, designed for the most arduous tasks, provide greater mechanical durability. A sizing system (S to XXXL) and the design of the TYCHEM®C2 and TYCHEM®F2 models ensure improved fit for better results and enable wearers to carry out the work to which they are assigned more effectively. Containing no halogenated components, TYCHEM®C2 and TYCHEM®F2 facilitate the removal of any contaminants.

At the request of DuPont Personal Protection, the materials of which TYCHEM®C2 and TYCHEM®F2 are made have undergone sophisticated testing for chemical permeability and mechanical properties. More than 100 chemicals have been tested in this way by independent bodies and the results indicate that TYCHEM®C2 provides an effective barrier against many concentrated inorganic chemicals and TYCHEM®F2 against many highly concentrated inorganic chemicals and organic chemicals.
The materials of which the protective suits TYCHEM®C2 and TYCHEM®F2 are made meet the requirements of standard EN 14126:2003 (protection against infectious agents) in the highest resistance category and provide protection against radioactive particle contamination according to EN 1073-2. The TYCHEM C2 and TYCHEM F2 protective suit material has also been subjected to anti-static treatment on the inside, to avoid the build-up of electrostatic charges where humidity exceeds 25%, complying with the requirements of standard EN1149-1.

TYCHEM®C2 and TYCHEM®F2: safety down to the finest detail

Every last detail of the TYCHEM®C2 and TYCHEM®F2 suits has been carefully considered. With two zip fastenings, the garments can be donned and taken off quickly, and a double Velcro flap provides optimum tightness. The new, partially elasticised hood is designed to fit perfectly around the respirator.
Broader elasticised edges at the cuffs, at the ankles and around the waist, as well as double sleeves, ensure a tight seal at strategic points and provide a perfect, reinforced fit. With the new hood and elastic cuffs, it is not necessary to cover openings with adhesive tape in order to meet the Type 5 requirements, saving considerable time and increasing productivity. The over-taped seams provide a protective barrier comparable to that of the protective material.

Fields of application

Dismantling of production facilities, handling of oil, cleaning of oil tankers, industrial cleaning and maintenance, cleaning, inspection and maintenance of reservoirs, chemicals industry, land decontamination, disease and disaster management, elimination of hazardous substances, medical applications and exposure to hazardous biological agents, military applications, pharmaceuticals industry, emergency services and in the cleanup of accidental spillages, handling of agrochemicals etc.
For more information, please visit www.dpp-europe.com, email Carolyn@mconieagency.com, or call 01483 237230.

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The Institute of Fire Safety Managers

Report of the Technical Meeting held at the Jaguar Cars Visitors Centre, Castle Bromwich on Thursday 20 April 2006

By Secretary General Bob Docherty

The meeting formally started at 11.00 hrs following coffee and registration in the well appointer Jaguar Cars Visitor Centre. It was the most popular meeting of IFSM held to date attracting 50 members and guests who were all welcomed by the Chairman, John Williamson who in turn introduced Gary Whitworth, President of the Institute.

Coffee and Registration Jaguar Cars Visitor Centr

The Chairman advised the meeting that the latest edition of the IFSM newssheet was available at the meeting. He also reminded everyone that suggestions for a formal name for the newssheet would be welcome as would articles for the newssheet.

The Chairman outlined the programme for the day and the first speaker was Des Hillier from the Disability Consultancy who gave a paper on the Disability Discrimination Act 1995 and how it affected fire safety and interacted with current and proposed fire safety legislation. The next speaker was Dave Bonnett from BAFE / BFPSA who presented a paper on the Regulatory Reform (Fire Safety) Order 2005 from the BAFE perspective.

Before lunch the meeting was presented with an overview of the proposed National Risk Assessment Register (NRAR) by Kate Hamilton and Chris Pearce representing the NRAR. There was some interest and discussion after the presentation as the website for the NRAR would also carry with it a page of advertising and links to reputable and registered assessors and associated companies. IFSM members were invited to participate in the website.

The meeting then broke for lunch which had been sponsored by FIRECO Ltd. and the Chairman expressed the Institute's thanks for this generous gesture.

The meeting resumed after lunch with a Question and Answer session with the mornings speakers. A vote of thanks was given to all of the speakers by the Chairman and the meeting continued with the business agenda for the day. The following were reported:-

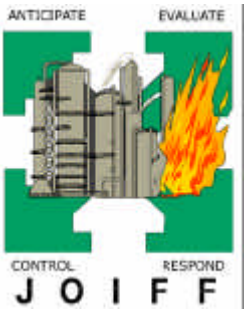
1. The Chairman gave an outline report of the Council meeting held on 18 January 2006 and in particular signalled two main items to the membership. Firstly, there would be a special feature at the AGM later in the year to mark the contribution made to the Institute by the Past President Stewart Kidd. Secondly, the Chairman informed the meeting that he had written on behalf of the Institute to the relevant Government Minister regarding the delay to the RRFSO but up to the present we have had no reply. This was disappointing from the Government and the Chairman was passing the matter over to his local MEP to try and move progress.

Gary Whitworth IFSM President 2006

2. The Secretary General reported on future events, especially the first one day conference that the Institute will run which will take place on 8 June 2006 at the Heritage Motor Centre Gaydon. It was hoped that all members would take the opportunity to attend this prestigious event. It is intended that the AGM will be held in September 2006 and the Secretary General asked members to put forward any ideas for venues around the country that could be used.

3. Any Other Business. Mention was made of starting CPD (continuous professional development) and the Secretary General reported that he was working on a draft procedure with the hope that it would be formally launched at the AGM in September. There was also mention of a new accreditation procedure for courses / training and that Stuart Cocking was the Accreditation Secretary for the Institute. Stuart reported that the procedure was complete and would be posted onto the website and be fully operational by the end of April 2006 (note, at the time of writing, the procedure is now up and running and members and non members and providers are encouraged to take advantage of this new service provided by the Institute). The Risk Assessors register is also live and at the time of reporting, 12 members are registered and those who have not registered yet were encouraged to consider this service again provided for members and non members. Chris Androlia brought up the subject of Fire and Rescue Services not turning out in future to false alarms based on a number of factors including the URN. It was clear to the Chairman that this was a subject that was worthy of more discussion and asked members to supply him directly with information so that Council could take a view and decide on appropriate action.

There being no other business the Chairman closed the meeting at 15.00 hrs thanking all members for their attendance especially Peter Whalley, Richard Whitehouse and the members of Jaguar Cars who were present for the use of the Centre throughout the day for which the Institute was extremely grateful.



FDIC Bahrain

PennWell Corporation USA was established over 100 years ago and today publishes 45 business-to-business magazines and newsletters, conducts over 60 conferences and exhibitions throughout the World and has an extensive offering of books, maps, directories and database services. One of the areas of activity in which they are involved is Fire and Emergency Response and in this sector, their best known conference, first organised by them in 1929, is FDIC Indianapolis USA. FDIC - Fire Department Instructors Conference -provides a forum where instructors can train firefighters, learn from each other, and discover new products and services. In conjunction with the Conference and Exhibition, "Hands-on-Training" sessions are provided to allow attending Firefighters to learn about different techniques from top class Instructors.

As well as FDIC Indianapolis, PennWell organises FDIC Germany, FESA - Fire Emergency Services Asia and in May 2006, they organised the first FDIC in the Middle East, FDIC Bahrain, under the patronage of the Minister of the Interior of the Kingdom of Bahrain and with the support and involvement of the Bahrain General Directorate of Civil Defence. JOIFF Member Bahrain Petroleum Company (BAPCO) made staff and facilities available to the organisers, in particular, they made available some of their specialist training locations for the 2 days of Hands-on Training that was included in the event.

More than 200 firefighters from the Region participated in this training which included Fighting Fires in Structures, Fighting Flange and Pool Oil Fires, Fighting Fires in Basements, Fighting Fires in Refineries (6 different simulators), High Angle Rope Rescue, Vehicle Extraction, Hazardous Materials and Mass Casualty Decontamination, Rescue from Building Collapse, High Rise Firefighting and Strategies and Marine Firefighting and Rescue. The very fine corps of instructors who provided this training, under the joint leadership of former UN Fire Chief Robert Triozzi and lead instructor for FDIC events, John O'Connell (USA), came from all over the World - Australia, Canada, Chile, Germany, Italy, Japan, New Zealand, Qatar, Saudi Arabia, South Africa, Spain, United Kingdom, United States of America as well as from the Kingdom of Bahrain.

The Conference was officially opened by H.E. Shaikh Rashid Bin Abdulla Al Khalifa, Minister of the Interior of the Kingdom of Bahrain, and the keynote address was given by General Abdul Latif Al Zayani of the Civil Defence Directorate. The theme of the keynote address was Command and Control which, said the General, to be successful, needed a combination of "3 x Ms", Men plus Method plus Machines. He said that the only thing predictable about an Emergency is that the unpredictable will happen and a good commander will be prepared for this.

Also speaking at the Opening Ceremony was the acting Chief Executive Officer of BAPCO who said that the best equipment and plans in the World are only as effective as the people who have to use them and he emphasised the importance of well planned and well exercised approaches to potential emergencies through regular and robust training. He finished his speech with the message "Make Safety a Value not a Priority".

The Director of Safety and Industrial Security of Saudi Aramco said that as the largest supplier of energy products to the World they have a responsibility to take every step to protect their recourses. Saudi Aramco employs 1400 firefighters who are regularly trained in the 14 Company training fields operating around the Kingdom. He said that in the future, he sees the training requirement of firefighters growing as they are designated as Emergency Responders. The Company is committed from the very top down to supporting the Company's emergency response capability.

The papers presented at the 3 day conference were spread over 5 sessions - Command and Control of Urban and Marine Incidents, which included presentations by Robert Triozzi (Italy), John O'Connell (USA); Stefan Kimpel (Germany) and Craig Shelley (USA); Industrial and Petroleum Command and Control which included presentations by Dr. Niall Ramsden (UK), John Doyle (UK) and André Tomlinson (South Africa); International Perspectives and Coordination, which included presentations by Ignacio Iturriaga (Spain), Ronald Barham (UK) and Philip Stockley (based in Bahrain); Incident Command and Control in the Industrial, Petrochemical and Marine Sector, which included presentations by Frank Bateman (USA), Dr. Lamya Mohamed (based in Singapore), and Eric LaVergne (USA) and Policy and Preparedness - Thinking Ahead, which included presentations by John Doyle (UK), Barry Bell (based in Dubai) and Wayel Osailan (Saudi Arabia).

Throughout the Conference a number of speakers made the point that the best response is a combination of the logistical capability of the Municipal Brigades and the specialist knowledge and equipment of the Industrial Brigades.

A one day conference entitled Life Safety in High Rise Buildings was held as part of the Conference Programme.

Exhibitors from many Countries welcomed delegates to their stands throughout the event to discuss the many products that were on display.

PennWell announced their commitment to supporting the growth of Emergency Response competence in the Region, by making FDIC Bahrain an annual event, with planning already commenced for the next FDIC Bahrain in December 2007.

The Catalyst
The Official Newsletter of Joiff

TRAINING FOR RADIATION AND ITS RELATIONSHIP TO FIRE PROTECTION

by Dr. Margaret McCarthy

In science classes the first approach to defining the word "radiation" is to query the student on his definition. The very word, "radiation," conjures emotions, preconceived notions, namely negative unscientific opinions. From this muddled beginning to didactic discussion and then onto field work, the understanding by the student is controlled by the instructor. However, in an emergency situation, the radiation word can produce a blockage of a rational thought for appropriate remediation of the problem at hand. It is the balance between the hazard of radiation and the safety of fire fighting personnel and the public that this writer wishes to address. For now an introduction of concepts of radiation and the presentation to fire fighting personnel will evolve into a partial definition of radiation. It is the intent to continue with the complete definition in a series of brief papers. The measurement, biological response, and protection will also be discussed at a later time. The reader is invited to suggest future topics or ask for clarification by contacting the editor.

Introduction of Emergency Personnel to Concepts in Radiation-Part I

Questions can be used to introduce radiation protection for adult learners. By starting with concepts with biologically tangible interactions and personal opinions, a novice can move conceptually from familiar territory to abstractions on radiation without the use of mathematically equations. Imagine that! No mathematics. Then, with a basic understanding, the false notions can be dismissed one by one and the correct ones reinforced. There is good reason for starting in this manner as radiation is one of the most feared and misunderstood of scientific topics, all for good reason. First the global public was introduced to mass destructive devices in the 1940's and then for the subsequent years to a barrage of scientific studies on radiation effects and cancer. The public is aware of both the long and short terms effects of radiation but confuses the amount of radiation to cause each effect. The other confounder is the endpoint effect, cancer. It can occur naturally or from other causes, not necessarily from radiation. It is this confusion that an instructor wishes to correct when educating first responders.

To convey the correct concepts, it is necessary for the instructor to gain trust from the audience and present reasonability in decision making with respect to radiation protection. Start with the familiar and move to the new concepts. This approach must be taken with emergency personnel training. The emphasis of a training program rests on the emergency response under different scenarios and not the details of the physics. Fire responders operate in teams, and the collective thinking must start with the same groundwork.

The non-mathematical rigorous definition of radiation is stated at the end of the paper. This format is intentionally done so that the reader is placed in the position of an adult learner. No peeking!! Read the questions first. Think about the answers. You will not be graded.

Radiation Questions for the Beginner:

1. What is your personal definition of the word “radiation?"
2. What is ionizing radiation? Is this word the same as "radiation"?
3. Is radiation bad biologically for a person?
4. Can radiation be good or healthy for a person?
5. What is a short term biological effect from exposure?
6. What is a long term effect from radiation?
7. Will I become sterile as part of my job from exposure to radiation?
8. If I am fighting a fire at a hospital, will the x-ray machines give me radiation exposure?
9. Will I glow in the dark? How do I know how much is bad for me?
10. If I am fighting a fire at a chemical plant, will the fumes give me exposure?
11. Will I take home the radiation to my family from my job?
12. Where does all the radiation go?
13. Where does all the radiation come from?
14. I was given a radiation detector to measure radiation. This thing is to heavy to lug around whilst I try to fight a fire and I don't know what the units are. What am I supposed to do?
15. What's a dirty bomb? Can I clean it?

The above questions are presented in an interactive manner to the group of listeners. The instructional pace from question #1 to the end question can be presented over a long training period, one day or a series of short meetings. The time frame depends on the depth the instructor wishes to convey and the audience. The fire fighter on the front line needs to understand the basics; the person in the supervisory position needs to know more to be able to make decisions and interactive with a qualified expert on radiation. The supervisors or qualified experts are the ones to read and interpret the radiation levels and then adjust the personnel. Persons in supervisory positions should have practiced, tested guidelines and

knowledge of the conditions of the radiation producing device under incendiary conditions. The latter questions are simply stated but require an extended answer.

There are indeed biologically responses to radiation. There are high dose rates and then there is background radiation that has been part of man's evolution. All flora and fauna are being exposed each day and night to the natural background over the course of the life cycle. Is this radiation bad for the living creature? Background radiation is natural and had been in existence before life. The creatures of this planet have evolved to deal with this low level radiation. The injury at the cellular level to radiation is caused by free radicals. These are the same chemical species that are produced due to other normal injurious processes in the body. How do we protect against free radical damage from any cause? Free radical scavengers, like Vitamin C. Good nutrition. The good news is that humans have a built-in protective repair mechanism to combat low level radiation exposure, which is not true for exposure to man-made chemicals, particularly the petrochemicals. The bad news is that, like any toxic substance, too much exposure is indeed not compatible with life. Somewhere there is a balance between the background radiation level and a level slightly higher such that a fire fighter can function on the job and not incur a negative outcome over time. As stated before, radiation has been thoroughly studied and continues to be studied. Government regulation in most countries already distinguishes between the population at large and the radiation worker. The population contains sensitive members such as children and pregnant women whilst the workers attain a minimum age and are healthy. Radiation workers are monitored with radiation detection devices over a time frame, usually one month. The worker can receive more radiation for the same risk as a member of the general population but cannot exceed a regulated limit. This limit is set so that the worker can work from age 18-65 with no statistical difference in causing cancer due to radiation in the working population.

From a fire fighter's point of view, he / she is in the worker group by virtue of the nature of the job. If exposed during an emergency, what is the level of exposure? It can be in the range of the radiation worker, above the population level but nevertheless safe. In the training program, it is important that the fire fighter understand that all radiation detecting instruments measure background. That is the starting point of measurement. The reading, blinking light, and beeping from the instrument may be just background or slightly above background but below a predetermined critical level similar to electronic noise. These instruments are sensitive. The reading could be consistent with a background reading. The person fighting the fire needs to be educated to understand the rudiments of instrumentation and to trust that the person who is reading the instrument is interpreting the results correctly. This training information can be used to positively reinforce learning and team work.

The overall goal of learning about radiation for the responder is to relate how the individual's health will respond to a particular quantity of radiation and will his /her family be involved. So, now that the reader has endured to this point, what is a reasonable definition for the word, "radiation?" Here is a rigorous and comprehensive definition of radiation:

Radiation is defined as the production of photons and / or particles from a source of radiation.

The first question was defined but not answered. Then some of the groundwork for the biological questions was lain. A more comprehensive answer to the good versus bad health effects will emerge when the radiation and its effects are placed in context for the non-scientist person. For an explanation in fire fighter's terms, keep tuned for Part II "What's a photon?" and then Part III, "What's a particle? The answers to the other questions will eventually dawn.

Conclusion

The entire field of radiobiology began with Pierre Curie in early 1900's, exploded, literally and figuratively since the 1940's into a mature science that relates radiation exposure epidemiologically to human risk. This statement is the bright side of ionizing radiation and human response. Much is known about human chronic and acute effects and at what levels of exposure produces such an effect. Much is published and much is regulated. There are special physics units that relate the energy of the radiation with the risk of an effect in the human. No other science has such a studied response in humans. For a first responder to maximize protection to fellow team members and the public, he must possess a internal understanding of basic principles of emergency response and ample training to gain trust.

Editor's Note: Margaret E. McCarthy, Ph.D., is the Chairman of the Physics Department at Springfield Technical Community College in Springfield, Massachusetts, where she teaches physics, specializing in medical physics. She is adjunct faculty in environmental health at the University of Massachusetts / Amherst, teaching graduate courses in biological effects of ionizing radiation. She has been a consultant in operational health physics. Her last sabbatical was an appointment at Victoria University in the Faculty of Engineering in Melbourne, Australia. She has been active in the Health Physics Society on committees appropriate to emergency response and the Western Massachusetts Industrial Hygiene Association and is a plenary emerita of professional societies--AAPM, SNM, and SEGH. She can be contacted at mem@schoolph.umass.edu or through the JOIFF Secretariat.

Irish Chief Fire Officers Conference.

Major Emergency Management - The New Realities was the theme of the 2006 Annual Conference of the Irish Chief Fire Officers Association which took place in May in Carrick-on-Shannon, County Leitrim. A panel of international speakers discussed the subject over a period of 2 days.

The first presentation was by Roy Bishop, Deputy Commissioner and Director of Operations of London Fire and Emergency Planning Authority who reported on what has become known as 7/7, the London bombings on 7th July 2005. Bombs exploded in Aldgate, Kings Cross, Edgeware Road and Tavistock Square and Mr. Bishop talked about the response of London Fire Brigade to all of these incidents. He discussed the Command System that had been established before the incidents took place and its effectiveness "on the day" despite the complexity of having 4 major incidents progressing at the same time and as well as London Fire Brigade dealing with 483 other fire calls that day. The operation of the Command System at all levels was enhanced by all Agencies involved in mitigation having participated together on a number of occasions before the incidents, in training and planning exercises that in many ways simulated many aspects of the horrific events that took place that day.

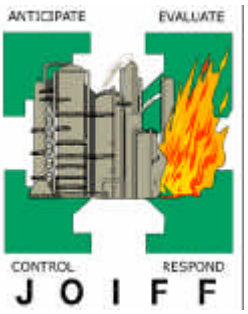
Joe Picciano, Deputy Regional Director, Federal Emergency Management Agency (FEMA) talked about the Federal Response to and lessons learnt from two major disasters in the USA, the World Trade Centre 9/11 terrorist atrocity and Hurricane Katriona in the Gulf States. 9/11 and Katrina were similar in that both were National and International in scale, they had heavy fatalities, they impacted on urban areas, they generated intense and immediate media involvement, they had economic implications beyond the impacted areas and they changed the national psyche regarding federal involvement in catastrophic events. They were different in that 9/11 was area specific whereas Katriona impacted a region almost as large as the United Kingdom. He discussed various features of the response to each, command structure, leadership and lack of leadership, housing issues, communications, Emergency Response, etc. and how planning for major disasters had changed in the USA since both incidents.

John Ryan, Chief Fire Officer of Cork City Fire Brigade discussed the evolution of Major Emergency Management in the Cork Region. He reported on the development of Major Accident Planning in the Region and discussed some of the major accidents that were handled in the Region since the system was first established in 1974. These included a bus crash in 1978 in Glounthane which resulted in 5 fatalities, the explosion whilst unloading its cargo of the Betelgeuse in 1979 in Bantry Bay causing 50 fatalities, a rail accident in Buttevant in 1980 that resulted in 18 fatalities and 80 casualties, the explosion in 1985 of an Air India flight off the South West coast of Cork with the loss of 329 people, the serious pollution caused by the grounding in gale force winds with the subsequent break up of the ship the Kowloon Bridge in 1986 and a serious fire in a chemical plant in Ringaskiddy in 1993. The Health Board, Police and Local Authority are the three partners in the Cork Joint Emergency Planning Group and the goal is to develop a single general all-hazard plan for major emergencies in the Region.

Sean Hogan, Fire Adviser to the Department of the Environment, Heritage and Local Government gave details of the soon to be published Government Framework for Major Emergency Management in Ireland. This replaces the current Framework which was published in 1984 and is based on a 5 stage systems approach, Planning and Preparedness, Response, Recovery, Hazard Analysis and Mitigation . It formalises Major Emergency Response in the Republic of Ireland on the basis of 8 Regions and assigns functions across Agencies. The Framework establishes a mandate and gives leadership and it is anticipated that the Framework will be developed with stakeholders in much greater detail during the next 2 years.

Tom Carroll, Chief Fire Officer of Cambridgeshire Fire and Rescue Service and immediate past president of the United Kingdom Chief Fire Officers Association gave an outline of how major emergencies are dealt with in the UK, in particular the command framework in dealing with major emergencies as they happen. Bronze Command takes operational decisions, Silver Command is engaged in tactical issues and Gold Command deals with strategic issues relating to any major emergency. He gave examples of the effectiveness of the Command System in dealing with two recent serious incidents in the UK, the massive environmental flooding at Boscastle in Cornwall, where at one stage, rain was falling at the rate of 1 inch (25 mm) every 15 minutes, and the largest fire in Europe since the Second World War at the Buncefield Oil Storage Depot at Hemel Hempstead in Hertfordshire.

Rob Brons, Chief Fire Officer of the Fire Brigade of The Hague, The Netherlands, explained the way that Emergency and Municipal Services deal with major incidents in The Netherlands. 25 different processes



have been identified regardless of what disaster occurs and all Dutch disaster planning is based on these principals. These 25 processes are broken down into clusters of activities of a specific discipline or organisation with the Police, Fire Brigade, Medical Services and Municipalities responsible respectively for one of each of the processes. During incidents, local and national resources are coordinated in phases at tactical, operational and strategic levels. Coordination Phase 0 is where field units are active because of a small incident. Coordination Phase 1 is where it becomes obvious that the problem being faced will take more time and require more resources. Coordination Phase 2 is reached when it is expected that not only the source of the incident needs management but also the negative effects require some attention. Coordination Phase 3 comes into play when the negative effects of an Incident spread out to the population and at this stage, Local Government becomes involved. Coordination Phase 4 comes into effect when population problems are not restricted to one Municipality.

The Keynote address was given by the Honourable Chief Justice (retired) Roan Keane. Justice Keane headed the Tribunal of Enquiry after the tragic Stardust fire in Dublin in 1981 in which 48 people died and in his address to the Conference, he discussed some of the changes in problems of enforcement of Fire Safety in Ireland since that time. He said that the primary responsibility for ensuring fire safety of all buildings rests on the owners and occupiers and in the case of new buildings, on those who design an construct them. They cannot abdicate their responsibility by saying that this is a matter for the fire authorities. Yet it is also the case that without an adequate machinery of enforcement to ensure compliance by all concerned with the requirements of fire safety in general and specific regulatory requirements in particular, the lives of people will continue to be dangerously at risk. A fire authority can be liable for a negligent failure by them to exercise power of control and inspection vested in them for the purpose of preventing fires, or for negligence in the manner in which they are exercised, where the injured party is one of a category of persons whom the regulations were intended to protect. He expressed the hope that central government will play its part by making adequate resources available to fire authorities so as to ensure that the powers of control, inspection and enforcement conferred upon them by the modern regulatory system can be meaningfully exercised.

Colonel Francis Levy, Chief Medical Officer of the Fire Department of Haut- Rhin, France, discussed health and welfare for emergency services personnel in major disasters. He defined a disaster as a "brutal or progressive loss of social, sanitary, economic or environmental balance generating destruction or jeopardising a community, exceeding their own means of recovery." Natural disasters include earthquakes, erupting volcanoes, hurricane or typhoons, snow storms etc. and human-linked disasters are caused by wars, terrorism, chemical accidents, transportation accidents, environmental pollution etc. He related some of his own experiences, in particular when he was the person in charge of the European Union coordination for the recent Tsunami in Indonesia and as one participating in a medical meeting in New Orleans when Hurricane Katriona struck. He said that each time disaster strikes, it brings with it initial disorganisation especially of the health system and discussed some of the ways these challenges have to be faced. He highlighted the importance of working in teams as part of a larger organisation and the absolute necessity of taking care of the health and welfare of each member of the team. Regular training is essential and physical and mental aptitude and fitness are critical factors. The success of the mission depends on team work primarily between the team leader and his/her two principals assistants, the risk management officer and the chief medical officer. They must work hand in hand and the team must see it.

The final presentation of the Conference was given by Alec Feldman, Director of Fulcrum Consultants who are Secretariat of JOIFF. He discussed the history and current operation of JOIFF and explained how JOIFF accreditation of training emergency responders developed. He said that in general, Industry is not consulted sufficiently and sometimes not at all in planning for major emergencies caused by industrial accidents, and asked why is this, because Industry is the cause of all industrial accidents and are the best people to mitigate them. He discussed the causes and effects of some of the most serious industrial accidents in recent history - Flixboro, Seveso, Chernobyl, Sandoz, Enschede, Toulouse, Texas City and most recently Buncefield. Whilst it is clear from outcomes of these incidents who suffers because of them, he questioned whether those responsible for causing them are actually held to full account.

The 2005 Irish Safety, Health and Welfare at Work Act requires persons to be competent. Competence reduces the possibility of failure and ensures that when failure does occur it can be effectively and efficiently dealt with. He said that when Industry brings risks to a Community, it should ensure that it also brings and constantly maintains an adequate and well trained emergency response resource that is capable of dealing with any eventualities caused by its activities. Through JOIFF standards, there is now a minimum standard of competence for industrial emergency response through comprehensive training programmes. These standards should be enforced and ongoing competence to role should be demonstrated by emergency responders. Emergency response personnel from municipal authorities and industry

need to work together in planning for major emergencies, they need to train together and begin to understand and appreciate each others' capabilities.

A major Trade Exhibition was organised at the same venue as the Conference and was well attended by Conference delegates and other visitors. The whole event was organised by Finian Joyce, the Chief Fire Officer of Leitrim County Council with the staff of the Fire Brigade and the County Council.

Copies of the Papers and detail about the Speakers and the Conference are available for download from the website of the Organisers, at www.leitrimcoco.ie/cfoa2006/

THE BUNCEFIELD INCIDENT

(From the Editors: As we reported in the March 2006 edition of The Catalyst, JOIFF Members played a major part in the extinguishment of the fires in Buncefield, Hertfordshire, England, the largest peacetime Fire in Britain. With the kind permission of JOIFF Member Industrial Fire Journal, we reproduce extracts from interviews published in the April 2006 edition of the IFJ.)

Dr. Niall Ramsden of Resource Protection International was called and arrived onsite within five hours of the explosions that started the fires and he reported to the Fire Brigade Command Post. At that time, the Fire Brigade strategy was to isolate and depressurise the facilities, tanks and pipelines and to cool everything exposed to the fires to contain them and prevent escalation of the Incident.

Most of the existing water reserves were regarded as unusable due to water main rupture and proximity to the fire and tapping a large scale alternative source was one of the many logistical problems to be overcome. The fire services were able to assemble a sufficiently good pumping capacity thanks to the recent Government New Dimensions package which provided large pumps to deal with a terrorist threat. (Editors Note: Many of the pumps that provided this capacity were supplied by JOIFF Corporate Member Hytrans Systems B.V. See article on Hytrans in the April 2006 edition of IFJ.)

The response teams found themselves extremely short of resources when they first arrived at the site - Buncefield's emergency water system had been destroyed by the initial blast and subsequent fire and most of its active firefighting equipment had been damaged beyond repair. In one case, water had to be pumped from a lake a mile away. The equivalent of 30 fire engine loads per minute was being pumped by the fire brigade and there were realistic fears it would be drained dry by the operations. Afterwards there was in the region of 30 million litres of waste water runoff produced.

Municipal and Industrial fire teams working side-by-side effectively combined their skills to extinguish the fires and this incident proved that successful firefighting operations could be achieved by blending the specialist expertise of heavy industry and its industrial fire equipment with the logistical capability of a local authority fire brigade.

Dr. Ramsden said that a more formalised system of co-operation between municipal brigades and industry would have reduced inevitable time delays early in the incident.

Kelvin Hardingham, Europe, Africa and Middle East Manager for Williams Fire and Hazard Control, arrived at the site a few hours after Dr. Ramsden and together they walked around the site and identified problem areas which included a number of pressure fires, an internal floating roof tank fire, fires in bunds and breached bunds. They then reported back to Operational Command with a recommended firefighting strategy. At that stage, specialist teams from other JOIFF Members were answering a nationwide mutual support call with specialist personnel and equipment.

(Editors Note: Those persons from JOIFF Members who attended and led the efforts to extinguish the fires are listed in the March 2006 edition of The Catalyst.)

The JOIFF Members, with support from Members of local authority brigades set up large pieces of firefighting equipment known as "6GUN" and tackled between 18 and 20 tank fires and managed to prevent the fire spreading to the other 8 unaffected adjacent tanks over the following three days. The wind was light most of the time and did not hamper firefighting operations.

Another large piece of trailer mounted firefighting equipment known as the Patriot II was set up alongside the 2 x 6GUN in preparation for start of operations to tackle the burning tanks. There was a

delay in starting operations until the firewater supplies were available and the fire teams nearly ran out of large diameter hose establishing the water relay - approximately 18 miles of 6 inch large diameter hose was laid out. Eventually some water supplies were available which allowed firefighting operations to commence, and the fire teams were moving further into the fire when the firewater shut down. This pattern kept repeating - the firewater would be shut off for two or three hours at a time largely as a result of concerns about pollutants contaminating water supplies.

By this time, the drainage system on site was flooded, a large number of drain covers were missing and firefighters had to be careful to avoid falling down drains, and some of these drains were at times on fire because of product spills.

As the teams slowly but surely extinguished each of the tanks, two that had been previously extinguished reignited whilst the firewater supply had been shut down and as soon as the water was returned, the tanks had to be extinguished again.

A variety of foams was used, some good, some not so good and Kelvin said it got frustrating when tanks which had been extinguished then reignited because the foam blanket could not be maintained. A useful tool at the Incident proved to be the thermal imaging pictures from a police helicopter. From these, the heat footprint could be identified and at one stage on Monday night, as a result of this information, due to potential danger to fire teams, the site was evacuated which gave the JOIFF teams a few hours to grab some much needed sleep and plan re-entry strategies.

Water curtains were set up to protect all the tanks that had not caught alight and from these cooling points, firefighters gradually progressed back into the site to their original incident point and over the next 18 hours, most of the tanks and bund fires were extinguished.

On Tuesday afternoon, a 45 metre diameter tank which was let burn because of its remoteness from the site was tackled and firefighters were confronted with a large bund fire around this tank. The last tank they faced was an internal floating roof tank where the roof had split giving access to the open interior which was fully ablaze. There were a number of pressure fires being fed and these fires kept re-igniting under a surge or pulse of fuel. As there was only two metres of product left in the tank, because of difficulties in getting water to the tank to ensure effecting an extinguishment, the decision was taken to allow the tank contents to burn itself out. By late on Tuesday night, the incident was largely over and the few small fires left were quickly extinguished.

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The full interviews with Dr. Niall Ramsden and Kelvin Hardigham are published in the April 2006 edition of the Industrial Fire Journal. The Industrial Fire Journal is published quarterly by Hemming Information Services. They can be contacted at info@hisdorset.com and their website is at www.emergency-directory.com

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Editor's Note: We have received this interesting story with an Insurance interest from one of our Members. We are told that this is a true story and was the 1st place winner in a Criminal Lawyers Award Contest.

A lawyer in the USA purchased a box of very rare and expensive cigars, then insured them against fire among other things. Within a month having smoked his entire stockpile of these great cigars and without yet having made even his first premium payment on the policy, the lawyer filed a claim against the insurance company. In his claim, the lawyer stated the cigars were lost "in a series of small fires."

The insurance company refused to pay, citing the obvious reason: that the man had consumed the cigars in the normal fashion. The lawyer sued, and won!

In delivering the ruling, the judge agreed with the insurance company that the claim was frivolous. The Judge stated, nevertheless, that the lawyer held a policy from the company in which it had warranted that the cigars were insurable and also guaranteed that it would insure them against fire, without defining what is considered to be unacceptable fire, and was obligated to pay the claim. Rather than endure lengthy and costly appeal process, the insurance company accepted the ruling and paid $15,000 to the lawyer for his loss of the rare cigars lost in the "fires."

After the lawyer cashed the check, the insurance company had him arrested on 24 counts of ARSON! With his own insurance claim and testimony from the previous case being used against him, the lawyer was convicted of intentionally burning his insured property and was sentenced to 24 months in jail and a $24,000 fine.

DuPont launches Proshield® COMFORT 60 COVERALL

Maximise wearer comfort and performance, minimize the risk of heat stress, with the latest DuPont protective coverall.

DuPont's latest generation of fabric and garment technology now provides a solution for protective coverall applications that are less demanding in terms of barrier, yet highly demanding in terms of wearer comfort. The new Proshield® Comfort 60 coverall, made with a unique, new comfort fabric technology, offers Type 5 &6 protection similar to a microporous film with the breathability of SMS in one single fabric.

The Proshield® Comfort 60 coverall was launched on the DuPont stand no. H30 on Tuesday 9th May at the Safety & Health Expo, NEC Birmingham.

Cool technology!

The coverall has been designed keeping in mind that the wearer's comfort is essential for worker satisfaction, efficiency and safety. Manufactured from a new generation DuPont nonwoven, the fabric supports active heat transfer from the body keeping the wearer cooler and dryer. The specially engineered composite fibres result in a fabric that has a high level of breathability and high permeability to moisture vapour, and is air permeable, whilst retaining a Type 5 & 6 protection.

Independent stationary skin model tests demonstrate that the Proshield® Comfort 60 fabric has up to 15 times more vapour permeability than microporous film fabrics. Complementing this, independent "Sweating Torso" (sweat simulation modeling) demonstrates that the coverall is twice as effective in evacuating humidity from beneath the coverall, and the time to recover to ambient temperatures is faster than those of the microporous film. Unlike film based composites, this new nonwoven fabric has inherent a high air permeability and softness, making it an excellent choice for applications in warm conditions or requiring physical exertion.

Engineered for comfort and freedom of movement

The combination of a high breathability and an extremely soft, breathable outer layer ensures that the garment provides a high level of comfort in a tactile, low-linting material. Design features such as the integral zipper protection, elasticated cuffs and ankles, a three piece hood, ample crotch area and elasticated waist allow a comfortable fit, ease of use and freedom of movement.

Protective barrier

Proshield® Comfort 60 provides protection against Type 5 (airborne solid particulate chemicals) and Type 6 (limited protection against liquid mist) applications, and the fabric is repellent to oil and grease. Setting the standard in comfort for Type 5 and 6 applications, Proshield® Comfort 60 perfectly complements the DuPont Personal Protection range of high performance TYVEK® garments that offer all round increased barrier protection within the Type 5 & 6 category, outstanding durability and breathability for more demanding protective applications.

Outstanding performance for use in many applications

Proshield® Comfort 60 is particularly suitable for use in warm, humid environments and when carrying out strenuous, physical activities that can pose a risk of heat stress. Examples of applications are: brick and ceramic firing, glass or rubber manufacturing, industrial cleaning, waste disposal, painting and paint spraying, remediation, in foundries and smelting operations, power plants and for site visitors.

For more information on PROSHIELD®, TYVEK® and TYCHEM® solutions, please visit www.dpp-europe.com, email Carolyn@mconieagency.com, or call 01483 237230.

DuPont is a science company. Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation and apparel.

"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.

A good friend and supporter of JOIFF, David White, Houston, Texas, is publisher of a magazine called Industrial Fire World. In the editorial of the March - April 2006 edition of IFW, David says that to protect themselves from litigation, Companies with fire brigades need to establish training standards that could be certified by a third party. Then if the worst happens, the company will have evidence of its diligence in having adequately trained personnel on hand for any contingency. David says: "Training and in particular training exercises, should be based on the actual needs of your facility. That need is determined by the type of risk to which your particular industry and facility are most vulnerable. What type of fire are you going to have to fight and control ? What equipment are you going to use ? What style of incident management are you going to employ ? You should be trained using a programme that has defined objectives and criteria."

David concludes his editorial by saying "It's a shame that the argument (reason for training) is framed in terms like "we might get nailed" rather than "it's the right thing to do".

Congratulations to David for making these points to his readers. What he says is a principal that JOIFF has been putting forward since it began to set minimum training standards for emergency responders. JOIFF accredited Training is based on emergency responders being competent in dealing with hazards and risks on their own site by identifying the job role of the responders and the competencies required to carry out that role and then this competence must be continually demonstrated and verified by an external verifier.

And like David, JOIFF also says that good Health and Safety Practice, which includes training for competence, should be followed because it is the correct thing to do, not because it is a legal or regulatory or insurance requirement.

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Over the next number of weeks, there will be huge interest in the soccer World Cup which no doubt will be on every TV in every pub, club and Hotel and in most houses in the Land. Some of us might like to escape from watching spoilt, overpaid, grown up children chasing a big ball and relax in one of the many sports grounds in the United Kingdom where weather permitting, we will be able to watch and see not-so-spoilt and definitely not-so-overpaid grown up children throwing, hitting and trying to catch a little ball in our other national game, cricket. I thought it would be useful for those who have never had the pleasure of watching a cricket match to get a simple explanation of its background and rules.

Cricket's birthplace over 1000 years ago was most likely in south east England. The original implements of cricket may have been a matted lump of sheep's wool as the ball; a crook or other farm tool as the bat; and a gate - i.e. a "wicket" gate - or a tree stump as the wicket. It is possible that the game was derived from the older sport of bowls by the introduction of a "batsman" to stop the ball reaching its target by hitting it away.

The rules of cricket are quite simple and require that there are two sides. Throughout the game, one side is in and the other side is out. Each man on the side that is in goes out and when he is out he goes in. Then the next man goes in until he is out at which point he comes in. When the side that is in are out, there is still one man who is in but who is not out, then the side that is out comes in and the side that has been in goes out and tries to get those coming in out. When both sides have been in and out including the not outs, that is the end of the game. However if the game is washed out no-one gets to go in but everyone stays inside and no-one gets out.

Have a good summer !!
Mr.R

The Catalyst

The Official Newsletter of Joiff

Diary of Events 2006/2007

July 19th - 21st	**Institution of Fire Engineers Conference and Exhibition** Cardiff City Hall, Wales.
Sept	**JOIFF Annual General Meeting** Date and venue to be announced.
Oct 5th - 6th	**European Process Safety Centre (EPSC) Conference** Human Factors in Process Safety, Schiphol, The Netherlands
Nov 8th - 9th	**FIRE 2006 Exhibition and Conference** Telford, Shropshire, England.

2007

March 20-1st Apr	**Fire Engineering Conference and Exhibition** Cologne, Germany.
April 16th - 21st	**FDIC (The Fire Department Instructors' Conference)** Indianapolis, Indiana, USA.
May 22nd - 24th	**FDIC (Fire and Emergency Services Asia)** Singapore.
Dec 9th - 13th	**FDIC (The Fire Department Instructors' Conference)** Bahrain.

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. This is based on information given to the Editors and is published in good faith.

For further information about JOIFF accredited on-Site 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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