



The Catalyst



The Official Newsletter of JOIFF

January, 2010

FROM THE EDITORS

We welcome you to this, the first edition of The Catalyst for 2010 and wish our readers, contributors of articles, advertisers and sponsors a very Happy 2010 and hope that it will be a good year for all. We have changed the dates of publication of The Catalyst and in the future, The Catalyst will be published in January, April, July and October.

Most accounts of 2009 are of a difficult year with some genuine casualties and some who used the difficult economic conditions around the World as an excuse to reduce personnel, training, maintenance costs and re-equipment. We sincerely empathise with those Emergency Response personnel who have lost their jobs or whose working time/remuneration has been reduced. At the same time, we remind all, both employers and employees that the response from Municipal Authorities has also suffered from cuts and those whose risk assessment for pre-determined attendance is based on a "Best Case" response scenario by local Municipal Fire Brigades will almost definitely be disappointed if the unwanted incident/accident occurs. Even if external agency Emergency Response does attend as hoped for, will they have the equipment, the competent personnel; the knowledge and the training to effectively and efficiently deal with the incident/accident?

There is no substitute for a well trained and well equipped onsite competent response capability and this requires a full commitment to maintain resources and personnel training and competence. The Catalyst is delighted to report in this edition, on one UK JOIFF Member who continues to lead the way in this area and to set "World's first" in the field of Emergency Response. For a number of years, the Fire Sector has been aware of

the banning of the use of Foam products containing PFOS and the Industry is aware that this ban comes into effect next year. Users are facing the problem of replacing their foam stocks and during the past few years there have been Conferences and Seminars at which "environmentally safe" replacements were spoken of. The public differences of opinion between Suppliers of Foam has caused on-going debate between them and subsequent confusion/irritation amongst end users. JOIFF is the voice of major end users all over the World and The Catalyst is very pleased to publish in this edition two significant articles on the current situation with regard to firefighting foams, both from JOIFF Members, one a producer one a user. We hope that these articles will stimulate debate amongst JOIFF Members that might result in a much clearer way forward for end users.

During 2009, we invited JOIFF Members to submit details of innovative changes and new ways of thinking of doing business in these difficult economic times and we published a number of "Good News" stories. We extend this invitation for 2010 and start the year with submissions received and published in the Members Section of this edition. We invite other Members to submit their details for inclusion in future editions.

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 relevant technical issues along with developments in the area of Emergency Services Management. In addition to The Catalyst, information relevant to Emergency Services Management is posted on the JOIFF website.

ABOUT JOIFF

Membership of JOIFF, the Organisation for Emergency Services Management is open to any Organisation which is a high hazard industry and/or has nominated personnel as emergency responders/hazard management team members who provide cover to industrial/commercial organisations. Organisations which do not fully comply with these requirements are welcome to apply for Corporate Membership of JOIFF.

JOIFF provides a forum for discussion amongst peers, accredited training specifically developed for the sectors in which JOIFF members operate and technical advice through the JOIFF Standard and the JOIFF Shared Learning network. JOIFF welcomes enquiries for Membership - contact the JOIFF Secretariat

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The views and opinions expressed in The Catalyst are not necessarily the views of JOIFF or of its Secretariat, Fulcrum Consultants, neither of which are in any way responsible or legally liable for any statements, reports or technical anomalies made by authors in The Catalyst.



NEW MEMBERS

During September, October, November and December 2009 the Executive of JOIFF were delighted to welcome the following new Members.

Full Members

Brandweer Training en Opleiding Grevelingen B.V., Bruinisse, The Netherlands, represented by Simon Kok, Director, and M.J. van Katwijk, Management Assistant. At different training grounds in The Netherlands the Company provides training for firefighters and emergency responders.

Eastern Emergency Response Services Ltd., (EERSL) Trinidad, West Indies, represented by Glenford Joseph, General Manager, Corporate Services, Arnold Lewis, Manager, Emergency Response Services and Krishendath Bharath, Shift Leader. EERSL has been in operation for over seven years, is related to Eastern Divers Company Limited (EDCL) and together with EDCL has satisfied customer needs for a combined total of thirty four years. EERSL employs a large team of Emergency Responders and provides emergency response training services, 24hr emergency medical, dispatching, fire/rescue, hazmat and equipment maintenance services both in the private and public sector inclusive of residential, commercial and industrial sector. EERSL is ISO 9001:2008 certified.

EnviroServ Waste Management (Pty) Ltd., Apex, Benoni, South Africa, represented by Duane Pretorius, National Hazmat Manager and Eugene vd Berg, National Industrial Cleaning Manager. EnviroServ Waste Management employ a large team of both part time and full time Emergency Responders and provides 24 hour spill response, response to marine and harbour spillage, asbestos removal and cleaning, product transfer and repackaging or uplift, fire decontamination, debris removal and industrial flood damage, hazmat incident management and risk assessments, hazmat training on frontline response, hazardous and non-hazardous clean-ups, laboratory and obsolete stock pile cleaning, specialised high-risk clean-up projects, bio-remediation, cross border incident response, road, rail and airway spillage, petrochemical bulk storage tank cleaning including confined space entries, super sucking of hazardous and non hazardous products, environmental benefits through product beneficiation and remediation, automated tank cleaning technology, thus maximising the treatment and recovery of crude oil, specialised industrial cleaning, cold cutting, sludge removal, dam and pond cleaning, supplying of absorbent materials and spill assessments and quotations

Kuwait National Petroleum Company, Safat; Kuwait, represented by Yousef Ghadanfari, Fire Prevention Engineer. Kuwait National Petroleum Company (KNPC), established in 1960, became fully owned by the State of Kuwait owned Kuwait Petroleum Corporation (KPC) when KPC was created in 1980. KNPC was entrusted with

the responsibilities of oil refining and gas liquefaction as well as the distribution of petroleum products in the local market on behalf of KPC.

Consequently, the company took charge of three oil refineries and an LPG plant. Modernisation projects not only increased the refineries' throughput but also improved the quality of petroleum products which became highly competitive on the world market. Company installations, refineries, export terminals and filling stations sustained severe damage during the Iraqi invasion of the state of Kuwait and the refineries and filling stations repair and restoration program was completed by the end of the fiscal year 1993-1994. The Emergency Response capability in KNPC is provided by a large team of part time and full time responders.

Nigeria LNG Ltd. (NLGN), Bonny Island, River State Nigeria, represented by Olufemi Afolayan, Safety Advisor. NLNG is a joint venture company in which the Federal Government of Nigeria holds shares through the Nigerian National Petroleum Corporation (NNPC). The NLNG plant is located on Bonny Island, Rivers State, Nigeria. Gas is supplied to NLNG via a dedicated pipeline. The LNG plant consists of two liquefaction trains with a total capacity of 5.8 million tons of LNG per annum. In addition, to the gas plant is a gas transmission system covering 218 kilometres in total and a residential area housing the staff employed. The NLNG complex was designed to service the projects original 22½ year supply commitment, and approval to increase the capacity of the plant by the addition of a third train was recently granted. In addition to the process complex, a separate residential area is provided which includes houses, recreational facilities, and community facilities such as a hospital, school, shopping mall etc. The Emergency Response capability in NLNG is provided by a large team of part time and full time responders

Corporate Members

Amdac-Carmichael Ltd., England, represented by Nick Croad, UK Sales Manager. Amdac-Carmichael is the largest UK Company producing a full range of fire-fighting vehicles. A healthy UK market share is enjoyed and forms an important manufacturing base, however 70% of the company's production is exported - Carmichael has customers in more than 80 countries around the world. The comprehensive Carmichael product range includes vehicles for every fire fighting and rescue situation. It also includes other specialist vehicles for the security and environmental sectors.

Consulsafety, Almada, Portugal, represented by Mário José Macedo, Technical Director, Maria Alice Calmeiro, Senior Consultant and Sandra Carvalho, Consultant. Consulsafety specialises in Risk Assessment, Industrial and Environmental Safety, Fire Safety and Fire Protection, Emergency and Business Continuity Planning



and Health & Safety at Work. Consulsafety support their clients with the implementation of fire safety requirements, Seveso II Directive requirements (Safety Report, Emergency Plan & Exercises) and Technical and Management Audits and they have a partnership with local fire brigades through which they provide fire fighting training to their client.

Newson Gale Ltd., Nottingham, England, represented by Ernest Kochmann, Chairman and CEO, Graham Tyers, International Sales and Marketing Director and President – Newson Gale Inc. and Mike O'Brien, Product Manager. Newson Gale design and supply electrostatic grounding systems for hazardous areas. Their products range from

simple static earth clamps and cables to full interlock systems for road and rail tanker loading and unloading as well as process plant. Vehicle mounted and portable static grounding systems for product recovery for hazardous product

Toray Textiles Ltd. Nottinghamshire, England, represented by Mark McBrayne, Manger and Mike Fisher, Technical Director. Toray Textiles are manufacturers in the United Kingdom technical fabrics and develop new technology in fabrics for specialist industries e.g. inherently flame resistant fabrics.

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

JOIFF TECHNICAL MEETING

A JOIFF Technical meeting took place on 4th November 2009 in Bergen op Zoom, The Netherlands at the kind invitation of JOIFF Member SABIC Innovative Plastics. The Site Manager of SABIC IP welcomed all and gave a presentation on the history and current operation of SABIC IP Bergen op Zoom. At the JOIFF Annual General Meeting the previous evening, members had drawn up a list of subjects which they would like to discuss – “Fitness levels”; “Foam”; “Mutual Aid”; “Use of IT in Emergency Response” and “How to maintain crewing levels”. The time available only permitted discussion on “Use of IT in Emergency Response” and “Foam”. Larry Murphy, JOIFF Member Sigtec Ltd., Ireland gave a presentation on Emergency Team Messaging & Communications for High Hazard Industries, one aspect of using IT in Emergency Response. Following discussion it was agreed that a Working Group under the Chairmanship of Larry would be established to develop a Guideline on IT applications for Emergency Response. JOIFF Members are invited to contact the JOIFF Secretariat or Larry at larry.murphy@sigtec.ie with preliminary suggestions on the proposed content and scope of the Guideline.

The serious situation with regard to Foam and The Environment and options for the future was also discussed and JOIFF was requested to address this issue from the perspective of the many Users of Foam who are Members of JOIFF.

Gerry Johnson, Chairman of the JOIFF Training Standards Committee, gave a presentation on the development of JOIFF Accredited Training, its current status, its relationship to International initiatives on training of Emergency Responders and Training Risk Assessment to meet legal requirements.

Jeremy Barber, Emergency Response Leader, SABIC IP gave a presentation on the history, development and current status of SABIC IP's Emergency Response capability followed by a demonstration of appliances and

equipment used by SABIC IP Emergency Response Team. Jeremy also described the legal requirements of Emergency Response in Seveso II Organisations in The Netherlands and the legislative requirements on training. He pointed out that some of this training may not necessarily be related to the site risks.

Alec Feldman of Fulcrum Consultants, JOIFF Secretariat, gave a presentation on competent Emergency Response saying that Emergency Response is more than just responding to an incident, it includes planning, responding and controlling the incident/accident to ensure business continuity. It must include the relevant equipment, knowledge, training and experience to deal with the risks on site and whilst competent Emergency Response will not necessarily prevent accidents / incidents, it will certainly ensure that their impact on an Organisation, a Community and the Environment is very much less.

The Chairman thanked SABIC IP and Jeremy Barber for their kind hospitality and use of their facilities, and wished all attendees a safe journey home.

Editor's note: As stated in the above report, attendees at the JOIFF AGM 2009 requested discussion on a number of issues. This is the current position with regard to each of the subjects mentioned. "IT in Emergency Response" is being addressed with the instigation of work to develop a JOIFF Guideline. JOIFF has done much work on "Mutual Aid" and with the UK CFOA has developed ORCCID. Work continues to put ORCCID in place in various Countries. With regard to "Foam", detail in this edition of The Catalyst, heralds the beginning of an initiative by JOIFF as major Users of foam. The Catalyst would be interested to hear from any JOIFF Member, proposals on how to move forward the other two subjects mentioned – "Fitness levels" and "How to maintain crewing levels".



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THE PFOS CLOCK IS TICKING, BUT WHAT ABOUT PFOA?

By John Allen



If you have firefighting foam concentrates containing Perfluorooctane Sulfonates – more often abbreviated to PFOS – you will soon have to comply with EU regulations banning their storage and use.

The European Community has passed legislation banning foam concentrates containing PFOS. Under Directive 2006/122/EC of the European Parliament and of the Council of Twelve, December 2006, all materials containing PFOS – including firefighting foams – must not be used or stored after June 27th 2011. This will certainly be of importance to any JOIFF member companies holding stocks, although the scale of the removal and disposal challenge is not at all easy to determine.

A study commissioned by DEFRA [Department for Environment, Food and Rural Affairs] towards the end of 2004 indicated that, at that time, the UK fire and rescue service had 76,000 litres, while industry had 2,367,000 litres of foams containing PFOS. The high usage of PFOS in firefighting foams, when compared with other applications, was borne out by an OECD [Organisation for Economic Co-operation & Development] report in 2005 that showed that around 90 percent of the PFOS related chemicals in the EU were used in firefighting foams.

While all Tyco foams are now made with fluorosurfactants obtained by a different process called Telomer, which does not create PFOS, Tyco Fire Suppression & Building Products has put procedures in place to provide users of foam concentrates from any supplier that may contain PFOS with assistance to meet their obligations, and keep them updated on the issue.

But first, what is PFOS? PFOS is an impurity found in high concentrations in the Electrochemical Fluorination or ECF process that produces Fluorosurfactant or Fluorinated Surfactants compounds. These are synthetic Organofluorine chemical compounds that have multiple Fluorine atoms that are more effective at lowering the surface tension of water than comparable Hydrocarbon Surfactants.

However, PFOS is also a global pollutant that was added to Annex B of the Stockholm Convention on Persistent Organic Pollutants in May 2009. It is an extremely toxic substance that is bio-accumulative. This means that it is harmful to the environment, with a potentially harmful impact on aquatic, animal and human life. This substance is persistent and research data suggests it is not biodegradable.

The 3M organisation began producing PFOS-based compounds using Electrochemical Fluorination as far

back as 1949. However, following the detection of Organofluorine in the blood serum of consumers, the detection of PFOS in blood from global blood banks, and the USA's EPA [Environmental Protection Agency] investigations, the company announced its withdrawal from the foams market in May 2000.

Nevertheless, PFOS is still to be found at levels exceeding the EU limiting values in all old stocks of 3M "LightWater" AFFF [Aqueous Film Forming Foam] concentrate for hydrocarbon fuel fires and AFFF-ATC [Alcohol Type Concentrate] agents for use on water-soluble polar solvent fuels such as Acetone, Isopropanol and MTBE [Methyl Tertiary Butyl Ether]. After 3M left the market, a number of foam manufacturers filled the supply gap and provided a refilling service to 3M customers. The problem was that the blending of 3M PFOS foams with other foams, and even those not containing PFOS, will very likely result in a mixture that nonetheless exceeds the permitted EU tolerance of less than 50 ppm [parts per million] PFOS by mass and so require action under Directive 2006/122/EC. While firefighting foams manufactured by Tyco since 2000 are safe and do not contain PFOS, those manufactured before 2000 may present a risk and should be considered as requiring proof that they are safe for use and do not contravene the Directive.

So, what steps should be taken if there is any possibility that a foam stock may contain PFOS? If a system possibly still contains 3M concentrate, if it may have a blend of 3M concentrate and other concentrates, or if the foam was supplied by Tyco prior to 2000 – indeed, any foam stock that may be suspected of containing PFOS – the concentrate must be tested. If it is found to contravene the Directive, it will have to be removed, responsibly disposed of and replaced before June 27th 2011.

The first step is to identify if the foam contains PFOS. One course of action is to use the expert laboratory analysis facilities that Tyco has at its disposal. All that is required is a representative 200 ml sample for analysis (a sample kit is available from Tyco Fire Suppression & Building Products). A report will then be issued from an official external laboratory.

If PFOS is detected, Tyco Fire Suppression & Building Products can provide technical assistance regarding foam replacement and advice on how to check if other parts of the system distribution have been exposed to PFOS. For example, the cleaning of tanks or equipment might not be sufficient to avoid further contamination, as porous material can potentially re-contaminate a replacement foam not containing PFOS. The service also extends to the responsible disposal of foam containing PFOS and all



other contaminated components, such as bladders from bladder tank systems.

Turning to the question of concentrates containing PFOA or Perfluorooctanic Acid, as yet there are no restrictions on their use. However “notice” has been given that PFOA is likely to be classified as being at least persistent, bio-accumulative and / or toxic and, as such, foams containing PFOA are very likely to be reviewed. This may lead to them being regulated in future. It is important to note though that many manufacturers have already taken steps to remove both PFOS and PFOA from their products. Indeed, Tyco issued a series of notices in October 2008, reminding customers that all Tyco European-branded products – Ansul, SaboFoam, Finiflam and Towalex – are free of PFOS and PFOA at all but possibly minute trace levels; well below the legislated limits set by the EU regulations for PFOS.

For JOIFF members, the regulation of toxic or PBT [persistent, bio-accumulative and toxic] chemicals in firefighting foams will impact on all users and holders of foam stocks. So much so that organisations facing decisions about the replacement of foam stocks are reasonably expecting reassurance from manufacturers that the replacement concentrates are not themselves going to be subject to future regulation.

With this in mind, perhaps the time is right to propose the setting up of a discussion forum where JOIFF members could exchange views on the impending regulations, firefighting foam performance and the stand being taken by the EU? This could possibly take the form of one, or maybe a series, of meetings where JOIFF members collectively assess the impact of the anticipated

legislation, explore together the available options, and consider all of the issues from an industry user’s perspective. Certainly it is an initiative that would have the wholehearted support of Tyco Fire Suppression & Building Products.

Editor’s note: John Allen, EMEA Marketing Director at Tyco Fire Suppression & Building Products, is an engineer by training. He joined Tyco in 2006, having worked at senior marketing and general management level in a number of leading fire detection and alarm companies. Further information on John’s article is available from Tyco Fire Suppression & Building Products by telephone on +44 (0) 161 875 0402, by fax on +44 (0) 161 875 0493, or via email at marketing@tyco-bspd.com



The PFOS sampling kit available from Tyco Fire Suppression & Building Products



Delegates at the JOIFF AGM in SABIC IP The Netherlands



MEMBERS SECTION

Editor's note: During 2009, we have highlighted innovative activities, changes and new ways of thinking that JOIFF Members have engaged in to position themselves to deal with the uniquely difficult economic conditions that have traumatically affected Economies all over the World. We intend to continue this during the coming year and invite Members to submit such details for publication in future editions. In this edition we are pleased to report on detail received from JOIFF Members.

Kidde Products and Hawkes Fire

Angus Fire, part of JOIFF Member Kidde Products, has extended the current distribution arrangements in the United Kingdom between them and JOIFF Member Hawkes Fire (J and RA Hawkes and Sons Ltd). Angus and Hawkes have been in a selective distribution partnership in the UK since 2001 and it was decided with effect from 1st October 2009, to extend their distribution agreement in England and Wales to cover airports and power generation facilities for which Hawkes will take over account management responsibility for all Angus Fire brand sales. Hawkes Fire will offer a wide range of services to support the sales of Angus Fire product including enquiry handling, Site Visits, technical sales support and advice, critical stock holding, after sales maintenance and repair service and equipment testing. Apart from their considerable experience over many years selling Angus Fire products, Hawkes also distribute several complementary product ranges including Sides; an Angus Fire sister company who manufacture an extensive range of fire fighting vehicles. Websites for further information: Angus Fire www.angusfire.co.uk Hawkes www.hawkesfire.co.uk

TenCate

JOIFF Member TenCate Protective Fabrics reports that they recently exhibited at a "PPE Festival" organised by BASF Antwerp. BASF Antwerp have a number of prevention officers, one of whom has specific responsibility for PPE. She had been

receiving so many questions from staff about the PPE used on site that she organised the PPE Festival to provide an opportunity for staff members to meet the suppliers of the PPE and directly ask them the questions to which they required answers. TenCate were one of a number of suppliers who were invited to participate and it gave them the opportunity to provide information on the "whys and wherefores" of their protective materials used in much of the PPE worn by personnel in BASF. These materials include not only the heat/flame protective materials for which TenCate are well known but also their range of chemical protective materials and finishes. Over 1000 BASF employees attended the festival and TenCate report "When dealing with end-users, it's usually a case of speaking to the safety expert, purchasing or representatives of the wearer group. With this opportunity we came in contact with a great many wearers who could ask us directly about all kinds of practical matters relating to the PPE in which our materials are used. This was a great opportunity for Users to make direct contact with Suppliers to improve the exchange of information". Website for further information: www.tencateprotectivefabrics.com

JOIFF AGM 2009:

The Annual General Meeting of JOIFF Ltd. took place at the kind invitation of JOIFF Member SABIC-IP (Sabic Innovative Plastics) on their site in Bergen op Zoom, The Netherlands, on the afternoon of Tuesday 3rd November 2009. The required reports were presented to the meeting and the audited accounts for 2008 were approved. JOIFF Treasurer Dave Murray invited Members to contact him with suggestions and ideas on how the use of JOIFF funds could assist in supporting the development of JOIFF. The appointment of Auditors for the coming year was approved as were the level of membership subscriptions for 2010. Re-election of JOIFF Directors and Executive Members took place and the officers of the JOIFF Executive for the coming year was approved.

Suggestions were invited from Members for content/types and venues of future meetings of JOIFF. Any JOIFF Members wishing to receive further information about the AGM should contact the JOIFF Secretariat.

JOIFF website:

There is a page in the Members Area of the JOIFF website on which Fire Trucks of JOIFF members are featured under the careful and diligent stewardship of JOIFF Member David Turvey. Thanks to the following JOIFF Members for submitting detail to date. In alphabetical order:

Abu Dhabi Marine Operating Company.
BP European Acetyls, Hull, UK.
BP Toledo Refinery, USA.
CEFS Emergency Response, Kertih, Malaysia
Chevron (South Africa) Pty. Ltd., Cape Town, South Africa.
Dow Corning Ltd., Barry, Wales, UK.
Ineos Manufacturing Ltd., Grangemouth, Scotland
Manchester Airport Fire Service, UK.
Neste Oil Corporation, Porvoo, Finland
New Zealand Refining Company, Whangarei, New Zealand.
PetroSA Fire and Emergency Services, Mossel Bay, South Africa.
Preem Petroleum AB, Lysekil, Sweden.
Qatar Petroleum, Doha, Qatar.
Sabic Innovative Plastics, Bergen op Zoom, The Netherlands.
SAPREF, Durban, South Africa
Sasol Secunda Shared Services, South Africa.
Saudi Aramco Shell Refinery, Kingdom of Saudi Arabia.
SembCorp Utilities (UK) Ltd., Wilton, UK.
Shell-Refinery, Fredericia, Denmark.
TAG Farnborough Airport Ltd., Hampshire, UK.

Foam:

http://hemmingfire.com/news/categoryfront.php/id/87/Foam_Conference.html will give access to Members to some of the presentations that were given at the Conference on Foam which took place at the Reebok Stadium, UK, in July 2009. Courtesy of JOIFF Member Kevin Whitehead.



DO FLUORINATED FIRE FIGHTING FOAMS HAVE ANY FUTURE?

By Siegfried Fiedler

This might be a question which is not obvious immediately. But after reading the following lines we should better think about it right now.

In order to meet the requirements of the European Directive 2006/122/EG all fluorinated fire fighting foams containing $\geq 0,005$ % (by mass) perfluorooctansulfonate (PFOS) must be removed and disposed of by 27th of June 2011. The ban of these foams is due to their persistent, toxic and bioaccumulative (PBT) nature.

This is not too much of a problem because there are already other and even better fluorinated telomere-based fire fighting foams available. These fluorinated foams contain certain amounts of perfluorooctanoic acid (PFOA) which already meets the criteria for being persistent and bioaccumulative. The intention to classify PFOA as toxic has been announced on the ECHA (European Chemicals Agency) website.

Due to the fluorine content, fire fighting foams have excellent fire extinguishing capabilities when used on hydrocarbon and polar hydrocarbon fires and their stability gives a lot of safety. Many fire departments, especially those who might have to deal with a large tank fire must rely on foam concentrates because they have to use direct foam application with their large monitors.

The national environmental agencies are currently convinced that at present, there are no suitable replacements for fluorine containing fire fighting foams available for certain purposes like these mentioned above. Due to their hazardous properties these foams are strictly monitored. Furthermore they may not be used for training purposes. Before using the foams for fire fighting or vapor reduction a 100% retention system must be in place. Special treatment for the contaminated fire fighting water is necessary in waste water treatment plants to eliminate PFOA before entering the rivers. Some suppliers are planning to sell a mobile water treatment unit to deal on site with PFOA.

Overall the replacement of compounds like PFOS in fire fighting foam concentrates by 2011 should not be a problem. However, are we sure that we will not be forced to phase out the new alternatives which contain telomeric perfluoro alcohols and/or PFOA in the near future?

PFOS, PFOA and telomeric perfluoro alcohols, which result in PFOA, may finally be included in Annex XIV of Regulation (EC) No 1907/2006 (REACH), provided they meet the required criteria (for example the PBT criteria). Without authorization, substances listed in Annex XIV will not be allowed to be used in the EU (European Union).

In the case of Halon fire fighting agents, there was no convincing argument available to enable further use universally. Even the argument to protect peoples lives when they become involved in a fire (e.g. in labs, production handling with flammable liquids) was not

enough to keep the Halons for Fire fighting purposes available other than for specialised use in Aviation. Therefore all arguments for fire fighting foam concentrates containing perfluorinated compounds, such as less pollution due to quick fire fighting or more safety for fire fighters due to better reigniting avoidance, may not be sufficient to achieve authorization for the use of particular perfluorinated substances for fire fighting purposes. The possible outcome that fire fighting foams containing perfluorinated chemicals like telomeric perfluoro alcohols or PFOA may not be used any longer in the future is not definite. But because of their hazardous properties a possible phase out in a few years should be taken into account.

Now coming back to the headline of this article, we worry about our per- and polyfluorinated fire fighting foam concentrates right now, because with such an uncertain future we cannot replace any foam stock in 2011. We are not going to buy tomorrow's waste.

The Industrial Fire Departments (Chemical and Petrochemical Companies) must stick together to demand adequate fluorine free fire fighting foam alternatives right now from the suppliers. There is no doubt, that finding adequate alternatives is not an easy task. But the suppliers must try to arrange a "mutual aid system" to focus the research on that issue.

We as the users of the fire fighting foams which are responsible for the safety of our responders only can accept a solution which can:

- Be used in direct application on hydrocarbons and polar hydrocarbons
- Has a very good stability

These features must be proved under realistic test conditions. Pre burning time from 1 minute (EU Norm 15) or 3 minutes (Last fire Test) is not sufficient. Every fire will last at least 10 minutes before any automatically or semi fixed extinguishing system will provide proper foam coverage.

The future of fluorinated foam concentrates is already here and the users as well as the producers must deal with the issues right now, because it is not acceptable to replace foam stock in 2011 which will be waste a couple of years later.

Editors Note: Siegfried Fiedler has been Fire Service Engineer at BASF Fire Department in Ludwigshafen, Germany for 20 years with responsibility for Technique and Organisation of the Department, and involvement in Fire Prevention and as an



Siegfried Fiedler



Incident Commander. Siegfried is Head of the Global Emergency Response Service Center as well as Head of European Emergency Response Expert Group within BASF Competence Center Responsible Care. He is qualified as a Mechanical Engineer, a Fire Service Engineer and an Occupational Safety Engineer. Siegfried has extensive experience of Emergency Response Internationally including major involvement in the ICE (International Chemical Environment) programme. BASF Ludwigshafen has been a Member of JOIFF since 2002.

5TH INTERNATIONAL CONFERENCE FOR FIRE BRIGADES IN THE OIL & CHEMICAL INDUSTRY

190 delegates attended this bi-annual Conference that took place in November 2009 in Budapest, Hungary, organised by JOIFF Member FER Fire Brigade, Mol Plc. Danube Refinery, Hungary. The detail covered in the papers at the Conference was across a wide range of subjects relevant to Emergency Response in the Oil and Chemical Industries. The Conference was very well organised and Directors and staff of MOL Group and FER Fire Brigade made all delegates very welcome.

JOIFF was well represented by participants and speakers. Papers given by JOIFF Members included *Risk evaluation and Scenario Assessment* and *An incident involving a sunken roof of a floating roof tank* by Erwin de Bruin and Raymond Brass, Unified Industrial & Harbour Fire Department Rotterdam, The Netherlands; *Update on International Chemical Environment, (ICE) - the International cooperative programme between chemical companies to prevent chemical transport incidents and to respond effectively if and when they do occur* - and *Cold cut - an application of a mixture of high water pressure and abrasive solids* by Siegfried Fiedler, Fire Service Engineer, BASF SE, Germany; *Mobile tank fire fighting*

equipment by László Pimper, MD - Fire Chief, FER Fire Brigade; *Tank fire suppression strategy at Neste Oil* by Jaakko Valtonen, Deputy Fire Chief, Neste Oil, Finland; *BP Live LNG Fire Training and Research* by Kevin Westwood, Group Fire Advisor, BP International Ltd. UK and JOIFF: *Competent Emergency Response - Essential for Business Continuity and Credibility* by Alec Feldman, Fulcrum Consultants, Ireland.

Other papers presented included *Large oil tank fires in Japan* and *Experience and Research results of boilover tests in Japan* by Dr. Hiroshi Koseki, National Research Institute of Fire and Disaster, Japan; *Logistic problems of tank fire fighting with high capacity monitors* by Tamás Török, Deputy Fire Chief. TMM Ltd, Hungary; *The Buncefield Incident - The Practical Lessons Learnt and The Lastfire study - an Update on Boilover testing and Other Work* by Dr. Niall Ramsden, Director, Resource Protection International, UK; *Two unusual incidents - When the fire did not become a conflagration, and when it did so* by Jozef Lauko, Fire Chief, G4S Fire Services; *Pre-Incident Planning, an Airports Perspective* by John A. Olsen, Senior Project Manager International Programs, Fraport AG, Germany; *Fire-fighting of multiple*

simultaneous fires at the heavily damaged storage area of Sisak Oil Refinery by Ivica Billege, dipl. engineer, Refinery Manager INA, and Ivan Pavlenic, dipl. engineer, Refinery Fire-fighting Chief, Sinaco, Croatia.

On the first afternoon of the Conference, participants were brought to the MOL Refinery in Százhalombatta where FER Fire Brigade gave a fire fighting demonstration on their excellent Training Ground. Also during the visit to the refinery a test was carried out under the supervision of Dr. Niall Ramsden, Director, Resource Protection International, UK of foam flow on a 600 m² burning pool.

Sponsors of the event included Rosenbauer International AG and JOIFF Corporate Members Hytrans Systems b.v.; the Netherlands, Dr. Sthamer, Germany and Solberg Scandinavia UK.

Congratulations in particular to László Pimper, MD - Fire Chief, FER Fire Brigade and Zoltán Mészáros senior officer of fire-fighting and rescue, FER Fire Brigade for an excellent event.

THOUGHT FOR THE YEAR

Site Risk Assessment.

When carrying out a Site Risk Assessment, keep in mind the lessons of the Maginot Line: Everything is pointing in one direction and the attack comes from another.

Explanatory note for our younger readers:

The Maginot Line, named after French Minister of Defense André Maginot, was a line of concrete

fortifications and weaponry constructed by France in the run-up to World War II along its borders with Germany and Italy based on experience from World War I. The purpose of the fortification was to provide time for their army to mobilise in the event of attack. It was an ineffective strategic gambit, as during the attack, the Maginot Line was flanked and the invasion of France proceeded relatively unobstructed.

WORKING IN DANGER ZONES IS YOUR JOB. MAKING SURE YOU'RE PROTECTED IS OURS.

TenCate Protective Fabrics develops and produces fabrics for work- and safetywear. Our fabrics form the basis of protective clothing worn by firefighters, industrial workers, the military, and other professionals who work in hazardous conditions in danger zones around the world.

We work closely with our customers, end-users, fibre and chemical manufacturers and independent test institutes. As a result, TenCate Protective Fabrics is the one source the world looks to for leadership in knowledge of materials, consistent product quality, and a proven commitment to service excellence.



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TEN CATE PROTECT BV

P.O. Box 186
NL-7440 AD Nijverdal
The Netherlands

Tel. +31(0)548 633 922
tcp@tencate.com
www.tencate.com

TENCATE
materials that make a difference

TENCATE PROTECTIVE FABRICS INTRODUCED NEW PROTECTIVE FABRICS AND INTEGRATED SYSTEMS AT THE A+A 2009



At the A+A 2009 trade fair in Düsseldorf (Germany) TenCate Protective Fabrics introduced new durable fabrics and unique multi-layer systems for fire fighting apparel and electric arc protection. These new fabrics and systems are based on an optimal combination of textile technology and chemical processes, including unique fibre blends and durable finishes.

The end-user is key for TenCate Protective Fabrics. Workers across the globe are often exposed to dangers and unsafe situations at work. Under the theme "Room to move, every level of safety and comfort", TenCate Protective Fabrics presented its new protective solutions at the A+A 2009. Ramon Overdijk, marketing & sales manager of TenCate said "These working people must be able to do their jobs with proper protection. Safety wear that does not hinder but facilitates their tasks, will contribute to integral safety at work. Our fabrics and systems give optimal protection combined with ultimate flexibility and comfort".

fabric cool and breathable and ensures a great measure of comfort. The fabric feels soft and is extremely durable. Its colour fastness is excellent, even after frequent industrial washing. And the colour on the seams and the cuffs remains as good as new. Ramon Overdijk said: "These characteristics are good examples of our approach: "Room to move - every level of safety and comfort".



Unique multi-layer system: TenCate Tecasystem™

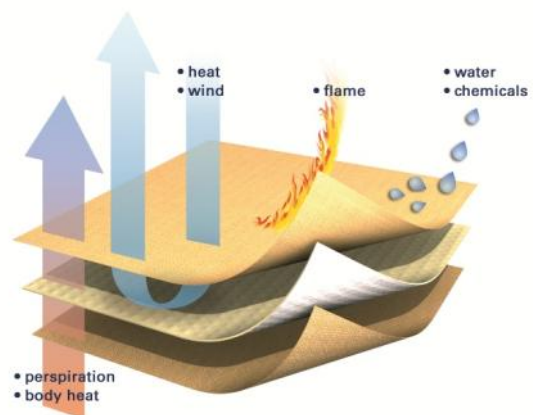
Some risks are so great that optimal protection is only possible by combining fabrics and materials in multi-layer solutions (integrated systems). In a system solution each protective layer possesses specific functionalities and all layers are geared to each other to produce the integrated system. A good example is the multi-layer system for fire fighting clothing. TenCate Protective Fabrics has developed four new integrated systems including TenCate Tecasystem™ - Millenia 450. This is the lightest multi-layer system on the international market (450 g/m²) to meet the European standard for fire fighting clothing EN 469: 2005, level 2. In addition to protective characteristics the right combination of the different layers provides optimal comfort and good freedom of movement (room to move).



New generation of multi-risk protection under TenCate Tecasafe®

One of these innovations is TenCate Tecasafe® - XL 9300. In Europe there is a great deal of demand for fabrics from the TenCate Tecasafe® collection for industrial safety. A characteristic feature of this collection is the combination of inherent flame-resistant properties, multi-risk protection and optimal comfort. These fabrics are suitable for use in protective clothing, for example in the chemical industry and construction, energy and metal companies.

TenCate Protective Fabrics has extended its collection to include the unique fabric TenCate Tecasafe® - XL 9300 (300 g/m²). A special cellulose fibre has been incorporated in the blend. This natural fibre makes the



Millenia 450



ELECTRIC ARC FLASH - HAZARDS AND PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIRED

On 8th December 2009, JOIFF Member Kermel, France, hosted a Seminar in Manchester, England, attended by JOIFF Members and others interested in this aspect of work place hazards. Hugh Hoagland, ArcWear, USA was the first speaker. Hugh works with electric utilities, electricians, manufacturers, other consultants and standards organisations to develop and test new arc safety products and services. He has conducted much innovative research studies into electric arc and its effects on personnel and on a full range of PPE.

He first discussed Best Practice when there is possible exposure to electric arc and reported that during the past 10 or more years, as efforts have been made to increase awareness of the risk of electric arc, fatalities from arc in the USA have dropped by more than 50%. Typically whilst electric arc flash causes severe burns, the major cause of death from such exposure is shock and an electric arc flash tends to break open the outer garments worn and 90% of burns are on the upper torso. He discussed the theory of electric arc energy and common places for faults which result in arcs.

Hugh gave direction on how to carry out flash hazard analysis which he said must be performed to determine the protection boundary for shock and flash hazards and the appropriate PPE for the risk. He provided the "Seven Electrical Safety Habits" which should be adopted when there is a risk of such exposure. These are:

1. Always verify absence of voltage and use rubber insulating gloves and tools.
2. Use a consensus standard or regulation to establish boundaries for worker safety from shock and arc flash.
3. Always wear arc-rated daily wear and a face shield.
4. Always use a GFI with cord and plug connected tools and extension cords.
5. When feasible, create an "electrical safe work condition" which in high voltage always includes safety grounds.
6. Identify higher hazards and adopt proper PPE or engineering controls to mitigate those hazards.
7. Measure, audit and continuously improve electrical safety processes.

He then discussed International Standards for electric safety and arc flash protection including the range of standards used to test garments to protect against electric arc exposure and tests that he has carried out on the full range of PPE necessary to be used when there is a possibility of exposure to electric arc - clothing, eye, face, hearing, head, hand and foot protection, fall protection harnesses, rainwear and grounding.

The second and final speaker was Alec Feldman, Fulcrum Consultants, Ireland who is the author of the JOIFF Handbook on PPE to protect against Heat and Flame and the JOIFF Standard for Multifunctional Heat and Flame Protective Work Wear. The JOIFF Specification requires that material(s) used to manufacture the protective work wear to the specification shall be inherently flame resistant and in Alec's paper he explained why this decision was taken. He said that in the event of exposure to heat and/or flame, it is the type of clothing worn that will play a major part in determining the level of burn injuries to the body and in some conditions of flame exposure, the wearer will be safer if they are naked rather than wearing clothing that will burn, melt or react exothermically. He explained that contrary to the opinion of many, PPE is not "Last Resort" protection - the purpose of PPE is to allow persons to work in environments where without such PPE, they would not be able to work. PPE should be part of an overall Safety Management System and should become the "Last Resort" only when things go wrong and persons are required to be protected as they escape to safety. PPE must only be used within a dynamic and "fit for purpose" Safety Management System.

Clothing to protect against heat and flame should not burn, melt or disintegrate on exposure to flame, for its lifetime. There are two main methods for imparting flame resistance to textile materials - fabric is treated with a flame-retardant agent (FR material) and fabric is manufactured from inherently heat and flame resistant fibres (IFR material). He compared both types of material under the headings of weight, mechanical properties, lifetime, laundering, thermal exposures and cost.

He concluded his paper by saying that the key factor where safety of persons is concerned, is that organisations, management and employees are all responsible for their own decisions. With regard to Work Wear to protect persons from heat and flame JOIFF has faced this responsibility and decided to require in the JOIFF specification that only IFR materials be used primarily on the basis that if supplied by a reputable and trusted manufacturer, the protection within IFR products will remain at the same level as it began, for the lifetime of the product.

In closing the event, Jérôme Heil, Kermel Business Unit Manager Industry, invited all those present to work together with Kermel to highlight to Users in particular the alarming growth of sub-standard, non-certified and in some cases fraudulent products on the Market worldwide and to target ways to combat these extremely dangerous practices.

JOIFF TRAINING NOTES



JOIFF Secretary Kevin Westwood presenting László Pimper, MD - Fire Chief, FER Fire Brigade with a JOIFF Certificate of accreditation for FER Tűzoltóság és Szolgáltató Kft., Százhalombatta, Hungary following a successful accreditation audit

They have achieved the standard of having all of their Emergency Responders, Management Team and Control Staff JOIFF and NVQ accredited.

“If you think that you can do it, that is confidence. If you can do it well on an on-going basis, that is competence!”

JOIFF accredited training is within a Competency Based Training framework and involves not only course content, as also critical to the effective provision of training are the facilities of the training provider/training establishment and the capabilities of the instructing staff. JOIFF has developed systems of accreditation for training providers and minimum instructional requirements for Instructors. All students who successfully complete a JOIFF accredited course/programme are issued with a JOIFF Certificate of Competence which has its own unique number. Records of all successful students and the courses in which they qualify are retained. There is growing recognition worldwide of the JOIFF Certificate of Competence which is coming to be regarded as a passport to the level of employment and rank which an emergency responder’s qualifications enables and entitles them to deserve.

Semcorp Utilities UK Ltd. – World Leaders in Emergency Response

Semcorp Utilities UK Ltd., based at the Wilton Site on Teesside, England have been major supporters of JOIFF since they joined as one of its Founder Members. They are the only Organisation Worldwide to have adopted the complete JOIFF Career Training Path for their Emergency Responders. The JOIFF Career Training Path contains a suite of programmes that allows competency to be demonstrated on an on-going basis. Another first for Semcorp is that they are the first Organisation in the World to have members qualified in the JOIFF Diploma which is a comprehensive programme covering key skills required by Emergency Responders. Some time ago Semcorp set another industry standard by being the first Industrial Emergency Response Team in the United Kingdom to achieve Fire and Rescue Sector Level 3 UK National Vocational Qualifications (NVQs). NVQs are work-related, competence-based qualifications based on UK National Occupational Standards (NOS) that reflect the skills and knowledge needed to do a job effectively. The UK Cabinet Office have recently stated that “NOS are an indispensable tool for managing a highly skilled workforce. They are used in a variety of ways to support individual and organisational development and quality assurance at all levels. They provide benchmarks of good practice across the UK”.

Even during the current difficult economic climate, Semcorp remains fully committed to maintaining competence and capability which they recognise is essential to all manufacturing and service businesses.



Paul Frankland, AVP Industrial Park Services Semcorp Utilities (UK) Limited receiving NVQ certificates for members of the Semcorp Emergency Response Team from Gerry Johnson, Chairman of the JOIFF Training Standards Committee, at the recent JOIFF AGM in The Netherlands

JOIFF Accredited Training for 2010:

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

“TRAIN AS IF YOUR LIFE DEPENDS ON IT – BECAUSE SOMEDAY, IT MIGHT!”

DIARY OF EVENTS — 2010



January	17th – 19th 21st	Intersec Middle East , Dubai, U.A.E. IFE Conference Heritage Under Fire , Chester, England.
February	2nd - 4th 23rd – 24th 23rd – 26th	Industrial Fire Safety and Security , Houston, USA Hazmat Event 2010 , Birmingham, England SICUR , Madrid, Spain.
March	1st - 5th 2nd - 4th 16th – 17th	Storage Tank and Related Facilities Fire Hazard Management Workshop , Aylesbury, England Firehouse World , San Diego, U.S.A. FIREX South , Sandown Park, England.
April	19th – 24th 21st – 22nd 21st – 23rd	FDIC , Indianapolis U.S.A. European Fire Sprinkler Network National Conference , Brussels, Belgium. Practical Storage Tank Fire Fighting and Foam Application Workshop/ Hands-on Training , Asturias, Spain.
May	17th – 21st	Storage Tank and Related Facilities Fire Hazard Management Workshop , Singapore.
June	7th – 12th 22nd – 25th 29th – 30th	Interschutz 2010 , Hannover, Germany. Fire Systems Integrity Assurance (FSIA) in the Oil, Gas and Petrochemical Sectors – Workshop Aylesbury, England FIRE and Rescue , Harrogate, England.
July	12th – 15th 21st – 22nd	Fire Systems Integrity Assurance (FSIA) in the Oil, Gas and Petrochemical Sectors – Workshop , Singapore Institution of Fire Engineers Annual General Meeting 2010 , London, England.
September	25th – 29th	Practical Storage Tank Fire Fighting and Foam Application Workshop/ Hands-on Training , Asturias, Spain.
October	5th - 8th 25th – 29th	Security Essen , Germany Storage Tank and Related Facilities Fire Hazard Management Workshop , Aylesbury, England
November	15th – 18th	VI International Conference on Forest Fire Research - Coimbra, Portugal.

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 range of Fire Service NVQs and any other aspect of JOIFF Training, please contact the JOIFF Secretariat.

JOIFF Secretariat:

Fulcrum Consultants

P.O. Box 10346, Dublin 14, Ireland

Email: fulcrum.consult@iol.ie

Website: www.fulcrum-consultants.com



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