

# THE CATALYST

Q2 2019



# JOIFF

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**THE INTERNATIONAL ORGANISATION FOR INDUSTRIAL  
EMERGENCY RESPONSE AND FIRE HAZARD MANAGEMENT**



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# BRISTOL

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## ABOUT JOIFF

Full Members of JOIFF are organisations which are high hazard industries and/or have nominated personnel as emergency responders/hazard management team members who provide cover to such organisations. Corporate Members of JOIFF are organisations that do not meet the requirements of Full Membership but who provide goods and services to organisations in the High Hazard Industry.

JOIFF's purpose is to prevent and/or mitigate hazardous incidents in Industry through its 3 pillars:

- **Shared Learning** – improving risk awareness amongst our members
- **Accredited Training** – enhancing operational preparedness in emergency response and crisis management.
- **Technical Advisory Group** – raising the quality of safety standards in the working environment of High Hazard Industry

JOIFF welcomes enquiries for Membership - please contact the JOIFF Secretariat for more information.

*JOIFF CLG is registered in Ireland. Registration number 362542. Address as secretariat. JOIFF is the registered Business Name of JOIFF CLG*

## ABOUT THE CATALYST

The Catalyst is the official emagazine of JOIFF, the International Organisation for Industrial Emergency Response and Fire Hazard Management. Our policy is to bring you articles on relevant technical issues, current and new developments and other happenings in the area of Fire and Explosion Hazard Management Planning (FEHMP). The Catalyst is published quarterly - in January, April, July and October each year. Readers are encouraged to circulate The Catalyst amongst their colleagues and interested parties. The Editors welcome any comments – please send to [fulcrum.consult@iol.ie](mailto:fulcrum.consult@iol.ie)

In addition to The Catalyst, information relevant to FEHMP is posted on the JOIFF website.

*Disclaimer: 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.*



If you have a request for an article or advertising to be included in the Catalyst, please contact the JOIFF Secretariat, details below.

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# CHAIRMAN'S MESSAGE

Dear JOIFF members and Catalyst readers,

Much is going on in our industry, and with JOIFF. The Africa conference is fast approaching, the web site is being updated and refreshed, the Catalyst has already been refreshed and continues to expand and continues to be revised and improved. Several organizations are working on earning their JOIFF diplomas and other certifications, different training sites are striving for JOIFF certification as well. I share this with you not to brag or aggrandize JOIFF, but rather to express my deep appreciation and humble gratification that JOIFF seems to be making a difference for you. Any difference we make is because of those of you who embrace and elevate the efforts JOIFF makes on your behalf. Thank you.

I want to discuss briefly the JOIFF shared learnings of incidents. There were several incidents that have occurred in high hazard industry since the publication of the last edition of the Catalyst. Each presents great learning opportunities for us if we can access ourselves to the information. When JOIFF publishes shared learnings of events, it is our hope and expectation that those of you that receive them will look at them with more than the eye of a "curious non producer" but with the mind set to derive what lessons may be evident in the incident as presented. Sometimes we may offer comment and insight, and other times we will simply present the incident. We know it is a very important part of what we provide for you, our members.

When incidents are recent, it takes time to understand what actually happened from both an initiation, escalation, response, progression and technical standpoint. There is a risk of mischaracterizing what actually happened before a thorough investigation has been made. However, there is also the risk of missing out on the timeliness and immediate impact of those lessons if the investigation takes too long, if they are not done well, or are not published. This is too often the case. For fear of miss-stating details, or incriminating an organization or an individual, lessons go unlearned and unshared. We at JOIFF work to capture those learnings, both of excellence and opportunities for improvement without causing those negative and unintended consequences.

My ask of you is that if your organization is involved in an incident, please consider sharing your lessons learned, both good and bad, for the benefit of your fellow JOIFF members and industry at large. If you would like JOIFF's help in analyzing the incident response, feel free to ask, and we will offer what support we can.

As always, please enjoy this edition of the Catalyst, much work goes into it, and we treasure the opportunity to share it with you.

With highest regards,  
**Randal S. Fletcher (Randy)**

JOIFF Chairman





TFT's Master Foam self-educing nozzle has superior stream quality and reach.

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Deliver finished foam fast and efficiently from your monitor. TFT's new Master Foam nozzle is a rugged self-educing foam nozzle that

delivers high quality finished foam with superior reach. The new Master Foam series is rated 7 bar (100 psi) with flow choices of 3800, 4800, 6000, or 8000 l/min (1000, 1250, 1500 or 2000 gpm) and comes standard with 1% or 3% orifice plates that are field changeable to meet your needs. Stream pattern control ranges from a 90 degree fog pattern to straight stream for a variety of foam delivery tactics. Hard coat anodized ANSI A6061-T6 aluminum provides maximum corrosion and wear resistance in harsh industrial environments. Available in both manual or RC models.

The Automatic handheld nozzle is one of the leading technologies in water delivery, but does this hold true with foam delivery? Yes, it does! The Automatic nozzle baffle is constantly adjusting to the flow a pump operator is providing it, which results in maximum flow and superior reach within a specified flow range. Because the nozzle adjusts to the flow delivered to it, the Automatic nozzle works seamlessly with any in-line eductor and/or onboard foam system. Delivering foam has many variables, and by choosing an automatic nozzle for your foam delivery, you can make things easier ... automatically!

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For more info on the items on this page, go to [tft.com](http://tft.com)

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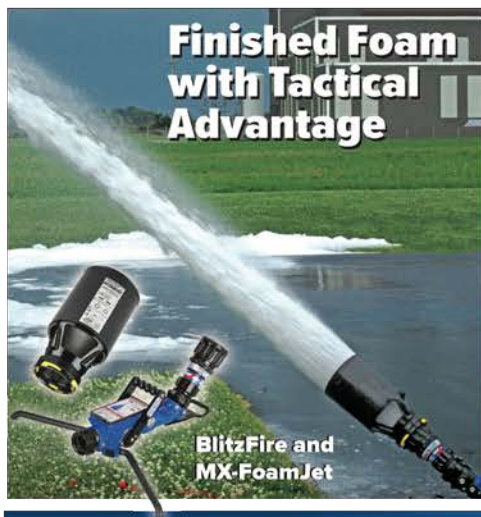
## PRO/pak®



The PRO/pak continues to be an integrated hazard mitigation solution for safety islands, hot work fire prevention/extinguishment, industrial, and /or municipal firefighting.

The PRO/pak has an integrated eductor and its capacity is 9.5 liters (2.5 gallons) of class A or B foam concentrate with a user adjustable percentage range from .1% - 6%. When connected to either a garden hose or 25 to 38mm (1" to 1.5") hose, it can deliver a variety of expansion ratios based upon the use of 3 different nozzles that come standard with the PRO/pak. Lasting up to 208 minutes, depending on the percentage, the PRO/pak continues to help thousands of emergency responders to easily deliver finished foam.

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TFT's BlitzFire HE offers the superior tactical advantage because of the unassisted attack angles ranging from 10 to 86 degrees. By integrating foam with the BlitzFire HE, the monitor becomes even more valuable for protecting life and property. The BlitzFire HE can easily become a foam delivery monitor when used with TFT's 950 or 1325 l/min (250 or 350 gpm) in-line foam eductors and a Multi-Expansion Nozzle Attachment. The 950 or 1325 l/min (250 or 350 gpm) eductor series comes standard with an easily adjustable percentage range from .5% - 6%. The quick disconnect metering head and push-to-flush button makes cleaning the eductor easy. The Multi-Expansion nozzle attachment allows for air entrainment and aspiration to enhance the delivery of the finished foam. With the proper tools, any BlitzFire can become a tactical foam delivery monitor!







## SOME OF THE INDUSTRIAL INCIDENTS THAT TOOK PLACE DURING THE FIRST QUARTER OF 2019

### **Black Sea**

14 Sailors Dead More Missing

### **Canada**

St Lazare Derailment Spills 1,000,000 Litres Oil

### **Egypt**

8 Killed in Storage Sphere Incident

### **Hong Kong**

1 Dead 2 Missing, Oil Tanker Explosion

### **Mexico**

Pemex Pipeline Fire, 21 Deaths, 71 Injured

### **Russia**

5 Injured in Shigl Oil Refinery Fire  
Rosneft Fire Quickly Extinguished

### **Solomon Islands**

Spill Threatens UNESCO Heritage Site

### **Turkey**

Sakarya Gas Pipeline Explosion & Fire

### **UK**

Ocado Warehouse Fire, FPA Defends Sprinkler Performance

### **USA**

TX Baytown Chem Plant Fire  
Children killed after fiery crash on Florida highway  
5 Workers Hospitalized After Refinery HF Leak  
Fire Breaks Out at El Dorado Refinery  
Wood River Refinery Fire, 1 Injured  
Fracking Saltwater Tank Explosion

### **Yemen**

2nd Tank Explosion Injures 21

### **Venezuela**

Tank Fires Petro San Felix

### **Vietnam**

4 die in power plant chemical gas leak

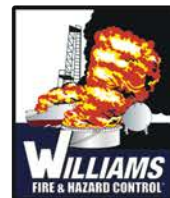
### **Note from the Editor.**

*Most reports of incidents that occur, some of which are listed here, are familiar. After all major incidents, recommendations are made but how many of the recommendations are implemented. How many are forgotten over time until another similar incident occurs?*

*JOIFF shares valuable information with its members aimed to improve the level of knowledge of Emergency Responders and to work to ensure that members benefit from the misfortunes of some to educate against the same mistakes being repeated. Industry needs to ask is it doing enough to educate Industry so that incidents such as these will either not be allowed happen again, or if they do they can be effectively dealt with.*







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## NEW MEMBERS

**During January, February and March 2019, the JOIFF Board of Directors were pleased to welcome the following new Members:**

### MEMBER ORGANISATIONS

**ALWIT GmbH, Emmerich, Germany**, represented by Stephanie Lörx, Sales Export, Siegfried Assmann, General Management and Martina Venhoven, Marketing. Established in 1954, ALWIT is a manufacturer of heat protective clothing and gloves for safety of employees and teams during hot actions in industry and fire fighting. The range of products designed and manufactured by ALWIT includes firefighting clothing to EN 469, fire hoods, aluminised proximity suits, heat protective station wear, wildland firefighting clothing, heat protective head protection including face shields, cut resistant gloves, conveyor belts etc. ALWIT offers highest quality products complying with Standards and individual consultation for the best solution for the customer.

**CFBT-NL BV, Veenendaal, The Netherlands**, represented by Hans Nieling, Managing Director/Senior Instructor and Siemco Baaij, Managing Director/Senior Instructor. CFBT-NL provides fire training to firefighters on the basis of understanding what, how and WHY they do things by applying various extinguishing techniques and tactics in different fire conditions to let them experience what they can expect when they encounter a fire. Their Instructors are highly qualified primarily in instructing on domestic, high rise and commercial building fires. CFBT-NL operate mainly within the Netherlands but have customers from around the world.

**ENSAFE: Institute for Health, Safety & Counselling Training Ltd., San Fernando, Trinidad and Tobago**, represented by Hassim Ali, Managing Director, Trishana Bramadath, Administrative Manager and Farah Nadia Ali, Quality Assurance Officer. ENSAFE has been providing a variety of courses catering to persons working in both the industrial as well as the non-industrial sector in Trinidad and Tobago for over ten years. Included in the range of courses offered by ENSAFE are First Aid - standard and advanced including CPR and AED - defensive driving, hydrogen sulphide awareness, accident Investigation and risk assessment.

**ERCM Consultancy Pte Ltd., Singapore**, represented by Noor Azlan Musa, Managing Director, Ivan Sin Siang Meng, Regional HSE Director and Loh Eng Choon, Senior Consultant. ERCM Consultancy is an International Service-Provider in crisis and emergency preparedness, fire safety and fire investigation and business continuity management. It was set-up by former officers from the Singapore Civil Defence Force (SCDF). All

members of Team ERCM have many years of real life operations, training, enforcement and audit experiences at both the private and public sectors. For the contracting of on-site ERT members, ERCM deploy only experienced and trained former SCDF and Industrial Fire Brigade personnel.

**ETS Emergency Training Solutions (Pty) Ltd., Gauteng, South Africa**, represented by John Akal, Director and Dirk Moller, Director. ETS specialises in emergency response training and related emergency response services in South Africa and African countries and provides locally sourced and in-house developed training programs to address a wide range of customer needs. ETS also contracts emergency response personnel to industry.

**Jensen Hughes, Baltimore, Maryland, USA**, represented by Anthony Cole, Practice Leader Oil and Gas. Founded in 1980, Jensen Hughes Inc. is a global company headquartered in Baltimore and is one of the largest fire protection and life safety engineering and consulting firms with offices worldwide. Jensen Hughes is a global leader in specialty engineering and consulting services offering extensive, practical experience through countless projects, research and industry innovation and conducting Enterprise Resource Planning, Process Safety, and investigations/forensics. Jensen Hughes is a specialty engineering firm with a particular specialty in Oil and Gas.

**Rumaila Operating Organisation, Iraq**, represented by Montisar Jassim, ROO CCMER Manager, Randal Fletcher/Kevin White, ROO CCMER Deputy Manager and Mohammad Jassim. The Rumaila Operating Organization (ROO) is the second largest producing oil field in the world producing over 1.5MBD covering 80km by 30km area with over 1000 wells, 14 degassing stations, +1000 km of pipelines pumping stations, office complexes, warehouses, waste management facilities a main highway and up to 20,000 personnel on any given day. The ROO full time emergency response teams are approx. 200 members with a full range response organization covering advanced exterior (degassing stations, pump gathering stations pipelines, flow tanks etc. interior structural, Search and Rescue, Road traffic Accidents, etc.

### INDIVIDUAL MEMBERS

**Chris Haggard, Gloucester, England**. Chris has been with London Fire Brigade for 26 years and has become a member of



## NEW MEMBERS CONTD..

JOIFF to learn more about the industrial side of firefighting and pass on his experiences and knowledge of working in a large metropolitan brigade.

**Jason Humphries, Queensland, Australia.** Jason is College Manager for Australasia Fire & Emergency Response College in Queensland, Australia and he manages the college scope of registration resources ensuring currency with accredited training reporting and auditing requirements. He ensures overall compliance of the registered training organisation with all relevant external bodies and manages the risk through coordination of internal audits to ensure services are delivered in accordance with Australian Skills Quality Authority. Jason contributes to their sister company, Australasia Fire & Emergency

Response as a technical expert with new business tenders.

The Directors also welcomed the following officers from the **Ghana National Fire Service:**

**Prince Kwaku Anni**, Regional Estate Officer,  
**Anthony Appiah**, Acting District Fire Officer,  
**Mark Brako-Appiah**, Director of Budgeting,  
**Isaac Kwasi Ofori Asare**, Assistant Divisional Officer,  
**Ebenezer Kojo Ndeboa Sam**, Assistant Divisional Officer,  
**Jude Yankey**, Public Fire Education  
**Ebenezer Yenzu**, Assistant Divisional Officer.

JOIFF looks forward to the involvement of our new and existing Members

## NEWS FROM JOIFF

### JOIFF WEBSITE

JOIFF is pleased to announce that the JOIFF main website at [www.joiff.com](http://www.joiff.com) is in the process of being upgraded. This is an important part of an overall Digital Media plan for JOIFF currently being implemented. The plan includes developing JOIFF's presence in Facebook and on Twitter to build an influential number of Facebook and Twitter followers to promote JOIFF activities and to further engage existing JOIFF members and to expand the JOIFF Global footprint.

### THE REACTOR COLUMN

*Plus ça change, plus c'est la même chose – the more things change, the more they stay the same*

The Catalyst introduced The Reactor Column in its first edition in March 2001 to provide a forum for JOIFF members.

This Column ran in the Catalyst until 2010. In keeping with JOIFF's engagement with High Hazard Industry, The Catalyst is delighted to reopen the forum, and therefore we invite readers email us with comments on articles published in The

Catalyst, on issues that they would like to raise or on anything at all that they would like to be heard or discussed in future editions. The Editors may decide not to print a submission, to edit, or to only print part of a submission. No submission will be published without the name and location of its author.

### JOB OPPORTUNITIES

The Catalyst is pleased to offer to JOIFF Member organisations seeking to recruit professionals in the Fire and Emergency Response Sector the facility to advertise such vacancies in The Catalyst. The Catalyst is published once every quarter.

Send the details to the JOIFF Secretariat:  
[joiff@fulcrum-consultants.com](mailto:joiff@fulcrum-consultants.com)

### INTERSEC 2019

JOIFF Member organisation Bristol Fire Engineering generously made space available to JOIFF on their stand at Intersec 2019 in Dubai as they had done for JOIFF at Intersec 2018. The stand was manned by JOIFF Directors (L to R) Pine Pienaar, Gerry Johnson and Alec Feldman and during the event many visitors from many Countries came to learn about and talk about JOIFF. A number of JOIFF member organisations who exhibited at Intersec and many more visited the exhibition, called to the stand to give their support and to express their support for JOIFF being at Intersec.



### JOIFF GUIDELINES

We draw your attention to the JOIFF Guidelines that are available for download from the JOIFF website at: <http://joiff.com/joiff-downloads/>

- JOIFF Guideline on Inerting Vertical Storage Tanks.
- JOIFF Handbook on Personal Protective Equipment (PPE) to protect against Heat and Flame;
- 2018 JOIFF Guideline on Foam Concentrate;
- JOIFF Guideline for the use and maintenance of fire extinguishers containing foam
- JOIFF Guideline on Confined Space Entry





## PRESS RELEASE: PERIMETER SOLUTIONS EXPANDS SALES PRESENCE IN AFRICA

ST. LOUIS, MO – Perimeter Solutions, one of the world's leading producers of fire retardants, foams, and water enhancing gels for managing wildland, industrial, and municipal fires, today announced the appointment of industry veteran Dave Jackson as Regional Sales Representative for Africa.



erved the fire protection serving in various and business development posed special hazard and Dave brings more than s' experience to Perimeter worked for some of the well-respected companies including Scott Health & Safety, ADNOC, Concorde Abu Dhabi, Angus Fire and Rosenbauer Pty Ltd.

In his new role Dave will be responsible for sales and business development of AUXQUIMIA® and SOLBERG® brand foam concentrates and foam suppression systems.

With extensive experience in international business and operations including key

market sectors namely Petroleum, Oil & Gas, Marine, Military and Civil Defense, Mr. Jackson will lead the company's efforts in Africa as it pertains to channel segmentation/management, client management and retention strategies and sales management and planning. Dave holds a degree in Business Administration from Damelin Business School (RSA) and MSc Health and Safety (cert) from University of Leicester (UK). The establishment of a sales office in Africa was a natural next step for Perimeter Solutions to support the company's growing fire safety business," stated Perimeter Solutions EMEA Region, General Manager Javier Castro. "We're excited to have Dave, join the Perimeter Solutions family."

Perimeter Solutions holds a major manufacturing position in Class A foam products for municipal and wildland firefighting in North America and is a top innovator with superior technology capabilities in the Class B foam market globally.

### About Perimeter Solutions

Headquartered in St. Louis, Missouri, Perimeter Solutions operates as a leading specialty chemicals business, producing high quality lubricant additives and firefighting chemicals with a broad product offering across fire retardant and fire suppressant foam applications. Perimeter Solutions is the only company with fire retardant products qualified for use by the US Forest Service (USFS). Perimeter Solutions produces major brands known throughout the world like PHOS-CHEK® and FIRE-TROL® retardant, foam and gel products; AUXQUIMIA® and SOLBERG® foam products; and BIOGEMA® extinguishing agents and retardants. For more information, visit us at [www.perimeter-solutions.com](http://www.perimeter-solutions.com).



## INTERNATIONAL SAFETY TRAINING COLLEGE MALTA RENEWS JOIFF ACCREDITATION



*JOIFF Director of Standards of Training and Competence Gerry Johnson presenting a certificate of JOIFF Accreditation to Andy Gilravey, College Director, ISTC - International Safety Training College - Malta following a successful re-accreditation audit.*





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## “FIRE IS FIRE”

BY LONNIE ROY MULLEN CFO, MIFREE, MJOIFF, CFEI



*Editors note:  
Lonnie Roy Mullen is currently the  
Emergency Response  
Coordinator/Fire Chief  
for the CHS McPherson  
Refinery in McPherson,  
Kansas, USA and can  
be contacted at  
Lonnie.Mullen3@chsinc  
.com.*

I feel that firefighters have a tendency to over complicate the topic of fire. One of the most controversial statements I probably have ever made in the fire service was a statement I made in front of a group of Chief Officers regarding fire. This group of Chief Officers were from various disciplines within the fire service, ARRF, Municipal and Industrial and my statement was simple “Fire is Fire” and you could hear a pin drop when that came out of my mouth. Over the next hour or so, I listened to various dissertations on how wrong my thought process was. How could “Fire be just Fire”? What I realized at the end of this was not so much that I was wrong in my thinking, but we have gotten so “siloeed” in our mindset in the fire service - - everyone wants to think their area is special and no one else can do it but them. Over the years, I have attended many courses regarding firefighting and tactics and hold multiple certifications in multiple firefighting disciplines - wildland, industrial and municipal. I have worked on big timber fires, brush fires, coal mine fires, refinery fires, house fires, commercial structures, high-rise, ship and refinery fires to name a few. Through all of this I have developed a very simple thought process regarding fire. This thought process has come from having fought a wide variety of fires. To me it doesn't matter if it is a wildland fire, structure fire, ship fire, refinery fire, or any other type of fire, the common denominator is fire - Heat, Fuel, Oxygen, and a Chemical Reaction. This fact does not change, Fire is Fire - what changes, is the hazard of what is burning and this dictates the direction of the approach to be taken. When I look at fire, I look at it as I have 3 choices in my strategy, put it out, confine it within a specific parameter, or do nothing and just let it burn. The simple fact is that some fires are just not going to go out and the best that can be done is to confine them within a specific boundary if possible, if not, walk away. A prime example of when to walk away is what occurred in Hawaii in 2018, where 700 homes were lost due to the lava flow from the

Kilauea volcano - no amount of effort could have saved those homes with today's technology. When I speak of containing a fire within a specific parameter, an example I use is a fire I worked on in the 90's. In 1996, I had the opportunity to work on a coal mine fire that started to move under a community. While the assets were not available, (specifically monetary) to try a suppression strategy, a strategy of preventing the fire's movement in the direction of the town was adopted. A tactic was decided to prevent the fire from obtaining new fuel sources in the direction of the town while allowing the fire to burn in other directions, thus supporting our strategy of controlling the direction of travel of the fire. Once our tactic of denying the fire fuel was decided we developed task level activities to support that tactic and overall strategy of containing the fire within the set parameter. This tactic and the task level efforts were successful and prevented the fire from moving under the town, but the fire burned for years afterwards. To take this simplified approach further, I limited my thought processes on tactics also to four tactics. Remove the Heat, Remove the Oxygen, Remove the Fuel, or Inhibit the Chemical Reaction. By simplifying to 4 tactics everything then comes down to the task level or “How To's”. How am I going to remove the fuel, how am I going to remove the heat, and so on. These answers are then all based on the hazard of what is burning. To apply this thought process of mine into real world scenarios and to offer a comparison we will take two types of fires that are very different when it comes to the hazards involved. I will use a large forest fire and a refinery fire as an example. In both situations the overall strategy would be to put out the fire. As a rule of thumb with both, the overall tactic would be to remove the fuel. In a forest fire we would get ahead of it and remove the vegetation through the development of containment lines, using hand crews, dozers, natural barriers and fire to remove fuel available fuel thus starving the fire of its fuel source once it



## FIRE IS FIRE - CONTD..

reaches the containment lines thus achieving the overall strategy of extinguishment.

In a process unit fire, we still have the same strategy, put the fire out - no different than in the forest fire. Our typical tactic would be to remove or eliminate the fuel source - again no different in tactics. It is at the task level where the change comes or "How To's". Instead of using dozers and hand crews digging control lines like in a forest fire, we access control valves to "Block In" the fuel source, thus starving the fire.

When one looks at this simplified comparison the only condition that changed was how the fuel was removed or eliminated.

Strategy was the same, eliminate the fire, tactic was the same, remove the fuel, the only thing that changed is what occurred at the task level to support the strategy and tactics. It is at the task level or "How To" where the greatest changes occur and these

tasks are going to be reliant and the hazard and properties of what is burning.

With this simplified approach to fire once I decide my strategy, say "Put the Fire Out", then I must decide what tactic am I going to use to meet the strategic objective of putting the fire out, remove heat, oxygen, fuel, chemical reaction. Once this is decided then it all falls right back to the task level of how to and this is based off the hazard and properties of what is burning. The elements to this understanding is having a solid knowledge of fire chemistry and behavior coupled with solid understanding of the hazards and properties of what is burning. The properties of what is burning will dictate much of the fire behavior and it is this understanding that will guide decisions into the appropriate strategy, tactics and supporting tasks to conduct successful operations.

## CHS MCPHERSON REFINERY AWARDED JOIFF ACCREDITATION

Following a recent audit, JOIFF Member Organisation CHS McPherson Refinery, Kansas, U.S.A. has been awarded Full JOIFF Accreditation for their training facility and courses.

CHS Inc. ([chsinc.com](http://chsinc.com)) is a global agribusiness owned by farmers, ranchers and cooperatives across the United States. Diversified in energy, agronomy, grains and foods, CHS is committed to helping its owners, customers and other stakeholders grow their businesses through their domestic and global operations. CHS supplies energy, crop nutrients, grain marketing services, seed, crop protection products, production and agricultural services, animal feed and food and food ingredients. CHS also operates petroleum refineries/pipelines and manufactures, markets and distributes refined fuels, lubricants, propane and renewable energy products.

The CHS McPherson refinery has a refining capacity of 100,000 plus barrels-a-day, with the majority of the crude oil it refines purchased from local Kansas producers. The McPherson refinery's primary products are gasoline and diesel fuel for distribution throughout the Upper Midwest.

CHS McPherson Refinery has initiated a Safety Culture Change Process that has greatly enhanced their Employees ownership of safety and has instilled a daily climate that includes a dialog for risk elimination, reduction and/or control with every job task, large or small. Training is an important part of this process and

CHS provides a comprehensive range of training for emergency response presented in well-equipped classrooms and on their extensive new industrial training facility consisting of industrial fire props, 4 storey burn building, bulk storage tank prop, confined space and high angle props.



*L – R. Scott Swanson, Supervisor of Health, Safety and Security, CHS McPherson, Gerry Johnson, JOIFF Director of Standards of Training and Competence, Ken Sims, V.P Refining, CHS McPherson, Lonnie Roy Mullen, Emergency Response Coordinator/Fire Chief, CHS McPherson and Alec Feldman, JOIFF Director of Organisational Management*





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## WHY 10 MINUTES OF MINDFULNESS PER DAY CAN IMPROVE YOUR HEALTH

BY ABBY WYNNE



### Editor's note

*Abby Wynne is a therapist and author of many books available Internationally including "How to Be Well" and "Heal your Inner Wounds". She has a private practice and works with people in groups and online to help them release anxiety, gain stability and feel empowered in their lives.*

*Find out more or contact Abby via her website [www.abby-wynne.com](http://www.abby-wynne.com)*

Most people live their lives in a constant low level state of stress which can wear a body down and lead to burnout. Burnout is lack of energy and enthusiasm for life, low motivation leading to depression, and an increase in anxiety. Highly stressful events are not that common for most people, but they are for emergency responders who are potentially subjected to much more serious exposures of stress each day by the nature of their work. If stress management is not regularly employed it takes longer and longer after an event for the body to recover.

Many of us never realise the extent to which our environment and our state of wellness affects our body. The actor Jim Carrey says "There's a huge difference between a dog that is going to eat you in your mind, and an actual dog that's going to eat you"; however your body can't tell the difference between stress that is in your mind and an actual stressful event. If your mind is constantly telling you you're about to be eaten by a dog, your body responds accordingly by producing cortisol and staying on high alert. For emergency responders, stressful events do happen; there is always the possibility that people may be trapped or dead, or there may be danger to their own lives - so it is not surprising that there might be strong thoughts that you're about to be "eaten by a dog" and your body responds accordingly by producing cortisol and staying on high alert.

Once the event is over the mind works on overtime, playing and replaying the situation in order to learn where all the sources of stress were so we can prevent it the next time. Reliving a traumatic event can create a huge amount of stress off the job, too, and if left unchecked, over time and many stressful events, an overactive mind eliciting stress in the body can lead to Post Traumatic Stress Disorder.

However, we can learn how to be the master of our thoughts, rather than letting them master us. Mindfulness is very effective way to become the master of your thoughts and deliberately and consciously release stress from your body at the same time. It takes time, practice and patience, just like training a dog! And similarly you won't want to wait until the bad behaviour is displayed to start working on the training.

It helps to understand how your body works, so you can work with it and not against it. Cortisol is the stress hormone which works with certain parts of the brain to control the flight, freeze or fight mechanism. Cortisol regulates blood pressure, reduces inflammation and affects your sleep/wake cycle. But it's not designed to be in our system all the time; long-term exposure to cortisol increases sugars in the bloodstream, alters the immune response and suppresses the digestive system. It compromises your body's natural healing ability. When we experience stress over long periods of time we overproduce cortisol. The tension created by cortisol stays in the body and can go deeper in the system and affect connective tissues and internal organs, and this in turn can affect the skeletal alignment, and basic processes in the body such as digestion and excretion. When the body is tense for prolonged periods the flow of blood, of lymph, and of life-force energy is blocked, which compromises the body's natural healing processes. Therefore if someone is periodically on high alert, their body also goes into high alert and unless the body is given time and space to recover, the tension that is created in these alert states builds up over time, and becomes much more difficult to release. This is one of the reasons why stress makes us sick.





# HEALTH AND WELLBEING

We may know in our mind that the cause of the stress was short-lived, or is not life threatening, but our body doesn't know this, and continues to hold onto high levels of tension long after the cause of the stress has been removed. We may know in our minds that we are safe, but it takes a lot longer for our body to feel safe and release the tension, and drop its cortisol levels. We cannot ask the muscles of the chest and diaphragm to release and relax the same way we can consciously

but in reality many people have difficulty doing this, namely because they don't want to feel the stress that they are already carrying.

Here's a simple exercise that you can try, however if you don't bring your full focus to this it won't be effective.

**Step 1:** *Set aside 10 minutes, switch off your phone and set your intention to simply bring your awareness into your body.*

Anything that distracts you during this 10

reason why we can be in stress mode far longer than the event that caused the stress in the first place.

Where we let our mind have free rein our thoughts are in control, and we are not aware of how our body is feeling. This is our normal state of being most of the time, so this exercise takes you out of that state and teaches you how to bring your awareness into your body so your body consciously relaxes and releases that stress.

**Step 2:** *Ask yourself where your thoughts are right now – outside of your head or inside your head? Can you 'lock' your focus onto them wherever they may actually be outside of your body? Now see them solidifying, and turning into an anchor, the more attention you give the anchor, imagining it into form with colour, size, weight.*

Let the anchor become the magnet for your focus and attention, rather than the actual thoughts themselves. As the anchor becomes more visible in your mind, your brain sees that you're not going anywhere and not abandoning it, and it can take part in this exercise too. I know this sounds childish, but in my experience we have child-like aspects of us that cry out for our attention, and when we are afraid to feel what we may be feeling in our bodies our brain can play all sorts of tricks on us to keep us outside of it.

**Step 3:** *Visualise this anchor as if it's slowly sinking into your body, start with your head and work your way down slowly.*

As you bring your awareness into your head, feel what your head feels like, the muscles of your face, your cheeks and your jaw. Take a long slow deep breath and keep your awareness in your face, and as you breathe out, imagine you're breathing out the tension you've been holding in your face. By doing this you are giving your body permission to relax and let go of this built up tension, and this might be the first time you become aware of how much tension you are actually holding. Stay in your head for several breaths, releasing tension, softening the muscles, becoming more and more aware of your cheeks, the inside of your mouth, your teeth, your tongue. If you feel you've been able to do this successfully without



open a tight fist hand, but we can take some time out and sit and slow down our thoughts and reassure ourselves that we are safe, and let the body unfold by itself, in its own time.

We need to have patience to allow this process of relaxation to take place. Depending on the person and the amount of stress already present plus the weaknesses of their body, the time that it takes for someone to totally relax is different for everyone. The good news is that we can train our bodies to relax when we are not stressed. Making the time to train our bodies to let go of stress and tension really can really help with our overall fitness and health, and releasing held stress in the body in times of rest can also speed up our physical recovery time after stressful events in the field.

A very simple way to train your body to release stress is to simply bring your full awareness into your body and breathe. Breathing with your body may sound easy,

minutes must be acknowledged, and once you have done so, bring your focus back to the work in hand. So if this means you need to write a 'to do' list, write the list. Then if your mind keeps bringing you back to it, you can remind yourself that you have written it all down, that you won't forget, and that you're doing this exercise now. I find that people often have to tell their minds that they are only going to be doing this for 10 minutes, and that whatever it is that's so important and needs our attention, we will give it our full attention, after the 10 minutes is over.

It might take you several attempts to sit down for the 10 minutes before you feel settled enough in your mind to actually sit for 10 full minutes, but do persist. Our minds have never really been trained to step aside and let the body have our full attention, they always try to take over, and this is part of the



being distracted for 2 or 3 breaths, you can move that anchor of your awareness down to your throat. Feel what your throat feels like, notice the tightness there, breathe with the tightness and as you breathe out, give permission to release some of the tightness, so that your neck and your throat feel a little bit softer. Stay here for 2 or 3 breaths. When you're ready, you can move the anchor of your awareness down to your upper chest. Breathing in and out with the anchor of your awareness, releasing stress and tension across your shoulders, down your arms, softening the muscles there, and not letting your mind pull you out of your body is a lot of things for you to be doing! see if you can stay here for 3 breaths, becoming aware of your shoulder blades and your rib cage too. You might find it helpful to remind your body that you're not in a stressful situation, that it is okay to release the tension, and with each out breath, you can tell your body that it is safe to relax. Keep going with this exercise, it is only

effective if you bring your full awareness into your body, and keep it there. Each time you can go deeper in, but start at your head, stay for 3 breaths, then your neck and upper chest, 3 breaths, then your heart centre, 3 breaths, then your stomach, 3 breaths and then your hips, your legs and your feet. By doing this exercise you will discover how difficult an exercise it is, to simply be in your own body and breathe with it. Just do it for 10 minutes, see how far into your body you can go. Each time you do it you will get a little bit deeper in – you may be 'training your body to relax', but you also have to train your brain to let you do it. Notice after the 10 minutes if you feel different, if you feel physical pain, and where the physical pain may be. Every time you try this, it will become a little easier to 'get in', as your body and mind begins to trust you - yes your body does need to learn how to trust you even though it's your body! And your mind needs to trust that you're not abandoning it in favour for your body!

By consciously releasing stress in the parts of your body that respond well to this exercise, over time your body will begin to release the stress that has built up in the involuntary muscles too, but only in the parts of your body that you bring the anchor of your awareness into. So as you get better at it you can bring the 'anchor' of your awareness into the parts of your body that are in pain and as you breathe with them they soften and release the tension that is stored there. You will notice an overall difference in your confidence too, because your cortisol levels will gradually drop, you will be less stressed, less prone to anxiety and more in tune with what your body needs.

**A note from Abby:** If you want some extra support and guidance as you do the exercise in this article you can visit <https://soundcloud.com/abby-wynne/tracks> where I have a number of 5-10 minute long guided meditation tracks that you can choose from where I talk you through the breathing and focussing work.

## FIREFIGHTERS AND CANCER

A recent publication of the Firefighter Cancer Support Network USA confirms that whilst cancer is the leading cause of firefighter line-of-duty deaths, there is a proliferation of inaccurate statistics circulated by a number of well-intended journalists, legislators, and manufacturers. As a result the largest cancer study of U.S. firefighters to date has taken place under the auspices of the National Institute for Occupational Safety and Health (NIOSH) and the results have been published.

*“ Firefighters have a 9 percent higher risk of being diagnosed with cancer and a 14 percent higher risk of dying from cancer than the general U.S. population’*

The study has shown that firefighters have a 9 percent higher risk of being diagnosed with cancer and a 14 percent higher risk of dying from cancer than the general U.S. population. The cancers mostly responsible for this higher risk were respiratory (lung, mesothelioma), GI (oral cavity, esophageal, large intestine), and kidney. Firefighters' risks are significantly higher for some specific types of cancer and NIOSH researchers reported a two-fold excess of malignant mesothelioma, a very rare cancer. Put another way, firefighters have a 100 percent increased risk (100 percent = double = 2 times) of getting mesothelioma. Firefighters

have a 129 percent increased risk of dying from mesothelioma. Firefighters have a 62 percent higher risk of getting esophageal cancer, and they have a 39 percent increased risk of dying from esophageal cancer, according to the NIOSH research. Here's an overview with some specific additional risks for firefighters noted:

- testicular cancer - 2.02 times the risk (again: 100% = double = 2 times)
- mesothelioma - 2.0 times greater risk;
- multiple myeloma -1.53 times greater risk;
- non-Hodgkin's lymphoma -1.51 times greater risk;
- skin cancer - 1.39 times greater risk;
- malignant melanoma - 1.31 times greater risk;
- brain cancer -1.31 times greater risk;
- prostate cancer - 1.28 times greater risk;
- colon cancer -1.21 times great risk; and
- n leukemia -1.14 times greater risk.

The report noted that some fire departments are addressing occupational-cancer rates that are higher than national averages. The overall conclusion of the study is that firefighters do have higher cancer risks than the general population, and their risks are significantly higher for some specific types of cancer. Further information is available from the nonprofit Firefighter Cancer Support Network at [PIO@fcsn.net](mailto:PIO@fcsn.net)







# H2K

## Industrial Fire Training

H2K has been the Dutch industrial fire training specialist for over 10 years. Our broad training portfolio includes basic education courses, foam schools, fire schools, in-company workshops, advanced courses and much more.

We aim to deliver tailor-made training solutions that meet our clients' high expectations. It is our philosophy to conduct as much education and training 'in-company' as possible, so that first responders can use their own tools and PPE on their own site with realistic and recognisable scenarios.

### International Courses:

- 5-day annual Foam School with Dr. Sthamer (JOIFF-accredited)
- 3-day Tank and Bund Fires (JOIFF-accredited)
- 3-day Integrated fire safety of IBC tanks and tank containers (JOIFF-accredited)
- 5-day Industrial Firefighting (JOIFF-accredited)
- Modular training program industrial firefighting
- Anhydrous ammonia incident and safety training
- Chemical and gas tight suit training



JOIFF

### Our Training Locations:

#### Spinel Safety Centre

##### Dordrecht – The Netherlands

H2K and Spinel co-operate for industrial fire training at the inspiring training environment nearby Rotterdam.

#### Safety Centre Zeeland

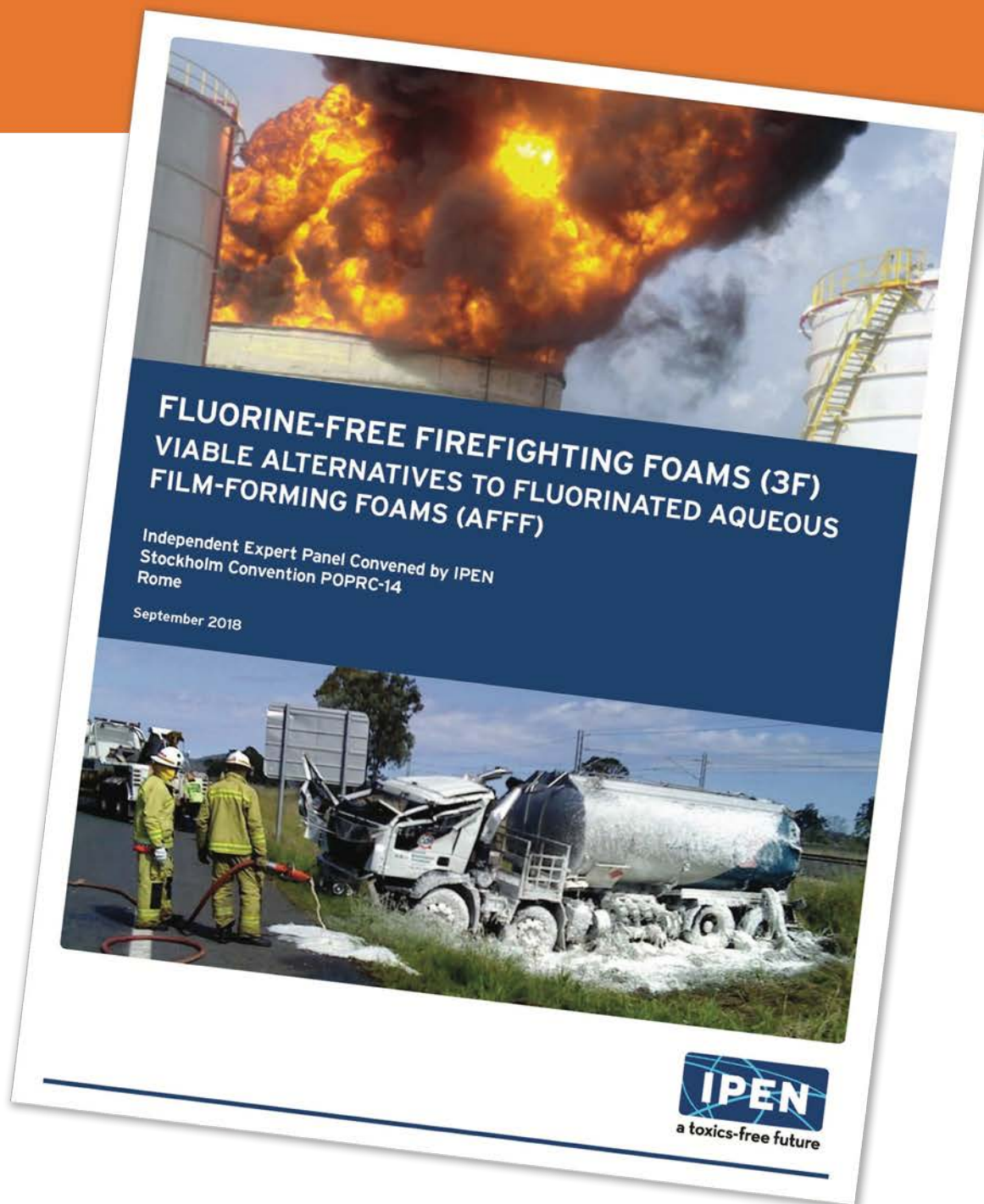
##### Vlissingen – The Netherlands

The collaboration between Safety Centre Zeeland and H2K allows both parties to join forces when organising industrial training.

#### Training Centre CNPP

##### Vernon – France

A former refinery has been converted into a large-scale realistic industrial training site.



**IPEN 2018 POPRC-14 Report is based on  
Misinformation and Missing Information:**

**Current F3 foams are  
NOT VIABLE ALTERNATIVES  
to C6-AFFF foams!**



# 2012 Denmark ICAO Level B test results of commercial F3 foams – *Revisited*

### ICAO Level B Test Results of Fluorine-Free Foams (F3)\*

Test Configuration: ICAO Level B / UNI 86 Nozzle    Test Fuel: Jet A1 / Premix: in Fresh water    Times in **min:sec**

F3 Foam ID	Foam Expansion Ratio	Quarter Drain Time	Control Time (90%)	Total extinguishment (including rim flicker fires)	
F3 Foam A – 6%	9.6	18:26	0:35	None	FAIL
F3 Foam B – 3% / 6%	10.2	15:07	0:40	1:24	FAIL
F3 Foam C – 3%	9.6	16:16	0:50	2:00	FAIL
F3 Foam D – 3% / 3%	8.5	22:57	0:55	1:40	FAIL
F3 Foam E – 3% / 6%	7.4	17:00	0:40	1:50	FAIL

In 2012\*

All five F3 failed to pass 1 minute total extinguishment

After 2014\*\*

Some F3 could have passed 2 minute total extinguishment

\* These fire tests were run according to 3rd edition of ICAO Standard. RPI, a coordinator of LASTFIRE, witnessed the tests and approved the final report (by N. Ramsden & P. Watkins) which was subsequently published: "Independent Evaluation of Fluorine-free Foams (F3)"; Mitch Hubert, Chang Jho and Eduard K. Kleiner, *Asia Pacific Fire*, p37, Issue 43 – September (2012).

\*\* ICAO Standard 4th edition (2014) allows rim flicker fires, effectively extending the total extinguishment time from 1 minute to 2 minutes.

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## JOIFF AND TRAINING

With very few exceptions, one of them being the Offshore Oil Industry, another the Civil Aviation Industry, there is no accredited Fire Training for Industrial Emergency Services personnel. Most of such Training that is carried out results in Certificates of Attendance which really have no relevance when trying to establish competencies. In 1999, the members of JOIFF appointed a Training Standards Committee (TSC) who, since then, have been working in partnership with Fulcrum Consultants as the JOIFF Training Standards Group, to establish Training for Emergency Services personnel which they would accredit.

The Training being developed is within a Competency Based Training (CBT) Framework. CBT for Emergency Services Personnel is a system of Training with the key objective of the development and use of training and assessment systems that contribute to the efficient delivery of services whilst reducing to the lowest possible levels, risk to the employing Organisation, its staff and equipment, the local Community and the Environment. The JOIFF Training Standards Group initially looked at the Training of Firefighters in High Risk Industry and have developed a number of Courses for both full time and auxiliary Firefighters. All members of JOIFF have been issued with a copy of the JOIFF Training Manual which gives detail of the system of CBT that is



others likely to be involved in emergencies, Hazardous Substances Courses, Maintenance and Inspection of Electrical Equipment in Hazardous Areas and Fire Extinguisher Instructor Course. Most courses are generic Courses, but where required, site specific Courses are considered for JOIFF accreditation.

All JOIFF Certificates of Qualification have their own unique number and records of all successful Students and the Courses in which they qualify are retained. It is hoped that as JOIFF grows in size and in stature, the JOIFF Certificate of Qualification will be accepted Worldwide and when for example JOIFF qualified persons are seeking new employment, their JOIFF Certificate of Qualification will be regarded

being undertaken by the JOIFF Training Standards Group is wide ranging and has major significance to the future of Emergency Service personnel in High Risk Industry and their competencies and acceptance in the World of Fire Safety and Rescue

### *Editor's Note:*

*This article was the very first article published in the March 2001 edition of the Catalyst which was the first edition of The Catalyst. Now 18 years later in April 2019, JOIFF can confidently say that the objectives listed in the article have been well and truly delivered:-*

- *there are 31 JOIFF Accredited Training Providers*
- *in 12 Countries*
- *covering more than 45 course titles for Industrial emergency response,*
- *more than 20,000 JOIFF Certificates of Accreditation have been issued*
- *more than 300 emergency responders have successfully completed the JOIFF competency based eLearning programmes.*

*“more than 300 emergency responders have successfully completed the JOIFF competency based eLearning programmes.*

aimed for and the Aims and Objectives of the Courses currently accredited. Work on the development and accreditation of further Courses is ongoing as needs are identified. JOIFF accredited Courses currently available are: Full time Firefighters Basic, Auxiliary Firefighters Basic, Breathing Apparatus Wearer, Crew Leader, First Aid at Work, Confined Space Training and 1 and 2 day Practical Firefighting Courses. Courses currently being finalised are Emergency Planning Courses for Incident Controllers and

as their passport to the level of employment and rank which their qualifications enables them to deserve. Course content alone is not sufficient as also critical to the effective provision of Training are the facilities of the Training Provider and the capabilities of the Instructing Staff. The JOIFF Training Standards Group are therefore developing systems of accreditation for Training Providers and minimum Instructional requirements for Instructors. As will be seen from the above, the task







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PART OF ABERDEEN INTERNATIONAL AIRPORT





## LUKOIL EMERGENCY RESCUE SERVICE (ERS)

### ERS - LUKOIL MID-EAST LIMITED, WEST QURNA-2 PROJECT, IRAQ

Since its inception, Lukoil Emergency Rescue Service (ERS) have built an innovative and highly professional team able to mitigate the projects inherent risks.

Sustaining an efficient service delivery in such a remote and harsh environment has been no easy task, taking into account the ever-evolving risk panorama, which includes extensive life risk, the threats posed by oil production/processing and new phase construction hazards. Fortunately, Lukoil as an organization have fostered a strong team mentality on the WQ2 project with a shared work ethos and proactive attitude towards safety, the Emergency Rescue Service (ERS) is just one component.

Robust strategy set by management, great support mechanisms devised by the administrative departments (HR & LD) and a one-team mentality, make dealing with adversity much easier.

Incremental Local National professional development has been the cornerstone of the ERS since 2014 – with progressive incorporation of Local Nationals into increasingly more supervisory roles, through continual mentoring and facilitating by the international professional staff.

#### Career and Training Pathway

*Team Member > Deputy Team Leader > Team Leader*

The culture of an organization can make or break any strategy, so recruiting, training and maintaining the right people is critical to sustaining a positive and progressive department. Therefore, we have developed a comprehensive competency based training and recording system based around JOIFF performance criteria.

When a new recruit joins the Emergency Rescue Service (ERS), they immediately complete all critical HSE related training, they are enrolled on English language courses and they start a 28-day basic fire and rescue-training course aimed at providing the very basic skills and knowledge.

Once they complete the 28-day basic fire and rescue onsite training, they are assigned an experienced Team Member as a mentor, to teach them routine duties such as vehicle and equipment inspection, fire extinguisher inspection etc. At incidents, they are not permitted to complete any tasks in the hazard area and remain under constant supervision.

After one year, the recruit will be sent to an accredited training facility for 3 months to attain foundation level training for their role i.e. IFSAC Fire fighter 1 & 2, HAZMAT awareness and operations for Team Member. They return to the department and are placed on the internal competency based training system for the role of Team Member that aligns with the JOIFF Diploma "Responding to Emergencies" performance criteria.

After three years' service, the Team Member may be considered for promotion if they have completed all performance criteria for their current role and have additionally completed Heavy Vehicle driver training, Emergency Response driver training and have a solid knowledge of specific petrochemical processes. Once selected, they are sent to an accredited facility to receive 1.5 months foundation training for their role i.e. IFSAC Fire Officer 1 and Fire Instructor 1. Upon returning to duty they then complete, an onsite 1 month initial incident commander course, which allows them to play the role of on scene commander for Tier 1 events

in a controlled environment. Then they are placed on the internal competency based training system for the role of Deputy Team Leader that aligns with the JOIFF Leadership 1 performance criteria.

After five years' service, the Deputy Team Leader maybe selected for promotion if they have achieved all the performance criteria for their current designation. They will then progress on to Learning and Developments shadowing program for six months, they will be assigned an expat mentor and will be required to achieve eleven critical competencies some role related, some leadership and administration based.



Again, if successful they will receive the appropriate foundation training (2 months) for the desired position i.e. IFSAC Fire Officer 2, Fire Instructor 2 and Fire Inspector 1. They will return and complete additional incident command training for two pump incidents and then continue with the internal competency training for Team Leader (performance criteria aligned with JOIFF Leadership 2).

Team Members that don't progress are able to gain pay grade increase through five grades, they are eligible annually to be assessed via a panel which will take into account discipline, performance during





## Instruction and Assessment



## Training Database



Initially, the Emergency Rescue Service (ERS) had no fit for purpose training facility, which was a major barrier in providing safe and realistic scenarios. Once again, Lukoil's one-team mentality provided a solution and over time we have developed a basic but fit for purpose training ground with improvised props and simulators built in accordance to major international standards and challenges of ERS training program.

[illegible]

Management Belief



Alexander Rotar – Head of Health, Safety and the Environment (HSE), Lukoil Mid-East Ltd, West Qurna-2 Project  
“We recognise that

nationalisation is critical and remains fundamental to the growth of Lukoil in the Middle East, it’s essential that we are committed to responsible and incremental change but we also recognise we must ensure the safety of our personnel and that includes our local nationals conducting such hazardous duties. It is therefore critical that our people are competent to perform their duties, training and development is not something we take for granted. This is why the structure relies so heavily on the experience of the expat Managers, Commanders and Team Leaders. We realise there is no margins for error, no second chances in emergency situations and a wrong decision affects the environment, damages assets and ultimately cost lives.”



Author: Jamie Fleming – Emergency Rescue Service Guard Commander, Lukoil Mid-East Ltd, West Qurna-2 Project  
We would like to give special mention to Alec and Gerry from JOIFF and Kevin Boffy from Evolution Risk Assurance for their continued support regarding performance criteria and assessment.



NEWS FROM JOIFF ACCREDITED TRAINING PROVIDERS



ARC FIRE TRAINING SERVICES LTD.

JOIFF accredited Training Provider Arc Fire Training Services Ltd., United Kingdom recently presented its JOIFF Accredited Crisis Management and Emergency Response Seminar in Antwerp, Belgium. The picture shows Eric Dempsey of Arc Fire, with students from organisations in Belgium, Greece, Hungary, Saudi Arabia and the United Kingdom who had successfully completed the Seminar after the presentation of JOIFF accredited certificates to them.



CFB RISK MANAGEMENT

JOIFF Director of Standards of Training and Competence Gerry Johnson presenting a certificate of JOIFF Accreditation to Natalie Lynd, Business and Quality Manager, CFB Risk Management, Cleveland, United Kingdom, following a successful re-accreditation audit.





# CREATING ADDED-VALUE FOR TRAINING PLANNING THROUGH STRUCTURED COMPETENCE REGISTRATION

BY JOCHEM VAN DE GRAAFF AND SIMON VAN VOORST

In the last months we have been finalising a pilot for Competence Registration together with one of our clients in the chemical industry. The test was aimed at using software to evaluate on training planning and competences per role and function profile within the Emergency Response Organisation (ERO). The first results and first findings regarding this pilot are very promising, and show insights that differ from traditional training evaluation. We would like to share our findings and explain what the added-value can be of a methodical approach to Competence Registration.



Companies increasingly want more insight into the actual state of their ERO. We have developed software to support this wish. During all emergency response training moments in the past year, a separate observer has been present using an iPad to register progress of individuals and teams. The registration software containing dashboard and mobile app is fully operational, and all our instructors/observers have been trained to use it. Steadily we gain valuable insight into the do's and don'ts of training planning. This definitely needs more studying; however, some information might prove useful already.

## **Finding 1 – Training: Keep It Simple, Stupid**

When using a competence framework in training planning, this means a broad variety of competences need registration. Often we see scenario-based training moments in which professionals are trained AND observed in skills, knowledge, attitude and professional results. This leads to meaningless clouded results and thus will not provide information a training manager seeks.

When registering knowledge-competence, have your ERO-members sit down for a knowledge test and log this.

When monitoring basic skill-level, use a practice-exam setup without scenario. Our point: stay away from intertwining training and observation. Choose your moments for observing and separate these from training moments.

## **Finding 2 – One man, one task**

Related to finding 1, observing and instructing are different roles. We cannot expect an instructor to instruct and observe in one role. To objectively put a thermometer into your ER organisation, you need to select the right guy for the job. Let the instructor give instructions and have an observer make observations. In case training and registration are combined, this most-of-times means having an instructor and an observer on-site.

## **Finding 3 – Structured registration leads to well-thought choices**

We found it common practice in training management to schedule activities based upon last year's schedule. In doing so, the main focus is on the yearly activities itself and not on the development of performance. Our methodical approach combined with structured registration show outcome throughout the program and address the most

needed priorities for the upcoming training activities. This could mean rescheduling activities during the training cycle. By gathering founded and sufficient information the clients' training manager is supported in making smarter and well-founded decisions.

## **Finding 4 – Instructor's favouritism**

Quite commonly the ERO training instructor has a background in firefighting or safety. This is understandable, as it takes a certain amount of expertise to be able to teach and instruct others. A pattern we discovered is that instructors prefer to stick to topics they master themselves. As an example: an instructor is a firefighter, so at least half of the training moments contain firefighting topics. Though this seems logical, it is not in the best interest of long-term training planning. If you want to draw conclusions on the entire competence framework, all topics in it must be addressed equally during the training cycle.

Interestingly enough, findings 1 & 2 mainly deal with the practical organisation of training, and findings 3 & 4 relate to training planning and management. This illustrates the benefits of a methodic approach to training management. Findings 1 & 2

can be addressed by rethinking practical choices, while addressing the other findings will prove more difficult. This requests better information, precise analysis and a higher thinking level.

In our quest to find added-value in competence registration, the definition of 'Competence' has caused for discussion. The terms Knowledge, Skill and (professional) Attitude are common ground. But this does not yet cover all elements. A true competent professional has the capacity to put knowledge, skill and attitude together within his or her situational awareness to deliver a needed result within context (or in ERO-terms: a more or less realistic scenario). And it is this capacity that needs to be addressed to conclude whether an ERO is ready, or not.

## **Finding 5 – Don't take the wobbly road**

It is essential that individual performance on the topics of knowledge, skill and attitude are kept separated from observations on the capacity of a person to deliver a needed result within a context. The biggest learning point concluded from the findings, is that attempts to measure and register both competences on individual performance AND the capacity to deliver results



## ADDED VALUE FOR TRAINING PLANNING- CONTD..

within the same training, fail! This is because it is complicated to see through context influence on technical skill and use of knowledge during scenario training. Trying to do so is a wobbly road and will not provide reliable input for redesigning training planning.

### Added-value

Is there added-value in this approach to Competence Registration? Yes, there is. The tool that was developed for this purpose has proven itself very useful. It clearly illustrates practical skills and knowledge level without context (skills and drills, knowledge test), and an individuals or group's capacity to deliver result within context (scenario training). This is important because a training manager wants to be sure that basic skills and knowledge are at the right level, before introducing context into training and not the other way around. For the simple reason that training should be planned and organized in the most effective way and secondly, registration of these activities should give you the much wanted insight into the actual state of your ERO.

Having this information allows us to take training planning for our client to the next level. We redefined our definition of competences inside the ER

Competence Framework to be able to draw more sensible conclusions on operational readiness. The tool makes it is easy to rapidly distinguish one-offs from trends in the training results, thus can we steer our planning towards ERO-wide performance growth and away from individual flagships. This is valuable because the subsequent training year will be focussing on improvement on ERO-performance, and not waste time on non-priority issues. The client's training planning for next year will have an extra layer of dept. Per training moment it will be pre-defined whether to focus on individual performance (Knowledge, Skill and/or Attitude) or Capacity to deliver a professional result. This approach and method to improvement of Competence Registration and training planning can be adjusted to fit all ERO-specific objectives. The added-value can be found in having the possibility to introduce and analyse a detailed training planning in a short period of time. Yes, you could do all of this by keeping printed Excel-lists and deducing a training plan per ERO-member. But using the tool will offer a very coordinated and systematic approach, and will definitely be more efficient.



### Editor's notes

#### About H2K

Jochem van de Graaff and Simon van Voorst work at JOIFF-member organisation H2K. This agency is specialised in providing firefighting education, training courses and consultancy. Our customers are fire services, company fire brigades and companies with an Emergency Response Organisation, such as petrochemical, pharmaceutical, chemical storage, transport, and

food processing industries. We develop innovative tailor-made solutions for preventive safety and operational readiness.

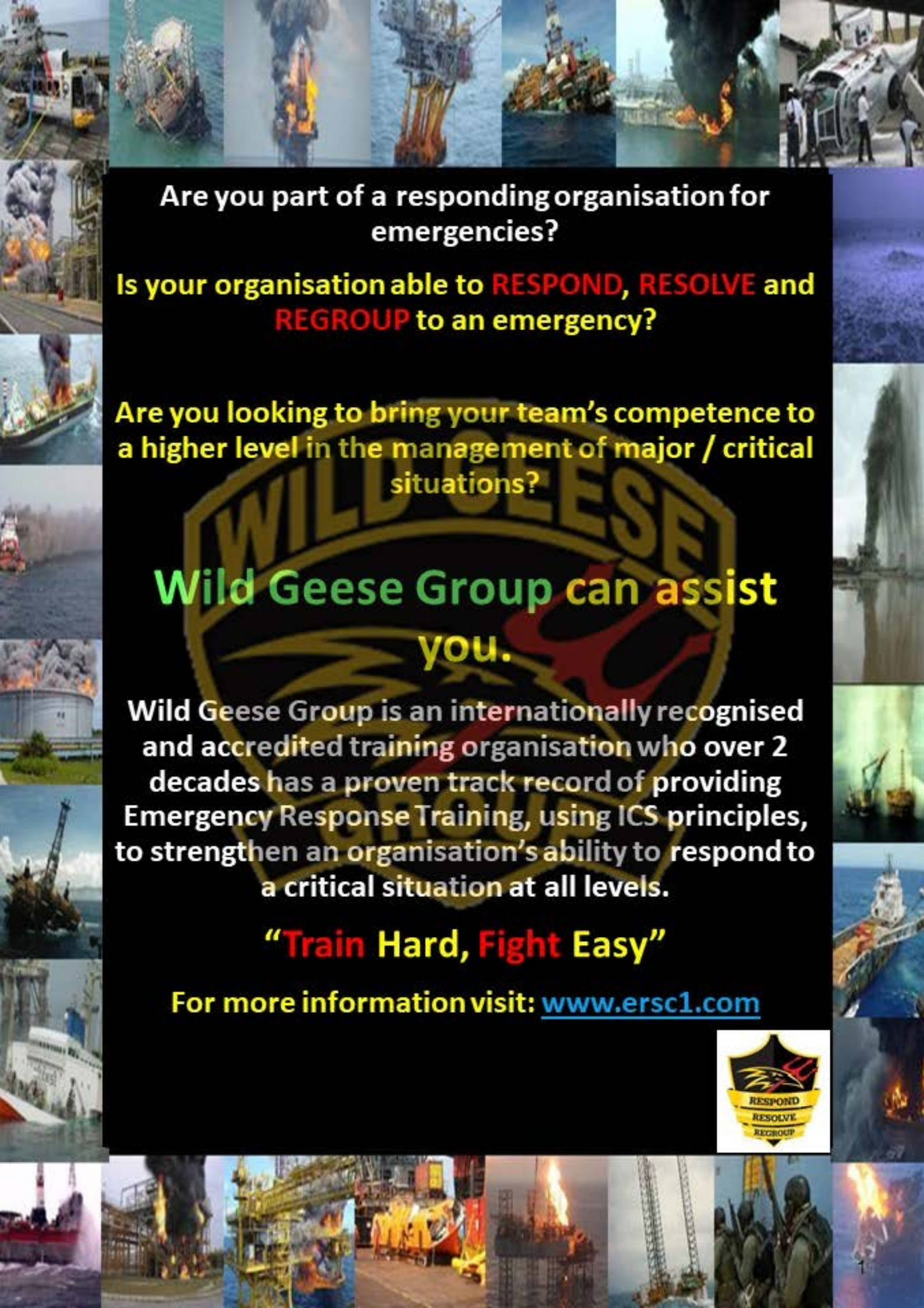
### CR Tool

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## TRAINING FRUITCAKE

BY DARYL BEAN MJOIFF

The objectives leading to successful mitigation of an emergency ultimately comes from preparation, which is affected by many factors. Many are aware of the influences which govern our approach, some presented below; however, the longer we maintain our affiliation with emergency response, we will see and be affected by change. The wider almost instantaneous spread of and communication worldwide means evaluation and opinion could be a fluid dynamic, therefore applying a direct questioning culture in why we do what we do.

This is felt on the training ground as we see reflected adaptations to meet the current and, in some cases, future state of fire risk management. The following summaries give evidence to support these changes; Rick Stoll indicates in "Analysis of Fire Service Trends and Impacts" four trends affecting the current fire service (Stoll, 2019);

- Significant decrease in fire frequency; fire incidents (US) have "dropped by 57% since 1977 according to the National Fire Protection Association (NFPA).
- Drastic increase in the rate of fire burn
- Greater risk of building collapse
- General improvements in available technology

Whilst this analysis can be viewed as general and more geared to municipal (domestic) fire reporting, Richard Campbell provides a comparison on the trend of decrease in fire frequency at industrial or manufacturing properties reported to U.S Fire departments between 2011 and 2015 to be 39, 910 (estimated).

- This follows a downward trend from 114, 500 in 1980 (Campbell, 2018).

Sir Ken Knight CBE QFSM FIFireE, hypothesises several outcomes for "the future operating environment" (Knight, 2013), mirroring the aforementioned trends and which, whilst more focused to the fire and rescue authorities in England, because of these similarities we can consider relevance to other types of fire response.

- I wonder if anyone a decade ago would have predicted the need for fire and rescue services to attend 40 per cent fewer emergency incidents
- The whole picture indicates that fire and rescue authorities will need to continue their steps to target their prevention and protection work. Prevention will need to be ever higher on the agenda and this will need to be facilitated by better data-sharing across public services
- Technology and innovation has been a key driver to reduced risk, increased efficiency and better outcomes, particularly in the field of fire safety.
- Industry needs to make its own case to owners and occupiers (including property developers), of the benefits of fire suppression systems in terms of life safety, property protection and

business continuity.

- I commend the authorities that have pursued projects, often with the private sector, to install such systems in premises to protect at risk groups. This may well lead to the suppression industry making the case more widely.
- It is important that there is continuous investment in technological solutions to reduce further fire injuries and deaths
- Little has changed in firefighting technology and techniques over a number of years. New technological solutions may assist firefighting techniques in modern buildings and increase the safety of firefighters and improve the detrimental environmental effect of traditional firefighting methods.

Consequently, practical training evolves as these changes are developed into policy, procedures and hardware. This continuing evolution requires training providers to be up to date with and included in the discussion as they will play an important role in effecting these changes. For the most part initial acquisition training is a little easier to manage as most regulated services follow a tightly defined grouping of learning outcomes. Actual fire experience is reducing. Live fire training to meet the learning outcomes during acquisition training is carefully crafted to ensure the exact learning outcomes are addressed. The approach of fire control eliminates indiscriminate burning during training. Practical training outside of initial acquisition, out of district or non-regulated is where it becomes interesting.

With the current requirement towards meeting environmental legislation regarding discharging pollutants, the reduction in the ability to "dirty burn" reduced the number of training facilities





which can burn significant quantities of liquid hydrocarbon. The effect on the scope of training is that fire training involving the use of liquid hydrocarbon burning is highly marketable, gearing for a transient user; dare we say, “firefighting tourism?” National and International travel to facilities for more realistic “live fire” simulations is a fact of life for our industry. In this regard and reminding ourselves of the current trends in firefighting is the realisation that the trainee expects to maximise the time spent conducting evolutions; to achieve as much immersion as possible during that period. A plausible and reasonable concept certainly and no doubt one which leads to valuable experiences. This is certainly seen in many cases of practical training where the intent is to focus on the execution of tasks limiting time for other aspects such as the pre-brief, debrief and turnaround of equipment. In the end, after a reflection when the shine of the experience has worn off and follow-up station training is conducted, there may be a sense that something was missed, or an opportunity not taken to concentrate on one or two specific needs; quality was sacrificed for quantity. This is kind of like a fruitcake experience. The thought of the variety of flavours and textures in the fruitcake sound so tempting, but, how many can tolerate more than a slice before it becomes sickeningly sweet and we think that less would be more in the case of lingering satisfaction and a want for more?

Throughout the previous discourses on training the one realization is that while variances are applied in different jurisdictions and even within jurisdictions, when looking at expanding training to

include outside providers, it is interesting to see the references used are similar. For example NFPA 1001 Fire Fighter I and II are often quoted for industrial fire training; the fact that NFPA 1081: Standard for Facility Fire Brigade Member Professional Qualifications exists appears lost to some personnel who are responsible for fire training at industrial sites. This article will not discuss the differences between both standards but will highlight the need for understanding what one is asking for regarding “training standards.” The aim of this discourse is to open discussion on a current trend of training and its implications. It may be agreeable or disagreeable; however, in the context of shared learning, opportunities exist to venture into different training designs and experiences.

From an industrial firefighting perspective NFPA 600: Standard on Facility Fire Brigades includes lists for continued education, training and drills:

### **Facility Fire Brigades That Perform Incipient Stage Fire Fighting**

5.3.1\* All facility fire brigade members shall receive training and education

at least annually.

5.3.2 All facility fire brigade members shall participate in a drill at least annually.

5.3.3\* Training and drills involving live fire evolutions shall be performed in accordance with recognized safety procedures

### **Facility Fire Brigades That Perform Advanced Exterior or Interior Structural Fire Fighting**

6.4.2 All facility fire brigade members shall participate in a drill at least semi-annually to meet the requirements of Section 4.6

6.4.3 Live fire training shall be conducted at least annually. Training and drills involving a live fire evolution shall be performed in accordance with NFPA 1403.

6.4.4 Live fire training shall include props that are representative of and that simulate as closely as possible the hazards and conditions that could be encountered by the facility fire brigade member.

**Drill.** An exercise involving a credible simulated emergency that requires personnel to perform emergency response operations for the purpose of evaluating the effectiveness of the training and education program and the competence of personnel in performing required response duties and functions (NFPA, 2015).

The standard indicated above presents, on appearance, a vague and open requirement which is understandable as a more detailed and prescriptive instruction may lead to exclusivity of fire brigades with limited coverage or risk. Unlike the more detailed and specific initial acquisition





## TRAINING FRUITCAKE - CONTD..

requirements in NFPA 1081, this vagueness does lend itself to the responsibility of the interpreter and local training manager to incorporate the site-specific risk profile into the standard. This is the point where individual requirements are influenced by the company, the course designer and even the responders themselves.

Is an annual requirement for virtually all practical elements in a standard reasonable and realistic in today's climate? Is the assumption that is made by recommending standards such as those listed predicated on the facility maintaining a balanced training program which culminates in the assessment definition of a drill (as provided above; NFPA 600). The revelation of actual practical training time annually, during the work cycle or pattern or by shift reveals noticeable changes. Training opportunities are being minimized as time on duty is directed to other tasking deemed more financially productive to companies. The result is training officers having to seek to fulfil more training objectives for numbers of fire officers and fire fighters in a condensed time. The more common realization of this is with live fire training programmes designed to meet many objectives as separate scenarios over as many different risks (simulations) with the stated aim to "get everyone involved, busy and not standing around." It is these constraints that we as training providers must understand and be sympathetic. Is it reasonable to address reduced training opportunity during standards reviews?

This point introduces another factor in the training model; the ability to influence the standards. Involvement in focus groups, membership and participation in organizations like JOIFF and the NFPA give the opportunity for concerns to be raised and relevant standards addressed. Budget holders question why are you going to do the same thing year on year? The scrutiny of costs for live fire training by budget holders is creating the need to show value for money spent. For the most part this via presenting the proposed training schedule. For the most part this is a visual exercise-to show as many variables as possible thus achieving the standards. Whilst what is promoted as a busy, full

program may turn out to be a series of quick hits which are difficult to produce meaningful long-term improvement. This statement is qualified by observation of repeat training over consecutive years and small gains in improvement of practical skills. Of course there can be other mitigating factors and this point is accepted; however the present state could be a reflective opportunity to create an experience with more long term benefits regarding practical abilities.

Observations from a five-day, live fire training programme designed to practice on as many fire scenarios as possible include:

- Tactics and technique proficiency declined as the week progressed with the need to complete the full five-day schedule. The initial emotional high of combatting scenarios involving live fire became tempered against the rush to fit the total. The focus became more of time management than actual learning. A comment was made "We got good at making up..."
- To get all the objectives in some trainees may miss the opportunity for actual improvement of marginal skills.
- Actual fire fronting and/or SCBA duration time per exercise was very minimal
- The amount of exercises meant learning outcomes would not advance much more than past initial actions.
- The thought is to burn more than to learn?

Critical thinking leads to the conclusion that the purpose of the training event was just that; to experience as many fire scenarios as possible. One cannot ignore the fact that this opportunity does exist for some organizations and for some attendees, their experience during that time may be the only concentrated fire fronting training experience they will have. Using the paper title as an analogy, many people like fruitcake.

Looking at another concept taking the approach of less is more, the focus of the live fire training presented next is on less objectives, to give more opportunity for the team member to practice and become proficient.



This example of managing the training fruitcake stemmed from the realization that the reduced annual live fire training time could not cover all the elements in the training plan and an increase in the training days was not an option. Scrutiny highlighted mandatory (must have) from recommended (should have) requirements and a plan was redesigned over the period, by which all elements were covered with evidence of performance outcomes by each responder. The training plan designed covered all elements over a three-year cycle, the first year addressing the must-haves and a more "back to basics", refresher skill set, the second year must haves with an increase in complexity of skill sets and the third, must-haves with full drills.

Observation suggested this measured approach allowed more time per skill for the responder with more confident, correct performance by the third session. Responder feedback indicated more confidence in role and buy into the training system. Success in drills conducted by the regulator and maintenance of training documentation offers discussion points to bring to standards forums as an example of addressing training needs against real-time operational issues.

Dissemination of fire statistics has and will continue to influence response to fires including live fire training. How live fire training is conducted is governed by a myriad of decisions based on factors determined by the authority having jurisdiction. The results of these decisions are seen in varying live fire programs, some maximizing fire burning with little time included for other activities and some which have challenged the process and



## TRAINING FRUITCAKE - CONTD..

implemented as training plan more suitable to meet their needs. A conclusion from observing the different live fire training plans outcomes and feedback is that response organisations should be more involved with the standards designers. Shared learning, forums, focus groups etc. are offered by many standards setting organisations and participation is welcomed as in the end, it is the response teams which will be affected most. The positive outcomes from this involvement will include training, offering the opportunity to create more acceptable recipes, rather than having to work with a limited menu.

### *Editor's note:*

*Daryl Bean MJOIFF is a regular contributor to The Catalyst and during 2017 and 2018 we published his articles entitled "Setting the*

*Standards", "Examining the Roles and Responsibilities of the Instructor", "Training for Success" and "A modern approach to Emergency Response Training".*  
*Daryl Bean MJOIFF is the Offshore/Industrial Curriculum Manager at the Serco International Fire Training Centre, Darlington, UK and manages the delivery of regulated or accredited and bespoke training specifically for the offshore, industrial and maritime environments, including theory and/or practical based content and consultation. Daryl's career covers 37 years, spanning many disciplines including aviation, structural, HAZMAT, EMS and he presently maintains membership in the NFPA. For more information contact Daryl at [dbean@iftc.co.uk](mailto:dbean@iftc.co.uk), or by telephone + 44 1325 333317. For more information on the Serco International Fire Training Centre visit [www.iftcentre.co.uk](http://www.iftcentre.co.uk).*

### *References*

*Campbell, R. (2018). Fires in Industrial and Manufacturing Properties . Quincy: National Fire Protection Association.*  
*Knight, S. K. (2013). FACING THE FUTURE: Findings from the review of efficiencies and operations in fire and rescue authorities in England. London: Queen's Printer and Controller of Her Majesty's Stationery Office.*  
*NFPA. (2015). NFPA 600 Standard on Facility Fire Brigades. Retrieved from National Fire Protection Association: <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=600>*  
*Stoll, R. (2019). An Analysis of Fire Service Trends and Impacts. Retrieved from Verisk: <https://www.verisk.com/verisk-review/archived-articles/an-analysis-of-fire-service-trends-and-impacts/>*



# JOIFF QUALIFICATIONS



The JOIFF Diploma is a competency programme for personnel who respond to emergencies. It covers necessary key skills, learnt and demonstrated by the student in practical training and exercises that allows them to deal competently with site emergencies.

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# JOIFF ROLL OF HONOUR



The following people were awarded JOIFF qualifications during January to March 2019

## JOIFF DIPLOMA

**DARREN HUNTER**

**INEOS Chemicals Grangemouth Ltd., Stirlingshire, Scotland, United Kingdom**

## JOIFF LEADERSHIP 1 (TEAM LEADER)

**ADAM SIVELL Dip.JOIFF**

**Senior Global Safety Lead Capex (Capital Expenditure) Projects, Heineken International.**

On successful completion of the Leadership 1 (Team Leader) programme Adam Sivell Dip.JOIFF said "Over the last year and a half I have worked my way through the JOIFF Leadership qualifications and although at times they have been quite challenging, they have also been enjoyable and enabled me to research certain areas of the role that I have not always been exposed to, such as the budgetary impact on the department. Overall, the JOIFF competency training as been very beneficial".

**ALEXANDER TELENKOV Dip.JOIFF**

**SIMON WILLIAMS Dip.JOIFF**

**Health, Safety & Environment Department, LUKOIL Mid-East Ltd., West Qurna 2 Project, Basra, Iraq**

## JOIFF LEADERSHIP 2 (OFFICER)



**ILYA BOYKO Dip.JOIFF, Emergency Rescue Service Manager  
Health, Safety & Environment Department, LUKOIL Mid-East Ltd.  
West Qurna 2 Project, Basra, Iraq**

Having completed the JOIFF Diploma in March 2018, Ilya Boyko Dip.JOIFF started working on the JOIFF accredited Leadership 1 (Team Leader) programme which he successfully completed in December 2018 and he followed this by working on and completing the Leadership 2 (Officer) programme, On successfully completing the Leadership 2 programme, Ilya said

"....thank you for the opportunity you've provided for us to become a part of something really global and comprehensive. The experience we've got while working on our qualifications is priceless. I wouldn't be wrong to say, that part of our future development plans are based on lessons, we've learnt from JOIFF."

*Lonnie Mullen receiving his MJOIFF certificate  
from Ken Sims, V.P Refining, CHS McPherson  
Refinery. Also present were Gerry Johnson  
Chairman of JOIFF Post Nominal Adjudication  
Panel and Alec Feldman JOIFF Director.*





# JOIFF ROLL OF HONOUR

## JOIFF LEADERSHIP 2 (OFFICER)

**SERGEY ZELENKOV Dip.JOIFF, Emergency Rescue Service Team Leader**

**Health, Safety & Environment Department, LUKOIL Mid-East Ltd., West Qurna 2 Project, Basra, Iraq**

On completion of the JOIFF Leadership 2 (Officer) programme, Sergey Zelenkov said

*"I have completed the next stage of JOIFF Leadership 2 programme, and continue work on the position of Team Leader of Emergency Rescue Service Health, Safety & Environment Department LUKOIL Mid-East Ltd. West Qurna 2 Project. The programme has aided me to see the wider picture in regard to all aspects of the department. At the moment, our emphasis is on training new personnel, we have taken on several new Team Members and their training is a priority. It is important for them to make a smooth transition from probationary Team Member to competent emergency Responder, so we strive to increase their competency levels.*

*The JOIFF Leadership 2 programme helped me to take a fresh look at the training and leadership of the whole group instead of only individuals and crews. Now I think more about how to make the learning process more interesting and effective. Continuing my education through JOIFF is a good plan for my own education and it is an honor to be considered for Grad JOIFF."*

## GRADUATE OF JOIFF GRAD.JOIFF

**SERGEY ZELENKOV Grad.JOIFF. Emergency Rescue Service Team Leader**

**LUKOIL Mid-East Ltd., HSE Department, West Qurna 2 Project, Basra, Iraq**

Shortly after successfully completing the Leadership 2 (Officer) programme, Sergey was awarded the title Graduate of JOIFF.

## JOIFF MEMBER

**ROBERT (TOM) DOOLE MJOIFF, Fire Adviser/Trainer,**

**SFCo Fire & Rescue, P.O Box 27216, Abu Dhabi, United Arab Emirates**

During his career, Tom Doole has worked in the Structural, Maritime, Aviation, Industrial Firefighting and the Technical Rescue environment, with responsibilities for Fire Safety, Management, Welfare and Training of Emergency Response personnel in all disciplines. He has extensive experience in multi-cultural environments which allows him to communicate effectively and diplomatically at all staff levels. He is qualified in coaching, mentoring and assessing, focusing on the behavioural as well as the technical aspects of working in a safe environment.

Tom's education and qualifications include firefighter training from recruit to Command across the range of municipal, aviation and marine, search and rescue, marine rescue and pollution prevention and control.

Tom currently works at the Al Taweelah Power Production and Water Desalination complex in Abu Dhabi region of the UAE as the Fire & Rescue Adviser/Trainer managing the Emergency Response Services and he advises Management on all the aspects of Fire & Rescue, including Fire Protection, Training, Environmental and Medical Services within the complex. On being awarded the status Member of JOIFF, Tom said *"I am very proud to have been awarded MJOIFF by an organization that is setting the standard for firefighting in hazardous industries. I will continue to work with the JOIFF team to raise the fire preparedness levels within the Power & Water Production sector of Abu Dhabi through training and assessment of emergency response personnel."*







# JOIFF ROLL OF HONOUR

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## JOIFF MEMBER

### **LONNIE ROY MULLEN MJOIFF Emergency Response Coordinator/Fire Chief CHS McPherson Refinery, 2000 South Main St. McPherson, Kansas 67460, USA**

Lonnie Roy Mullen CFO, MIFireE, MJOIFF, CFEI has an extensive background in emergency management, starting his career in 1981 and working his way through the ranks holding positions as a Firefighter, Fire Apparatus Engineer, Captain, Division Chief and Fire Chief. He has worked both in the Municipal and Private sectors working as a direct hire and on contract at the City, State, and Federal levels of government. In addition, he has worked on contract and direct hire to several Petrol/Chemical Facilities in the United States, Africa, and the Middle East as a Fire Chief, Advisor and Trainer. His background in the fire service has been heavy in program development, improvement of response infrastructure and training.

Lonnie has worked closely with several foreign government entities at the National level advising and training to improve their Countries' response templates and proficiencies. He was a technical committee member of NFPA 1081 Industrial Firefighter Professional Qualifications Standard for the 2012 revision.

Lonnie holds his Chief Fire Officer Designation (CFO) through the Center for Public Safety Excellence, a MIFireE through the Institute of Fire Engineers, Certified Fire and Explosion Investigator through the National Fire Investigators Association, International (NAFI). Prior to his awarding of his MJOIFF, he had been awarded Grad.JOIFF. In addition, he holds multiple firefighter, fire officer, rescue, Hazmat, fire service instructor, and fire management certifications through ProBoard, IFSAC, Department of Defense, National Fire Academy and California State Fire Marshals Office. He also holds degrees in Fire Science and Fire Administration.

Lonnie is currently the Emergency Response Coordinator/Fire Chief at CHS McPherson Refinery, Kansas, USA, where he has been working closely with JOIFF regarding accreditation of CHS's training facility and training programs.

### **ADAM SIVELL MJOFF**

#### **Senior Global Safety Lead Capex (Capital Expenditure) Projects, Heineken International.**

Adam started his career in emergency response as an operational firefighter in the Royal Air Force where he was promoted to Corporal in charge of training emergency response teams. He then joined Norfolk & Suffolk Fire & Rescue Services where he was employed as an operational firefighter and gained promotion to crew commander. He moved to PETANS International Offshore Oil and Gas Training Centre as lead Fire, Safety & Emergency Management Trainer followed by job roles as Senior Safety, Health, Environment and Quality Trainer at RASGAS Ltd. Ras-Laffan Industrial City, Qatar, Training and Emergency Management Lead, Petrofac Shetland Islands and then to Lukoil International WQ2 Project, Iraq where as Senior Fire & Safety Officer, he successfully completed the JOIFF Diploma and Leadership 1 (Team Leader) programmes and was recently awarded the title Member of JOIFF.

Adam's current job role is Senior Global Safety Lead Capex (Capital Expenditure) Projects for Heineken which is a strategic safety, emergency and risk management role directing, advising and overseeing project teams on over 100 international green field and brown field capex projects. This entails defining, managing and implementing process and occupational safety requirements, developing emergency management systems during design, engineering, procurement, installation, commissioning and operational phases of multi-million dollar projects.

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For further details on Delegate or Exhibitor Packages the JOIFF Africa Fire & Explosion Hazard Management Conference 2019 please contact the event director: Paul Budgen  
Tel: +44 (0) 203 286 2289 - Email: [pbudgen@edicogroup.net](mailto:pbudgen@edicogroup.net) or visit [www.joiffconferences.com/](http://www.joiffconferences.com/)



## NEWS FROM JOIFF MEMBERS: WILD GEESE GROUP

Two decades, Wild Geese Group is a company specializing in Incident Command Training, providing operational support to operators from several industry sectors across the globe. Accredited through several International standard setting bodies, the men and women who make up Wild Geese Group are seen as pioneers in the development of customized training products such as the use of state-of-the-art simulators, digitalization of data and most importantly the quality of their facilitators. Winning several performance based awards and receiving recognition from many of their clients in the form of testimonials, Wild Geese Group is consistently looking at ways of maintaining the leading edge on being creative, passionate and innovative in all facets of supporting businesses in understanding, complying and exceeding industry safety requirements in the Critical Incident Management Process.

There are many platforms where Wild Geese Group achieves this and one very important key to this success is their ability to work with like-minded training organizations through Alliance Partnership collaborations. Wild Geese Group headquarters is located in Kuala Lumpur which is a state of the art, onshore Emergency Response Service Centre, operated by Wild Geese Group's sister company, Managed Emergency Response Service Centre (MERSC).

Wild Geese Group is a company who takes their role in Industry as important as their clients do.

For a more detailed understanding of who Wild Geese Group is and more importantly how they could work with you to enhance your business and performance, take the time to view their website [www.ersc1.com](http://www.ersc1.com).





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All as required.

### **Crisis Management & Emergency Response Seminar**

Dubai: 18-22 Aug, 24 - 28 Nov

[www.arcfiretraining@ntlworld.com](http://www.arcfiretraining@ntlworld.com)

Email: [arcfiretraining@ntlworld.com](mailto:arcfiretraining@ntlworld.com)



## INTERNATIONAL SAFETY TRAINING COLLEGE

Firefighting Foundation 10 Days	18 Feb - 1 March
Fire Team Member 3 Days	11 - 13 Feb
Fire Team Leader 5 Days	11 - 15 Feb
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Hal Far, Malta [www.istcollege.com.mt](http://www.istcollege.com.mt)

Email: [enquiries@istcollege.com.mt](mailto:enquiries@istcollege.com.mt)

Tel: + 356 2165 8281/2 or + 356 9998 5211



**International  
Fire Training Centre**



## SERCO INTERNATIONAL FIRE TRAINING CENTRE

Team Member 5 Days	2 - 6 Sept
Firefighter Refresher 2 Day	18 - 19 Sept
Firefighter 3 Day	16 - 18 Sept

Darlington, UK

Website: [www.iftcentre.com](http://www.iftcentre.com) Email: [bookings@iftc.co.uk](mailto:bookings@iftc.co.uk)

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Site Incident Controller (SIC) 2 Days	21 - 22 May
Site Main Controller (SMC) 3 days	2 - 4 July
Crisis Leadership 1 day	19 June
Crisis Risk Radar 1 day	3 July
Crisis Spokesperson 1 day	17 July
Silver (TGC) COMAH Representative	30 - 31 July

[www.Eddystone.com](http://www.Eddystone.com) / [www.responseacademy.co.uk](http://www.responseacademy.co.uk)

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Tel. +31 181 376 600

Email: [bookings@nl.relyonnutec.com](mailto:bookings@nl.relyonnutec.com)

Industrial Fire Brigade Incident Commander Course (IFBIC) 5 days  
1-5 July, 9-13 September, 7-11 October, 11-15 November

Industrial Fire Team Leader (IFTL) 10 days  
17-27 June, 18-29 November

Industrial Fire Team Leader Remain Qualified (IFTL RQ) 3 days  
11-13 June, 3-5 December



# JOIFF

The International Organisation for Industrial  
Emergency Response and Fire Hazard Management



## **JOIFF Africa Fire & Explosion Hazard Management Conference - South Africa – JUNE 24th - 25th 2019**

***"Diverse Challenges Facing Emergency Responders In Africa"***

***Hosted by Pine Pienaar Rtd Chief Fire Officer Sasol Secunda Emergency  
Services and supported by the Petrochemical Fire Chiefs Committee***

Gracelands Hotel Casino & Country Club - Secunda - June 24th - 25th 2019



**JOIFF – The International Organisation for Industrial Emergency Response and Fire Hazard Management, Primary Sponsor Advanced FST & Event Host Pine Pienaar – retired Chief Fire Officer, Sasol Secunda Emergency Services, would like to extend a personal invitation for you to attend the JOIFF Africa Fire & Explosion Hazard Management Conference 2019**

**The 2 day Conference is designed to provide a unique opportunity to join with High Level International & Regional Fire & Explosion Hazard Management specialists to listen, discuss and network with the World's & Sub Saharan Africa's foremost experts and specialists on F.E.H.M. Preparedness.**

**FREE JOIFF MEMBERS Delegate Package Includes:**

**Pre Conference Drinks - Evening Reception Networking Event  
Delegate Pass for 2 Day Summit  
All Refreshments & Snacks During Summit Breaks Including Buffet Lunches  
Discounted Accommodation Rates at Venue Hotel (whilst rooms still available)  
Invitation to Attend the Gala Dinner  
Invitation to attend Demonstration**

**Who should attend.**

**Industrial Fire Chiefs – Municipal Fire Chiefs – Senior Fire Fighters – Fire Engineers – Policy Makers – Regulators – Fire Engineers – Fire Safety Consultants – Fire Risk Consultants – Occupational Safety Managers – Process Safety Managers – Safety & HSE Managers HSEQ Managers – Risk Managers – Security Managers, Ops Managers – Industrial Safety and Training Managers**

**Delegate Places are Limited**

**For further details on Delegate or Exhibitor Packages the JOIFF Africa Fire & Explosion Hazard Management Conference 2019 please call or email Event Director Paul Budgen +44 (0) 203 286 2289 - Email: [pbudgen@edicogroup.net](mailto:pbudgen@edicogroup.net) or go to**

**<http://www.joiffconferences.com/>**



# DIARY OF EVENTS 2019/2020

## May

14-16 Fire Australia 2019

## June

17-20 NFPA Conference and Exhibition, San Antonio, USA

18 - 20 Firex, London, UK

24 - 25 JOIFF Africa FEHM Conference, Secunda, South Africa

## July

17 - 18 Institution of Fire Engineers AGM and Conference, Brighton, UK

## September

4 - 6 IAFPA-ARFF 19th Annual Conference, Honolulu, Hawaii

24 - 26 Fireexpo East Africa, Nairobi, Kenya

## October

23 - 24 19th International Water Mist Conference, Berlin, Germany

## 2020

## June

15 - 20 Interschutz 2020, Hanover, Germany

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

*Note: The Catalyst is not responsible for the accuracy of dates and / or venues announced. This is based on information given to the Editors and is published in good faith.*

### JOIFF Secretariat:

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