

# The Catalyst

The Official Newsletter of JOIFF

June 2001

## WELCOME TO THE 2<sup>ND</sup> EDITION

**W**elcome to the Summer 2001 edition of The Catalyst, the Newsletter of the Joint Oil and Industry Fire Forum - JOIFF. The choice of green for our masthead reflects the commitment of our Members to protecting the Environment.

A "catalyst" is something that causes change and one of the functions of this Newsletter is to provide a forum for discussion with the ultimate aim of making positive change to ensure safer Working environments for High Risk Industry Emergency Services personnel and their Organisations and Communities. The Catalyst is circulated to Members and friends of JOIFF quarterly and we welcome written contributions on relevant subjects.

## FROM THE EDITORS

**T**hanks to those who took the trouble to contact us after the first issue of The Catalyst. We really appreciate your input and thanks to your comments we can start to build a structure for The Catalyst that we hope will meet your requirements. Mrs. Merton's column certainly created interest and brought comment - a number of which were from residents of Countries outside the British Isles who asked "Who is Mrs. Merton....?" Of course the Mrs. Merton TV programme was from the UK and it was incorrect of us to be so parochial - apologies to our friends outside the U.K. and Ireland. We do intend to maintain such a column because what is the use of a Newsletter called The Catalyst without a column that is there to cause reaction? Mrs. Merton underwent a metamorphosis - including a sex change - and has remerged as Mr. R who now edits

## ABOUT JOIFF

**J**OIFF, the Joint Oil and Industry Fire Forum, is a grouping of Companies in High Risk Industry represented by their Emergency Services Manager or equivalent position, and nominated Deputies.

A JOIFF High Risk Industry is any Organisation that is engaged in processing, storage, handling or transport of high risk materials and that has nominated personnel as Emergency Responders.

JOIFF offers to its members a forum for discussion amongst peers, accredited training, information dissemination and technical advice. JOIFF welcomes application for Membership from suitable Organisations - contact the JOIFF Secretariat, details on the back page.

**THE REACTOR COLUMN.** So please keep the comments coming, and as you will see inside, Mr.R, the former Mrs. M, has given some more food for thought in this issue.

In the last issue, there were a number of references to Personal Protective Equipment - known as PPE - which have brought response, so we will include a column called "PPE Corner" in this and future issues. We are particularly honoured and delighted to welcome new members of JOIFF to our Readership and include detail about the Organisations that have recently joined JOIFF in this issue.

We would like to thank all those who have contributed detail to this issue and look forward to your continued support so that we can make The Catalyst stronger.

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## MEMBERS SECTION

The JOIFF Members' Spring 2001 meeting took place in Humberside in March 2001, kindly hosted by Lindsey Oil Refinery. JOIFF Chairman, Gary Douthwaite, gave a presentation entitled "Grasping the Nettle" which focussed on the work of JOIFF past and present and the future challenges that face JOIFF in its move to develop, grow and take the lead in setting Standards for the Industry.

A new draft Constitution was proposed to the Membership and was passed with some minor amendments. This Constitution is now in force and a copy has been sent to each Member.

The first Executive Committee for JOIFF was elected which, following the requirements of the new Constitution, is as follows:

Chairman: **Gary Douthwaite,**  
Emergency Services Manager,  
ENRON Teesside Operations Ltd.

Immediate Past Chairman:  
**Eddie Davies,**  
Safety & Emergency Co-ordinator,  
TFE Elf Oil UK Ltd.

Vice Chairman:

**Mike Evers,**  
Chief Fire Officer, Ciba, Bradford.

Secretary: **Kevin Westwood,**  
Technical Manager,  
ENRON Teesside Operations Ltd., U.K.

Treasurer: **Dave Murray,**  
Chief Fire Officer,  
Conoco Humber Refinery, U.K.

The Executive will serve for two years and one other person representing a Member of JOIFF will be elected to serve on the Executive for one year, each of the two years of the Executive. This person has not yet been elected for the current year.

The JOIFF Training Standards Committee which, with Fulcrum Consultants, forms the JOIFF Training Standards Group, comprises four members of the Executive Committee - Chairman Gary Douthwaite, Vice Chairman Mike Evers, Secretary Kevin Westwood and Treasurer Dave Murray, plus two very experienced JOIFF Members, Roger Marshall, Chief Fire Officer, Lindsey Oil Refinery, Humberside, U.K. and John Sykes, Emergency Services Team Leader, BP Chemicals Ltd., Hull.

The next JOIFF Members' Meeting is planned for September and plans are in hand to hold a Seminar on the subject of the Seveso II Directive in conjunction with this meeting. Details will be circulated to the Membership in due course.

## PPE CORNER

In all Countries in the European Union, laws, based on European Directives, have been enacted requiring that all Employers must carry out Risk Assessments in the Work Place. Three distinct lines of defence are identified.

First line of defence: Identify the hazards, assess the risk and eliminate, remove or reduce the hazard.  
Second line of defence: Where a hazard cannot be eliminated, removed or reduced to an acceptable level, it is necessary to introduce controls to ensure the Safety of personnel.

Third line of defence: If, having done all this, the Safety of personnel cannot be sufficiently ensured, it is necessary to introduce Personal Protective Equipment - PPE. PPE is seen as a "last resort".

According to the relevant legislation, PPE that it is intended to provide must be suitable for its purpose, be appropriate to the risk involved, take account of the state of health of the User, be capable of correct fitting and be effective in preventing or adequately controlling the risk without increasing overall risk.

For most Workers, PPE designed to protect against mortal danger is usually worn to protect them in case something goes wrong and in these circumstances, it is the third line of defence i.e. a

"last resort" protection. Examples of this type of PPE are safety helmets, fall arrest systems etc. But for Emergency Responders - in particular Firefighters - the correct PPE to wear in their Places of Work is usually worn to protect them when something is continually wrong and therefore PPE for Emergency Responders is primarily their first line of defence - a "first resort" protection.

As a "first resort", the role of PPE for Emergency Responders in protecting the User against on-going risk is secondary to what must be its primary function, i.e. allowing the Responder to carry out the required work of the objectives of attendance.

In situations where the Responder is unable to achieve the objectives of attendance i.e. to bring the Incident under control, the PPE then reverts to "last resort protection", where its role changes and it must now provide sufficient protection to allow the Responder to escape without receiving unacceptable injury.

So PPE for use by Emergency Responders has a dual role to play as it must give protection against both on-going risk - first resort protection - and Incident risk - last resort protection.



## MEETING OF EUROPEAN OIL REFINERY FIRE CHIEFS

JOIFF was well represented at the recent Meeting of European Oil Refinery Fire Chiefs held in Százhalombatta, Hungary, hosted by MOL Hungarian Oil and Gas Company, Danube Refinery. JOIFF accredited Crew Leader, László Pimper an Officer in the Refinery Fire Brigade was a senior member of the Organising Committee and as well as his role as an Organiser, he presented a Paper on the Firefighting capabilities, tactics and techniques of the Refinery Fire Brigade - called FER Fire Protection Services Association - and participated and in some very impressive Fire Fighting exercises which FER carried out. Another JOIFF accredited Crew Leader, Paul Hay of Texaco Refinery, Pembroke, Wales presented a Paper on the major gas release incident in the Texaco Refinery as a result of lightning strikes in 1994. Staunch JOIFF supporter and now JOIFF Training Provider, Dr. Niall Ramsden of Resource Protection International, explained the newly developed LASTFIRE system of testing the quality of foam used for storage tank application and Alec Feldman and Gerry Johnson of Fulcrum Consultants, Training facilitators and Secretariat of JOIFF presented a Paper entitled The Safe Person Approach to Emergency Incidents, which discussed elements of Risk Assessment, Personal Protective Equipment, Competency Based Training and Incident Command and Control.

The opening address was given by Dr. Jozsef Toth, Vice President of the World Petroleum Congress and Dr. György Bokondi, Hungarian National Response General Director and papers presented throughout the Meeting included further detail on the MOL Refinery Fire Service, presented by MOL personnel, Róbert Skobrák, Managing Director, Gyula Pogány, HSE-Q Manager and István Gombor, Director, Fire Engineering; a paper on Firefighting in crude oil processing plants in Russia by A.N. Giletich from the Russian Fire Service National H.Q.; reports by Mihailu Gogonetu, of SNP Petrom, Romania, - on a floating roof tank fire containing high sulphur

content gasoline - by Siegfried Fiedler of BASF Germany - on extinguishing fires in the Turkish Refinery as a result of the recent Earthquake and on the experiences of the "ICE" System of Chemical Incident Response operated by the European Chemical Industry Council - and by Vladimir Dopudja, of Novi Sad Refinery in the Federal Republic of Yugoslavia - on extinguishing fires caused by missiles during the recent conflict in the Region.

Over 100 people from 18 Countries attended the Conference which was excellently organised. Great credit is due to the Organising Committee of MOL for mounting such a professional event. The facilities, including simultaneous translation of Papers into Hungarian, English and German, were excellent and the hospitality and the welcome and friendship from all the employees of MOL to the visitors was a main feature of the Conference.

In his concluding comments, Mr. Pogány expressed the wish that further such Conferences should be held on a regular basis - every 1 or 2 years - and he invited offers from delegates to organise the next event. How about JOIFF hosting it next time ??

If any of our readers would like a copy of any of the following Papers please contact us.

1. *Introducing FER Fire Services.*
2. *Relationship Tactics and Techniques FER Fire Services.*
3. *Place and Role of Industrial Fire Brigades in MOL's protection Policy.*
4. *Tank firefighting in Turkey.*
5. *ICE System of Chemical Response*
6. *Safe Person Approach to Emergency Incidents.*
7. *Perspectives for Technical Development in the Hungarian Refinery Fire Brigades.*
8. *Fire Testing of Foam for Storage Tank Application.*
9. *Fires at Novi Sad Refinery, through acts of War.*
10. *Texaco Major Gas Release*
11. *Roof tank fire of gasoline with high sulphur content.*

## NEW MEMBERS

We are delighted to welcome the following new Members to JOIFF:

**Bahrain Petroleum Co.** - known as BAPCO - represented by its Manager - Fire and Safety Department, Ahmed Khalil with Process Safety Management Co-ordinator, Hassan Ali Al-Ardi as the nominated Deputy. BAPCO have a full time manned Fire Station with trained Firefighters, Officers and the latest Firefighting equipment including Fire Trucks, Foam Carriers, high volume monitors and large quantities of foam

concentrate. Most areas of risk are fitted with fixed installations.

**Belgian Refinery Corporation**, represented by its Chief Fire Officer, Noël Cloostermans.

**British Nuclear Fuels plc.**, represented by its Fire Policy Advisor, Pamela Duerdin. Pam tells us that the Company includes fuel manufacture and intermediates sites together with Magnox reactors and reprocessing capabilities. The Company maintains Emergency Services (Fire Brigades) capabilities at most sites, NAIR

respondents, medical services at some sites and comprehensive on/off site emergency plans.

**BP Exploration Operating Company Ltd.**, Wytch Farm Oil Field, UK, represented by its Emergency Response Advisor Michael Langley and Stuart Harding, Fire Safety Supervisor. Stuart says that BP Wytch Farm has first strike fire fighting capabilities, boundary cooling and containment.

...continued on back page



## PROTECTING WORKERS FROM THE HAZARDS OF ELECTRIC ARCS: ASSESSING THE RISK

Dr Genevieve Laverty, DuPont de Nemours International S.A.

*ABSTRACT: Many thousands of workers - at chemical plants and oil refineries, at electric and gas utilities etc - are potentially at risk of being burned in the event of an electric arc accident. It is important to make a risk assessment of working environments and to choose the level of Personal Protective Equipment which matches the hazard.*

An article in the last edition of 'The Catalyst' introduced the topic of the electric arc hazard, and described the DuPont Arc-Man™ test equipment that enables the quantitative measurement of thermal protection levels offered by different clothing systems in the unfortunate event of an electric arc accident.

Arc protective clothing must provide permanent flame resistance. It must not melt, or ignite and continue to burn after the arc event. It must not break open and it must insulate the wearer from the incident heat energy coming from the arc. Everyday conventional fabrics can ignite and continue to burn on the body, increasing the extent of a worker's burn injury. Examples of fabrics which can ignite and melt include polyester and Nylon. There is a vast number of industrial workers who are wearing these types of fabric today and, in the unhappy event of an electric arc accident, they have no protection against the massive heat energy that can cause severe and possibly fatal body burn injuries. There is a great potential to improve the level of Personal Protective Equipment (PPE) with respect to electric arc hazards, by using garments made from heat and flame protective fibres.

The first step to achieving this improvement lies with the employer, who must carry out a risk assessment in that specific working environment. The employer must estimate the worst-case scenario in terms of maximum arc current, arc voltage, arc gap and arc duration,

as well as the typical distance between a worker and the source of an accidental arc. In addition, the number of phases (single or triple) and whether the equipment is in a 'closed' or an 'open' environment can make a significant difference to the level of energy generated by the arc. With these input data, it is possible to calculate, in cal/cm<sup>2</sup>, the incident heat energy of the arc in those specific working conditions. Meanwhile, by running multiple arc exposure tests on a fabric system, using arc testing facilities such as the DuPont Arc-Man™, it is possible to measure the thermal protective performance of that fabric system, again expressed in cal/cm<sup>2</sup>. In the specific case of electric arc protection, this thermal protective performance factor is called the Arc Thermal Performance Value, or ATPV. It is defined as the maximum incident thermal energy that the fabric can support before the wearer will suffer the onset of second degree burns. Obviously, the larger this ATPV, the better.

The combined learnings from the employer's risk assessment and the measurement of ATP values for a variety of fabric systems enable the employer to choose the correct protective clothing system for his workers. For example, if the risk assessment showed that, in the worst case, an electric arc accident would generate 6 cal/cm<sup>2</sup> of incident heat energy, then appropriate protective clothing must have an ATP value of AT LEAST 6 cal/cm<sup>2</sup>.

DuPont has carried out more than 8000 arc tests under controlled laboratory conditions, and has prepared a guideline chart (Figure 2) which indicates possible clothing combinations for different industrial working conditions. According to this chart, for example, a working environment with a worst-case arc incident heat energy of 6 cal/cm<sup>2</sup> would fall into category 2A. For this specific case, a single layer of flame-

resistant clothing over normal (untreated) cotton underwear should provide sufficient protection against the thermal effects of that arc, because the multiple tests of DuPont have shown that this fabric combination typically has an ATP value (ATPV) of minimum 8 cal/cm<sup>2</sup>.

It has also been found from these many arc tests that more protection is achieved by use of two lightweight layers of clothing rather than one heavy weight layer. This is due to the air trapped between the clothing layers, providing additional thermal protection 'for free'.

In summary, the hazard of an electric arc accident is real, and the consequences are costly, both in financial terms and in the cost to human life. As is the case for every other hazardous situation in the workplace, it is fully the responsibility of the employer to carry out a risk assessment of his working environment and to provide the appropriate level of Personal Protective Equipment (PPE) to his workers in situations where an

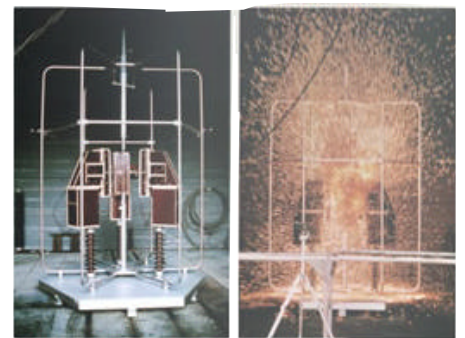
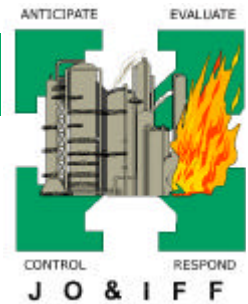


FIGURE 1: DuPont Arc-Man™

electric arc accident may occur. The protective clothing must be selected to match the worst-case exposure for any given task. Under-protection has obvious consequences in terms of burn injury level. Over-protection is also to be avoided, because this usually means heavy and cumbersome clothing systems, with a negative impact on the comfort level to the worker. Heavy clothing can raise



Calculated Incident energy cal/cm <sup>2</sup>	Clothing class number	Clothing description (no. of layers)	Total weight g/m <sup>2</sup>	Measured protection level vs. 2 <sup>nd</sup> degree burns, cal/cm <sup>2</sup>
0-2	0	Non-FR (1 layer)	150-240	N/A
2-5	1	FR shirt & pants (1)	150-270	5-7
5-8	2A	Non-FR underwear plus FR shirt & pants (2)	300-400	8-18
5-16	2B	FR underwear plus FR shirt & pants	340-480	16-22
8-25	3	Non-FR underwear plus FR shirt and pants plus FR coverall (3)	540-680	25-50
25-40	4	Non-FR underwear plus FR shirt and pants plus Double layer coat (4)	800-1000	40->60

FIGURE 2: PROTECTIVE CLOTHING GUIDELINES FOR ELECTRIC ARC HAZARD

the temptation to unbutton shirt tops or to roll up shirt sleeves, or even to take off shirts or jackets that make up the PPE system. There is, therefore, an optimum balance between thermal protection and comfort, to be found in the system of correct weight and correct number of layers of fabric in the system. The design of the garments can also make a difference to the overall comfort and the thermal protective

performance: loose-fitting clothing provides additional thermal protection due to air spaces between the fabric and the body. The fabric system must also be durable, in order to be financially viable to the employer who is kitting out his workforce with PPE. DuPont's offering of Nomex™ aramid fibres is an ideal candidate for making fabrics and garments which have inherent heat and flame resistance, which do not ignite, melt

or continue to burn in the event of an arc accident, which resist breakopen and which insulate the wearer from the incident heat energy. By offering the correct level of arc thermal protection balanced with comfort and durability, Nomex™ is a very interesting option for the employer who is choosing to protect his workers against the thermal effects of electric arc events. *NOTE: This article first appeared in a more extended form in Power Engineering Journal, vol*

About the Author:

Dr. Genevieve (Genny) Lavery is a PhD in Physical Chemistry, an MBA, a Member of the Royal Society of Chemistry, UK and she joined DuPont (UK) Ltd. in 1989. She joined Nomex® aramid fibre segment of Du Pont in 1998 and became technical development manager for Nomex® Protective Apparel, Europe, in 1999. Genny is currently responsible for development of Personal Protection Solutions for industrial workers, firefighters, military and police personnel and racing car drivers, and manages the DuPont Arc-Man™ testing facility near to Geneva.

## WELDING INCIDENT

We are indebted to one of our members for this detail on an incident that took place on his site (specific site detail has been omitted below). Please note the excellent Reporting procedure.

### ROOT CAUSE ANALYSIS REPORT

#### A. PROBLEM DEFINITION

##### System Objective

To ensure that all welding equipment is 'made safe' when not in use.

##### Problem Description

A 'live' TIG welding torch was left unattended and became dislodged from its storage position. The live torch came to rest against the 10-inch diameter discharge pipework of a pump which contained gasoline. The live torch burnt a 3 to 4 mm deep hole in this 7mm thick pipework which then caused local cracking and the escaping gasoline caught fire.

##### Impact on the Site:

Actual: Fire (Gasoline fed)

Potential: Major fire if related to a pressurised / LPG system.

#### B. CRITICAL EVENTS & CONTRIBUTORY FACTORS

##### Sequence of Events

On Monday, Services set up two welding workstations/shelters in the vicinity of a pump, to carry out modifications to a 3 inch diameter slops line. The welding shelter adjacent to the pump was difficult to erect due to the complexity of the pipework in this area.

Welding was carried out between 08.00 and 10.00 a.m. on Tuesday to the 3 inch diameter slops line. At 10.00 a.m. the TIG welding torch was hung up over the scaffold frame of the welding shelter and the welding generator switched off, whilst the Welder, Pipefitter and Firewatcher went for tea break. (see note 1)

On returning from tea break at 10.30 am the Welder and Pipefitter switched on the welding generator, which was located higher up on the adjacent roadway, in preparation for carrying out a further weld, however they first needed to bolt up a spool piece some

15 foot away in the other workstation/weld shelter prior to restarting in the original weld shelter. The Firewatcher went to cover another job and the Pipefitter and Welder commenced bolting up the spool piece. The pump was started at 11.02 am. to carry out a blend, but that for Operational difficulties was immediately closed down again. (see note 2)

At around 11.20 a.m. the Welder noticed flames coming from what appeared to be the original weld shelter adjacent to the pump - he immediately used a hand held powder fire extinguisher to put the fire out and reported the incident to his supervisor. Initial investigation revealed that the TIG welding torch had become dislodged from its storage position on the welding shelters' scaffolding frame, probably due to high vibration in the pump pipework, following the pumps recent start up and shut down, and had come to rest against the pump's discharge pipework. As the welding



.....Welding Incident continued

torch was 'live' and able to strike its own arc, it burnt a hole in the 7 mm thick pipe wall, which caused the escaping gasoline to catch fire. (see notes 3; 4; and 5).

Notes:-

1. It is custom and practise in the welding industry to temporarily hang weld torches over the nearest 'hook' e.g. a scaffold pole and switch weld sets on prior to welding, even though the weld job may not start immediately.
2. It is well known that the pipework attached to the pump vibrates badly on start up and shutdown.
3. Weld sets / generators are also used for grinding tools and temporary lighting and therefore often need to be switched on even when not actually welding, however the welding torches need to be 'made safe'.
4. This particular TIG welding set did not have the argon gas switched on at the time of this incident, so even though it was 'electrically live', it should not have been able to weld! It was what is known as a "scratch" or "touch start" set however, and has no fail safe switch fitted, like the HF (High Frequency) TIG sets have.
5. The team also wishes to address the issue of the basic, more widely used "stick" welding equipment's safety on site. The above type of incident is also possible with this type of set, and the team feel that a better overall safety management system should be adopted that addresses the control of switching all the weld sets on and off, immediately prior to welding commencing.

Critical Events

1. Weld generator switched on, making the "Scratch start" TIG torch 'Live' and left unattended for approx 50 minutes whilst team prepared another part of the job.
2. Type of welding equipment selected to carry out the task. ("scratch start" TIG torch).

Contributory Factor 1. TIG welding torch became dislodged from its temporary storage position and

contacted the live pipework below due to high vibration in the area following the start up and shut down of the pump.

## C. ROOT CAUSES (at least 1 per critical event)

This type of welding set has the ability to strike its own arc under the circumstances given. It is custom and practice to switch weld sets on well in advance of carrying out a welding job - this event was not foreseen as being a possibility in reality.

Other Recommendations:

Team believe that our current 'Safety Management System' for welding in general should be improved bearing in mind the custom and practice of welders.

It is our policy to have a firewatcher present when any "hot work" such as welding or grinding is being undertaken. It is the responsibility of the firewatcher to ensure the area in the vicinity of this hot work is safe.

The more normal, and widely used "stick" weld set and torch becomes a fire hazard / source of ignition as soon as the welding generators are switched on and the team recommends that consideration be given for the firewatcher's training to include, ensuring that the weld sets are switched on and off and the weld cables disconnected when not in use, "all as directly instructed by the welder".

This would ensure that the weld sets would only be switched on when needed, and only after the area has been confirmed safe at the actual work face, and in advance, by the welder. A major issue is that welding generators are also used to provide power to small tools such as grinders and in some cases for powering temporary lighting.

There is also a need to reinforce good working practise for welders in the form of tool box talks. Welders need to be reminded that all consumables, (welding rods), need to be removed and discarded as soon as welding has been completed. This will make it much harder for the welding torch to earth out and provide a spark / source of ignition. There have been recent examples of this happening on the site.

## "THE REACTOR COLUMN."

*Write to Mr. R with comments, problems, ideas or anything at all that you would like to be heard. The Editors may decide not to print a letter or part of a letter and letters may be edited. No letter will be published unless the name and address of the Writer is given to the Editors, but names and addresses will not be published without the writer specifically requesting it.*

Dear Mr R,

*Having read your comments about Chemical Protective clothing in the first issue of The Catalyst, it has prompted me to write about a story I was told on a recent visit to a well known Fire Service Training Centre in the U.K*

*The lecturer was talking about Chemical Protection (CP) suits, duration of wear, moisture retention, heat dissipation etc. all of which he had*

*been told on a sales pitch from a Company who supplies such equipment. He said these two representatives were going on how good their particular suits were and that they were the best for all the points mentioned above and after 30 minutes of this hard sell, he asked the reps if they had ever worn the suits they were trying so hard to sell. You guessed right the answer was a resounding "NO".*

*So he made them an offer not to be refused - "Would you like to have a walk around our smoke house wearing your suit". Quite happy that the suits they sell were all singing all dancing "point us in the right direction" came the reply. So donned in BA and the CP suits off they went to play in the smoke house. On leaving the smoke house and removing the suits these two reps certainly looked*

*like they were a promotion for Uncle Ben's boil in the bag rice. They thanked the instructors and left to either alter their suits or their sales pitch.*

*We will have to wait and see.*

*Yours etc.*

*Dear Reader,*

*In the last issue, I highlighted the problem of heat build up within a Chemical Protective Suit and in my column in this issue, one of our correspondents supports my argument. Criticism for the sake of criticism is not acceptable and one must also applaud positive movement and so I would like to tell you about what I consider to be a very positive development in Chemical Suits.*

*This Chemical Protective Suit, that I recently saw demonstrated, has a built in battery generated*



ventilation system. The suit is used in conjunction with respiratory filters which are suitable against particles or gas type 3. Depending on the exposure, this system will provide protection from liquids in the form of a jet or a spray, toxic and radiation particles within the parameters of the performance profile of the complete suit and respirator system.

A filter system is incorporated into the inside back of the suit, carried by a shoulder harness and secured by a waist strap. The filter is powered by 2 rechargeable batteries which suck in air from the outside through orifices into which chemical specific filters are fitted. Two sets of internal hoses are attached to the filter and these are directed towards the visor and the body, arms and legs.

The whole system, including batteries weighs about 4 kgs. and operating time starting with full charged batteries is claimed to be from 1 to 3 hours depending on the type of filter used and of course, work rate. Air capacity is adjustable between 200-400 litres per minute with constant air flow.

Obviously, as chemical specific filters are used, before use, you must know the chemical to which you are likely to be exposed.

What do you think - any comments??

Yours. Mr. R.

Dear Mr. R

Do the members of JOIFF realise that 240 volt fire alarm systems without a power source back up are illegal. This statement has been made following a careful examination of The Health and Safety (Safety Signs and Signal) Regulations 1996. Basically the Regs say that a fire alarm is an acoustic signal.

Interpretation 2-(1)"means a coded sound signal which is released and transmitted by a device for that purpose, without the use of a human artificial voice"

"Fire safety sign" means a sign (including an illuminated sign or an acoustic signal) which- 2-(1).(iii) gives warning in case of fire;

Schedule 1 Part 1 Para 8

Signs requiring some form of power must be provided with a guaranteed emergency supply in the event of a power cut, unless the hazard has thereby been eliminated.

I wonder if the HSE know what they have here. (I

understand that these Regs were EU Regs sent to the HSE for inclusion into British Law, I don't think that it has gone in what they are saying.

If these Regs are enforced across the board I wonder how many fire certificates will be "unlawful". I wonder if the Fire Services realise what is said within the Regs.

Yours etc.

Dear Mr. R

Just a quick question to get your readers thinking - and maybe even worried !!!

As Managers of Firefighters, for obvious reasons, we are required to train our personnel on every piece of equipment we use. Where do we record this Training and do our Firefighters sign to say they have received the Training ?

In the event of an investigation arising as a result of an incident, it won't be good enough to say that you remember that somewhere in the past, we did have a Training Session on the piece of equipment concerned.

Yours etc.

Dear Readers,

Thanks for your response to my comments on Chemical Protective Clothing in the last issue of The Catalyst. I hope that this discussion will continue and now here is another issue to set you thinking. The responsibility for dealing with Emergency Incidents is squarely placed on the shoulders of the responders, full time or part time, but how many are adequately trained to cope with the type of incident that can occur, even when best Safety practice is followed ? Many Organisation who in the past have had full time Fire Crews, have "down sized" and the number of Full time members in general has diminished or disappeared altogether. Twenty years ago, when the alarms went off on any shift, full crews would respond to the incident scene whereas today, in general, responders do not know how many will respond to the incident scene - or indeed how many will respond to the Station to get the vehicles rolling. And if the Full timers have difficulties, what chance have Part timers ? What sort of Emergency Response capability is this ? Many existing Full time Firefighters have been "on the job" for many years and are nearing retirement. In their time, even though the Training may not have been as formalised as it is today,

they were given the knowledge and now have the experience which enables them to tackle pretty much anything that is thrown at them, but what about the "new boys on the block"? Where is the continuity of competence ? Are adequate resources being made available to train them and give them the experience that will allow them to provide adequate and effective cover and leadership when they take over after the current Crews retire??

The Problem - with a capital "P"- that I identify, is not restricted to Occupational Fire Brigades. What about the Fire Industry in general ? Do you know the current official name and ownership of the Company that you have been dealing with for a number of years and that has been taken over once - maybe more than once - during the past 10 years ? Is the representative from that Company, the person that you have worked with and trusted for a number of years, now responsible to someone who previously was his/her Competitor but due to the Takeover, is now that person's Boss ? Was the reason that you did not deal with this Competitor because they did not provide the quality and service that you required ? If so, is the person with whom you have been dealing in the past now under the same regime of quality and service of the Competitor with whom previously you would not deal ?

And the products that you are buying - their quality is dictated by the Company that manufactures them and as we all know, the way things are going in business today, return to shareholders is the main criterion. So if for example, plastic is cheaper than stainless steel, is it the engineering input or the profit input that is the basis of the decision as to what to use ?

If this is how the Industry is going at present, what will be the situation in 5 or 10 years when all the "good guys" have retired ? Where is the continuity going to come from ? What is the cause of the development of the current situation ? And how can it be changed around - if it can be changed round ?

Let me hear from you. ....Mr. R

**JOIFF ACCREDITED TRAINING DATES**

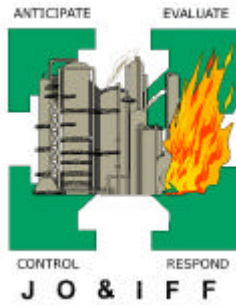
Places are available on all these Courses. All courses are JOIFF accredited. Please contact Fulcrum Consultants for further detail and to book places

Dates	Detail	Venue
September 27th	1 day Emergency Planning Course for Incident Controllers	ENRON Wilton
October 1st - 5th	5 day Crew Leader Course	IFTC Teesside
October 8th - 10th	3 day Auxiliary Firefighter Course	IFTC Teesside
October 11th and 12th	2 day Practical Firefighting Course.	IFTC Teesside
October 25th	1 day Emergency Planning Course for Incident Controllers	ENRON Wilton
November 7th	2.5 day Fire Extinguisher Instructor Course	Humberside Fire Brigade
December 10th	2.5 day Fire Extinguisher Instructor Course	Industrial Training Centre

## NEW MEMBERS *...continued from page 3*

Liaison with Fire & Rescue Service using specialist fire equipment and foam held on site. Support to Local Brigade in the event of any forest fires / fires in their area. The Wytch Farm oilfield in Dorset is the largest onshore oilfield in Western Europe. Few areas in Britain can be more environmentally sensitive than the countryside around this development, which is located in the heart of the Purbecks, a major tourist attraction in the south of England. Sites of Special Scientific Interest (SSSIs), Special Protection Areas, Ramsar sites, National Trust land, Heritage Coastline and National Nature Reserves are all features of this Area of Outstanding Natural Beauty. Throughout the development, great care was taken to protect the sensitive environment and community value of the Purbecks. The facilities are built in low profile and screened by trees to meet the strict visibility criteria.

**New Zealand Refining Company**, represented by its Lead Emergency Serviceman (Technical Team Leader) Dave Cox with Lead Emergency Serviceman Michael Henderson as the



nominated Deputy. Dave reports that the Refinery Emergency Services Department responds to all on-site emergencies including fire-gas release etc., all first aid injuries, site security issues and oil response to spills on the local harbour. There are 3 major Fire appliances, 1 dedicated Foam Tender and 1 Appliance for A Class Fires on site and a large stock of foam compound is retained. Training facilities for hot fire training, confined space rescue and other competencies are also maintained on site.

**Petrochemical Corporation of Singapore (Pte) Ltd.** represented by its Chef Fire Officer Hong Kim Pong. Hong is in charge of the Refinery Full Time Industrial Fire Brigade which comprises 3 teams with 6 person per team. The Company's Fire Team provides coverage to 6 downstream Companies.

**Pfizer Ireland Pharmaceuticals**, represented by its Safety Officer John Lambe, with Brian Aherne, Safety Officer, as the nominated Deputy. The Company has 4 fully trained crews of 10 members each, capable of dealing with all minor to medium incidents and initial response to any major incidents. The crew are familiar with fire, search and rescue, confined space entry rescue, dealing with hazardous substances both on and off site, pyrophoric liquids, first aid etc. The Emergency Response Team is equipped with all relevant fire and rescue equipment and Training is carried out at local Training Sites.

**Syngenta Ltd. (Huddersfield) U.K.**, represented by its Shift Safety and Environment Manager Frank Phillips with Paul Haigh, Station Officer as the nominated Deputy. The Company has a full time Fire Service operating a 2 pump station with 18 Firefighters and 6 station Officers. All are trained to County Fire Service Standard.

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

## JOIFF TRAINING NOTES

**J**OIFF accredited Training - primarily Site Specific - continued during the past three months and personnel in Blick UK have gained JOIFF accredited certification and ENRON continues to progress in their aim to have all their Emergency Team qualified as JOIFF certified Firefighters. Two new Courses have been accredited by the JOIFF Training Standards Group.

JOIFF accredited 1 Day Emergency Planning Course for Incident Controllers is aimed to provide insight into Emergency Incident Management from the operational to strategic level. The Course includes a number of exercises and as with all JOIFF Courses, Students are continually assessed and successful Students will receive a JOIFF Certificate

of Competence valid for 2 years.

JOIFF accredited 1 Day Course on Maintenance of Electrical Equipment in Hazardous Areas is aimed to raise operations and electrical personnel awareness of the issues surrounding the correct maintenance and inspection of electrical equipment in hazardous areas in both offshore and onshore oil and petrochemical environments. This Course, which covers current World Class Best Practice in this area, is open to all who could be involved in dealing with the overhaul and maintenance of electrical equipment in hazardous areas - it is not a pre-attendance requirement that students require electrical engineering qualifications. Successful Students will receive a JOIFF Certificate

of Competence valid for 2 years.

Training in the use of Fire Extinguishers is a requirement under the relevant Safety at Work Legislation in every Country and JOIFF is aware that there are many incompetent and positively dangerous Instructors in operation. We are finalising a Course for Fire Extinguisher Instructors which is aimed to train personnel who will provide safe, competent and knowledgeable Instruction. Persons satisfactorily completing this Course will have an awareness of best practice in the safe use of Fire Extinguishers as well as taking into account environmental and other considerations and they will receive a JOIFF Certificate of Competence with stated validity.

### *JOIFF Secretariat:*

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