



Picture courtesy of Merseyside Fire & Rescue Service / Chris Phillips

Integrated Risk Management Plans are plans for determining future fire & rescue service activity aimed at keeping people safe from fire and other emergencies, and protecting property, heritage and the environment.

**Effective integrated risk management planning** requires the correct balance to be struck between Prevention and Intervention. To achieve this it is necessary to have a clear understanding of the basic philosophies of risk management (i.e. risk assessment and risk control), and how these philosophies apply to the UK fire & rescue service's widening fire protection role.

A variety of fire & rescue service strategies can be employed to reduce risk to the community in general. However these strategies can be broadly grouped under two headings – Prevention and Emergency Intervention.

### Prevention

In terms of attempting to reduce risk from fire through a strategic fire safety approach, prevention aims to reduce the number of fires that actually occur, whilst at the same time providing a minimum standard of protection in those cases where a fire does occur.

Currently property protection from fire does not feature in the 'statutory' elements of prevention. Property protection from fire is a secondary and non-statutory issue which relies on the influence of the protection provided for people. Put simply, in protecting people you will as a consequence provide a degree of protection to property.

This position may however change in the not too distant future as the Government is currently considering the Sustainable and Secure Buildings Bill. Should this Bill become an Act, it will serve to amend the Building Act 1984 to provide for an element of property protection from crime



## FBU Policy – Annual Conference 1999 Resolution 39 COMMUNITY FIRE SAFETY

Following the success of Community Fire Safety, Conference demands that this must not result in the reduction of Local Authority, Standard Spending Assessment or Grant Aided Expenditure, but should result in increased funding from the Government to maintain the effectiveness of both the firefighting and fire safety arms of the Fire Service in the United Kingdom. **GLOUCESTERSHIRE**  
**As amended by FIFE & LONDON**

and to improve the sustainability of buildings. However whether this principle of protecting property will be extended to encompass fire protection issues remains to be seen.

Preventative strategies relating to fire matters cover the key areas of:

- Community Fire Safety (CFS);
- Consumer Safety;
- Statutory Fire Safety & Fire Law Enforcement;
- Building Regulations & Standards; and
- Arson Control.

Successful preventative strategies are both resource dependent and resource intensive. Prevention strategies which are statutorily based also require a high degree of training, technical expertise and skill for and from the personnel who administer and deliver them on behalf of their enforcing authorities. Such strategies can be long-term in nature, and as such effective prevention has long term implications for fire & rescue authorities. Individual strategies cannot be viewed in isolation. The reality is that achieving lasting success in any one of these areas is dependent on all other areas.

### Emergency Intervention

Effective emergency intervention strategies support effective prevention strategies. They must also recognise and support statutory health & safety duties. Intervention cannot be viewed as an alternative to prevention, in the same way that prevention cannot be viewed as an alternative to emergency intervention.

Effective intervention involves effective planning of emergency response strategies in support of preventative strategies and aimed at minimising the risk to the community and the risk faced by Firefighters who attend incidents as part of an emergency response.

### As Safe As Houses?

In 1990, and in response to a series of multi-casualty fatal fires that had occurred in dwellings in the late 1980's, the Fire Brigades Union produced a discussion document entitled 'As Safe As Houses'.



The document predated by many years not only the integrated risk management planning system, but also the Audit Commission Report which recommended the shift to risk-based fire cover planning.

*As Safe As Houses* set out what was arguably the first systematic, risk-based methodology aimed at reducing/controlling risk from fire. The document was constructed around a series of philosophies relating to the key factors in preventing future fire deaths in the home environment, hence its title. These philosophies relate directly to the preventative and emergency intervention elements of an effective integrated risk management plan. The document was aimed primarily at domestic dwelling or home fire safety and so did not include reference to the key area of fire law enforcement.

### PHILOSOPHY 1

#### Prevention is Better than Cure – Community Fire Safety & Arson Control

**The philosophy that prevention is better than cure places almost total reliance on meeting the fire safety educational needs of society in this respect.**

For this philosophy to succeed the population in general, and in particular those groups identified as being most at risk from fire, must be aware of those risks. They must be able to identify the problems that cause fires and fire fatalities, particularly in the home. They must understand how to remedy such problems, and importantly they

must be committed and able to remedy the problems. This is best achieved through direct contact with the fire & rescue service, and direct involvement with local authorities and local communities, government bodies and voluntary/charitable groups.

UK Fire Statistics consistently show that the groups most at risk from dying in a fire are the very old and the very young. Additionally fire deaths disproportionately affect the 'socially disadvantaged' sectors of UK society bands. The two most at risk age groups – the young and the old – are very much in the hands of third parties in relation to their fire safety. The very young will presumably be in the care of adults, normally their parents/guardians. At the other end of the spectrum the very old may not be able to comprehend or indeed afford the fire safety measures suggested in any fire safety education programme.

**It makes little sense to educate a person of whatever age to identify a problem if they are unable to remedy it because of a lack of independent control over their lives, a lack of understanding, or a lack of finance.**

Picture courtesy of Firepix International



No matter how 'fire-aware' the young may be through the educational process at school, if their parents/guardians remain unconvinced of the teaching or possibly even unaware of it, then the time spent on educating the child could almost be considered to have been wasted. Children live what they learn, and particularly what they learn as a result of the example set by their parents/guardians in the home. To be effective across all socio-economic groups, particularly those identified as being most at risk from fire, Community Fire Safety (CFS) strategies must where possible target children at the same time as their parents/guardians. This can be achieved if fire safety education through schools actually encourages parents/guardians to become involved with their children in joint fire safety awareness programmes.

At the opposite end of the spectrum, it is of little practical use to tell a pensioner that their heating apparatus is potentially dangerous if they are then left with a choice – as a result of lack of finance – of either not heating their home or possibly being killed in a fire. Linked very closely to the educational process for the elderly is the need for a properly funded aid programme involving both central and local government departments, and voluntary/charitable groups.

Since the FBU published the above philosophy in 1990, the Government has recognised the need for Community Fire Safety to be driven from the centre. It has entered into a number of major community safety initiatives, including publishing its own community safety strategy document 'Safe As Houses' (the FBU Document was entitled 'As Safe As Houses') and creating the National Community Fire Safety Centre. It is about to place a duty upon all fire & rescue authorities in England and Wales, through the proposed Fire and Rescue Services Bill, to undertake community fire safety programmes.

Community Fire Safety education is not the panacea for all fire safety problems. It provides no 'quick-fix' solution for reducing deaths and injuries from fire. CFS is undoubtedly important fire safety work, but to achieve maximum effect it must first be carefully targeted on the most vulnerable.

Personnel delivering CFS must be well trained and confident in both their abilities and limitations. Whilst organised leaflet drops have the potential to hit large proportions of the community relatively easily, direct contact with the fire & rescue service through CFS initiatives will always be central to lasting success.

## Arson Control

Arson Control programmes are relatively new in fire & rescue service terms, and have only really been viewed as a national issue since 2001. As with CFS programmes, arson reduction programmes must be developed as part of an overall strategic community safety plan which identifies and develops local tactical initiatives to deal with the growing problem of arson and deliberate fire-raising.

These two programmes are inextricably linked and cannot be separated. It is clear statistically that those areas where CFS programmes are needed because of poverty and social disaffection are exactly the same areas where crime and arson control measures are needed.

In April 2001 the government created the Arson Control Forum (ACF) to lead the national drive against arson in all its many forms. The work of the group has been linked with other legislation which the Government has introduced such as the Crime and Disorder Act 1998 (as amended), which places fire & rescue authorities under a statutory duty to consider the effects of their day to day work upon crime prevention issues.

The ACF has launched a number of initiatives to reduce the crime of arson. These are however likely to be long term measures that may not demonstrate a safety return for some years. To date, the work of the Arson Control Forum has not produced any notable successes in driving down arson related fire levels, although this lack of success is also in all probability related to issues which are not necessarily caught within the ACF's remit.

## EMERGENCY INTERVENTION WARDEN CONTROLLED PREMISES

*Firefighters (Control) received a call to a fire in storage heater. The fire was in a warden controlled premises but the warden was not in attendance. When fire & rescue crews arrived they discovered that the building was smoke-logged. Firefighters wearing breathing apparatus rescued one bedridden occupant who was treated for smoke inhalation. 2004*



## EMERGENCY INTERVENTION FLAT FIRE

Firefighters (Control) received a call to a fire in a second-floor flat. On arrival at the incident fire & rescue crews found that two people had already jumped from a window and multiple persons were still in the building. Firefighters rescued two residents from the second floor by ladder and led a further three residents to safety. In total five people were taken to hospital. One man died as a result of his injuries. 2004

## FIRE INVOLVING LIFT RESCUE

Fire & Rescue Control received a call to a person trapped in a lift. When Firefighters arrived at the incident they found smoke issuing from the building. An armchair had been deliberately set on fire adjacent to the lift, and had trapped a disabled man who was in the lift. The man had made the emergency call on his mobile phone. He was rescued by Firefighters and treated on the scene before being transported to hospital. The man survived. 2004

Arson is not purely a fire & rescue service issue and must be approached in a fully developed partnership approach flowing from a comprehensive and strategic plan. One of the main problems for the ACF is that it operates in a vacuum caused almost entirely by the method of its creation and the lack of any common agenda with the other fire safety groups operating at a national level. The ACF must become far more integrated into main stream community safety planning under the common title of fire prevention.

In the same way, and in order to achieve lasting success at a local level, the problem of arson must be integrated with other local fire & rescue service and crime prevention initiatives and fully resourced accordingly.

### PHILOSOPHY 2

#### Detection – Community Fire Safety

**Secondly, the philosophy that if the educational and preventative measures fail and a fire occurs it should be identified or detected early enough for the occupants of the dwelling to be alerted, and to respond to the warning and escape with minimal risk to themselves.**

This philosophy is based on an assumption that both the education programme and the subsequent measures put in

place to prevent fires occurring will one day fail and a fire will occur. The fire must be detected at a very early stage in its growth by an electronic device which will sound an alarm and give the occupants adequate time to respond and escape before their escape routes are rendered impassable.

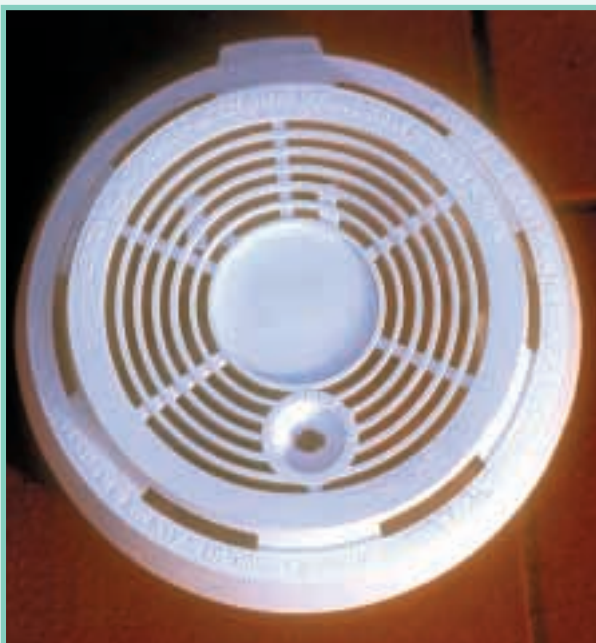
This is the smoke and/or heat detector option. However the detector/alarm merely identifies that a critical situation is occurring and attempts to warn the occupants of the premises of the situation. In short it buys the occupants time – nothing more.

Should the occupants not hear the alarm, or make proper use of the time, or be physically unable to make use of the time that the detector/alarm has bought them, they are likely to be no better off in real terms than somebody who has not had the benefit of an early warning.

The success of the detection option revolves around the system being correctly planned, sited and maintained (particularly in single dwellings), and on the mental and physical well being or attributes of the person(s) receiving the early warning. If those individuals, due to age or physical/mental infirmity, or incapacity through for instance drink or drugs, are unable to react promptly and properly then the detection option will have failed. Additionally in the case of the most at risk age groups, the old and the young, the technology must serve not only to warn them but also to warn the carers, neighbours or any other person or group able to render rapid assistance.

Detection systems utilising the domestic electricity supply are available which reduce the need for maintenance and to an extent the need for battery replacement, however they are more expensive to fit than a battery operated smoke/heat detector and alarm. In recent years the Building Regulations in England, Northern Ireland and Wales and the Building Standards in Scotland have been amended to require all new and extended domestic buildings to be fitted with permanently wired and interlinked smoke detectors. This is clearly a long term fire safety strategy, but one which is already beginning to bear 'statistical' fruit.

The reality remains however that the groups most at risk from fire are the socially disadvantaged and the elderly, and these are the very groups least likely to own their own homes. There is a clear need to continue to develop strategies which target these groups for the fitting of smoke alarms, and to provide them with one if they cannot afford to do so. In the final analysis the fire detection philosophy, which is a relatively low cost option and easily put into place, must be carefully exploited by the fire & rescue service to the advantage of those who are most likely to benefit from it.



Picture courtesy of Firepix International

## PHILOSOPHY 3

### Reduce the Fire Load – Consumer Safety

**Thirdly, the philosophy that by reducing the fire load and flammability of contents and structure, the ability for a fire to grow and spread rapidly to the point where it poses an immediate risk to life is significantly reduced.**



This requires a two-fold approach involving central Government; firstly to legislate effectively to achieve a reduction in the ignitability and flammability of household contents, e.g. furnishings and bedding, and secondly, to legislate to ensure that in new build or extended/altered domestic property the structure of the premises is such that it will neither take or spread fire easily and will not therefore collapse prematurely.

Responsibility for consumer fire safety rests with the Department of Trade and Industry (DTI) who oversee a number of consumer protection fire safety regulations. These relate to the sale of fireworks, foam filled furnishings and the flammability of children's nightwear.

Consumer safety matters, as with many statutes relating to fire safety issues, are extremely long term investments in fire safety. In the case of the Furniture and Furnishings (Fire) (Safety) Regulations 1988 it took 10 years for them to demonstrate their effectiveness in reducing fires and deaths

### **FBU Policy – Annual Conference 1994 Resolution 76 – HEALTH AND SAFETY**

Conference condemns the failure of the Fire Service at almost all levels to respond positively to the challenge of new Health and Safety Regulations. Conference demands that the Fire Service implements appropriate and systematic risk assessments, with proper levels of consultation, guidance and training. Conference declares that unless sufficient progress is made on this matter by Conference 1995 then progressive sanctions will be applied against appropriate activities not subjected to agreed risk assessments. **DEVON**

## **EMERGENCY INTERVENTION FLAT FIRE**

*An emergency call was received for a fire in a seventh-floor flat. Six fire appliances and more than 30 Firefighters fought the blaze, which gutted the property. One man was taken to hospital with burns and more than 100 residents had to be evacuated.*  
**2004**

and injuries from fires involving foam filled furnishings. It is necessary therefore for a close relationship to be maintained between the Government department with responsibility for the fire & rescue service and the Government department with responsibility for consumer fire safety. This relationship is necessary to both monitor what exists now and to plan for future regulation.

The philosophy does not address the 'at risk' groups in the lower socio-economic groups of our society who are likely to live in sub-standard or older accommodation and are not likely to be able to afford the new generation of fire retardant furnishings. Recently the effectiveness of these Regulations has also been threatened by illegal furniture imports from Eastern Europe and door to door selling of unsafe furniture. As a result, Ministers at the Department of Trade and Industry held meetings with representatives of HM Customs and Excise, Trading Standards Departments and fire service groups to discuss the issue.

The Government have legislated to prevent the second hand sale of the older non fire retardant furnishings, and plan greater enforcement activity against the sales of such furniture. However with the entry into the EU of some of the countries producing such furnishings it is likely that this trade will still continue and people will therefore remain at risk simply because of their economic circumstances or reduced purchasing power.

The second approach is for central Government to actively support local authorities and private landlords in measures to upgrade their domestic stock/property to meet both current building regulation standards and power supply supplier standards. For private domestic occupiers, particularly the elderly, a similar grant facility should be made via the local authority as is currently done with property insulation for energy conservation purposes.

## PHILOSOPHY 4

### Fire Containment – Statutory Fire Safety and Building Regulations

**Fourthly, the philosophy that at some time there will be a failure of the first three philosophies either partially or totally. A fire will occur and will pose a grave danger to the lives of occupants. Such a fire must be confined to a predicted area for a defined timescale during which the occupants can make their escape. During this**



### period neither the escape routes nor the building must suffer premature collapse.

This philosophy can be best summed up as the containment of a fire to a predicted area by the use of fire resisting walls, floors, ceilings and doors. As such it is heavily dependent upon the structure of the premises being both able to meet the criteria required to achieve the design performance, and being maintained at that level.

### Legislative Fire Safety Enforcement

Fire & rescue authorities in the UK have been involved in fire safety enforcement in the workplace since the introduction of the Factories Act 1961. In that time and through their efforts they have ensured that deaths and injuries due to fire in the workplace, other than those for which an industrial or commercial process is responsible, have been reduced to the point where they rarely feature in workplace injury statistics.

Fires do still occur in the workplace, but fortunately, and due to the enforcement efforts of fire & rescue authorities and the Health & Safety Executive, these fires are at a minimum. Despite this success rate fire safety enforcement programmes have been gradually reduced throughout the service in order to switch resources to Community Fire Safety programmes.

The Regulatory Reform Order (RRO) (**Section 1 page 8**) offers one of the most significant advances in fire safety legislation for over 30 years, and certainly since the advent of the Fire Precautions Act in 1971. The RRO will aim to consolidate in one piece of fire safety legislation, and under one enforcing authority – the fire & rescue authority – the many strands of fire safety legislation contained in numerous different fire safety statutes.

The RRO and the recently issued Fire Precautions Act – Circular 29 (advice on planning fire safety legislative inspection and enforcement programmes) gives fire & rescue authorities the opportunity to write their own fire safety intervention and enforcement programmes. However in order to support the wider prevention role of the fire & rescue service these programmes must be based upon accurate statistical data capture and interrogation. This will enable effective risk reduction through accurate targeting of resources.

Fire safety intervention and enforcement programmes need to be fully integrated into the overall IRMP planning process as part of a complete preventative strategy. Unfortunately, Fire Precautions Act Circular 29 gives limited advice upon this issue. The advice is based solely upon life safety risks, to the potential exclusion of property safety measures. The Circular sets no performance benchmarks for fire & rescue authorities.

In terms of securing risks at their present levels and reducing or driving down fire risks wherever possible in a non-domestic situation, only the RRO offers fire & rescue authorities the statutory 'teeth' to do this. However one remarkable omission from the RRO is that of any duty to be placed upon fire & rescue authorities to develop and publish a fire safety enforcement strategy. In fact there are currently no proposals to measure or 'prove' the success or otherwise of the legislative fire safety efforts of fire & rescue authorities.

### Crown Premises

Crown Premises 'immunity' places an artificial barrier in the way of a common fire safety strategy, or indeed, a common health and safety strategy across the UK. In terms of Crown Premises and Crown Immunity there really is no longer any justifiable reason for not abandoning this concept. The problem of who should assume ultimate responsibility if

## EMERGENCY INTERVENTION - ALARM SOUNDING

*A caller on a mobile phone contacted Fire & Rescue Control and stated that they could hear a fire alarm operating in a house. Firefighters (Control) mobilised two fire appliances and an Aerial Ladder Platform to the emergency call. The first fire & rescue crews to arrive at the fire were confronted with a scene of panic. Two residents were on the sill ready to jump; one of them had attached a line to themselves. The fire was in a multi-occupancy house on 3 floors. Numerous persons were reported as being trapped in the building. Firefighters rescued six persons from the third floor. Ten persons and one dog were rescued via ladders; fourteen were led to safety by foot. In total 6 people were injured and 4 were taken to hospital. There were no fatalities. 2003*

Crown Immunity is withdrawn has apparently proved the main stumbling factor for the Government in this respect.

At present fire & rescue authorities are only asked to 'be aware' of the contribution that Crown Inspectors can make to their IRMP plans. However, in authority areas which have large areas of Crown Premises and may have Defence Fire Service appliances and personnel forming part of their existing overall emergency response arrangements there is a clear necessity for a far higher level of consultation than a simple chat with the local Crown Inspector.

If the situation of this artificial demarcation of safety responsibility persists then fire & rescue authorities that have Crown Premises and MoD premises within their area will need to have a close relationship with both the Defence Fire Services (DFS) and the Crown Premises Inspection Group (CPIG). The Government will also need to establish a clear relationship between the DFS, CPIG and Fire & Rescue Authorities at a national level.

## The Building Regulations and Building Standards

The Building Regulations in England, Northern Ireland and Wales and the Building Standards in Scotland have had a substantial and identifiable long term influence upon the risk of fire, the development and spread of fire, and the safety of Firefighters. They offer a long term solution to many fire safety problems in terms of the built environment and the construction of buildings. They are an extremely important, but often overlooked, fire safety factor.

When this option is properly implemented it can provide significant levels of long term protection to occupants from fires that occur in another part of the premises. However, it is entirely dependent on occupiers not downgrading those measures provided, and also understanding that such measures will not necessarily protect them from a fire that occurs in the same room as they are.

The advice that fire & rescue authorities give under a Building Regulations or Building Standards consultation must be pertinent, accurate and most importantly, pragmatic and based upon reliable data. Local level advice and negotiations, important as they are, revolve around the Building Regulations/Standards as they are written and the duties that they impose.

Whilst it is undoubtedly important that at a local level the relationship between the fire & rescue service and the Building Regulations bodies is maintained and developed, it is equally important that the relationship at a national level is maintained within the ODPM so that the lessons learned at a local level can be transferred to the national level.

### **FBU Policy – Annual Conference 1995 Resolution 54 – RISK ASSESSMENT**

Conference demands that a national standard be agreed and adopted by the CFBAC Committees in Risk Assessment, to ensure the health, safety and welfare of our members. **STAFFORDSHIRE**

The proposed review of the Building Regulations in 2004 offers the most significant opportunity in decades for a real and proper review of building fire safety in the light of current knowledge and experience. The Building Regulations and Building Standards, linked to Community Fire Safety, arson reduction, consumer fire safety and fire & rescue service legislative inspection and enforcement programmes are all parts of an overall preventative strategy and must be seen and developed as such.

## PHILOSOPHY 5

### Fire Suppression & Extinguishment – Community Fire Safety, Statutory Fire Safety and Building Regulations

**The fifth philosophy offers two possible variations; that either a fire will occur and the dwelling is fitted with automatic fire suppression measures that will rapidly detect the fire in its incipient stages and then suppress and/or extinguish it so that the immediate risk to life is removed, or, the fire will be detected by the occupant who will then use a fire extinguisher themselves to suppress or extinguish it.**



## Sprinkler Systems

The first variation on this philosophy is not particularly new but has come to the forefront recently due to technological advances in domestic sprinkler installations. The new build property is fitted with a domestic sprinkler system working from the town mains water supply or, the existing property is retro-fitted with such a system.

The system would be capable of detecting a fire anywhere in the premises by the heat generated in its incipient stages. The system would then sound an audible alarm and deliver a fire suppression agent (e.g. water) on to the fire to suppress or extinguish it whilst the occupants make their escape.



Whereas the second philosophy (detection) was potentially flawed by the fact that it only served to warn the occupants, and the third and fourth philosophies (reducing fire load & fire containment) were both costly and long term in effect whilst not necessarily protecting the person in the room where the fire originated, the sprinkler philosophy offers on the surface a fairly low cost alternative whilst providing a significant degree of fire safety.

### **FBU Policy – Annual Conference 2002 Resolution 32 DOMESTIC SPRINKLERS**

This Conference calls on the Executive Council to bring forward through the Central Fire Brigades Advisory Council changes in building regulations to make it a requirement of all new residential builds that domestic sprinkler systems be installed.

#### **CORNWALL**

**As amended by WEST YORKSHIRE & DEVON**

However, it does not offer complete safety from fire because like most mechanical devices (which in the end analysis is what it is) it is dependent upon being maintained properly and not being abused by the occupants or their agents. It must also be protected from the effects of the weather and/or the failure of the domestic water supply, and to prevent accidental operation the rating of the sprinkler heads has to be set at a relatively high temperature.

Nonetheless this method of protecting the occupants of domestic premises from the results of their own or some other agency's folly has much to commend it. As with all the other preventative strategies however it is entirely dependent upon the financial resources being made available to implement and fund such programmes.

Since the sprinkler philosophy was first published in 1990 there has been a substantially developing interest in domestic and residential sprinklers as fire safety measures. The vision of the FBU and others in recognising the potential of domestic and residential sprinklers appears to have been fully vindicated. More and more domestic and residential sprinkler systems are now being fitted, often as a relaxation measure agreed with local fire & rescue authorities for Building Regulations and Standards.

The use of such systems is now being actively promoted, with fire & rescue authorities often leading on the use of them. The pressure on the Government to introduce building regulations that require the use of domestic or residential sprinklers is growing. It is likely that there will be further recommendations for their use following the current review of Approved Document (B) of the Building Regulations. The Office of the Deputy Prime Minister (ODPM) has also sponsored a research programme at the Building Research Establishment into the effectiveness of residential sprinklers. The results of this research programme have confirmed the fact that these systems do constitute an extremely viable life saving fire safety measure.

Statistical evidence of the effectiveness of domestic and residential fire sprinkler systems is already beginning to register. The latest available information relates to calendar year 2002 and is still provisional. However in that year,

fire and rescue services in the UK attended 22 fires in dwellings equipped with water sprinklers. There were no deaths reported. In the same period, there were 64,613 fires in dwellings not equipped with water sprinklers, and 443 deaths.

### **Fire Extinguishers**

The second variation on this philosophy is one where the occupants detect a fire and then extinguish it with a fire extinguishing agent. To be effective this approach depends entirely upon the ability and knowledge of the occupant in using the appropriate fire extinguisher properly, effectively and in time whilst not jeopardising their own safety. This is often easier said than done and as such this approach can only really apply to the adult middle age range group occupant.

The cost of portable fire extinguishers has fallen and their availability to the person in the street has improved dramatically, so much so that they can now be readily purchased from most DIY retailers. As a result more and more house owners are purchasing portable fire extinguishers for their own protection.

To be effective portable fire extinguishers must be purchased in conjunction with an automatic fire detector and alarm so that the occupant is in the position of dealing with a fire that is in its earliest stages of growth. Fire extinguishers are designed purely to deal with fires in their earliest stages; at the point when a fire is small and can be safely tackled, and not when it has reached or is reaching major proportions.

The FBU would not wish to appear to discourage people from providing a fire extinguisher in their home, but we would urge that they ensure that they are buying the correct type and capacity extinguisher for their home and the associated fire risks within it, and secondly that they know how to use it and when not to use it.

### **A Summary of the Philosophical Approach**

It is clear that as a strategy prevention has to be viewed and developed in the broadest context and in conjunction with an extremely wide range of organisations and bodies. Not all prevention issues can be dealt with solely by the fire & rescue service. Whilst the service may identify a fire safety problem, the ability to resolve that problem may not rest with them, but with other local authority and national government service providers and associated groups, including charitable groups.

### **EMERGENCY INTERVENTION – FLAT FIRE**

*Fire & Rescue Control received a call from a member of the public to an alarm sounding in a flat. Two fire appliances were mobilised. The building was some distance from the nearest access point for the fire appliances and up a steep bank. The fire & rescue Incident Commander and a Breathing Apparatus team proceeded on foot to investigate whilst a second crew fed a hose reel up the bank. A strong smell of burning was apparent at the flat and smoke could be seen through the letter box. The BA team forced an entry and one person was rescued. 2004*

The 2002/3 British Crime Survey (BCS) estimates that the statistics produced by the Fire Research and Statistics Division of the Office of the Deputy Prime Minister (compiled from returns submitted to them by fire & rescue services) only actually represent 22% of all fires that occur annually.

This estimate indicates a very high near-miss ratio of total fire incidents compared to fire incidents actually identified. Put simply, according to the British Crime Survey the fire & rescue services in England and Wales are only dealing with the tip of a very large iceberg.

The 78% of fires which are not identified in the annual fire statistics, coupled with the 22% that are, emphasise the current limited effect that education has in preventing fires occurring in the first instance. It is clear that additional resources must be employed and targeted effectively in the area of Community Fire Safety for this strategy to begin to realise its true potential.

A closer examination of fires affecting one at-risk group gives further cause for concern over adopting a purely philosophical approach to prevention. Fires in care homes have attracted substantial publicity recently as a result of the fatal fires at the Rosepark Care Home in Lanarkshire and the Old Rectory Residential Care Home in Pembrokeshire. However these tragic incidents aside, between 1997 and 2002 there were 935, 940, 1041, 851, 738 and 780 fires respectively each year in care homes for elderly people in England alone.

This level of fires has occurred despite the perceived intrinsic 'fire-safety' of these premises. A further major concern is the dramatic fluctuations over this period by brigade for fires in these premises, with only two fire & rescue authorities being able to demonstrate a progressive year by year fall in these types of incidents.

**Because none of the fire prevention philosophies, even when integrated successfully, guarantees 100% fire safety for the householder, occupier or property, successful emergency intervention by the fire & rescue service to save life and property remains a critical factor in effective integrated risk management planning.**

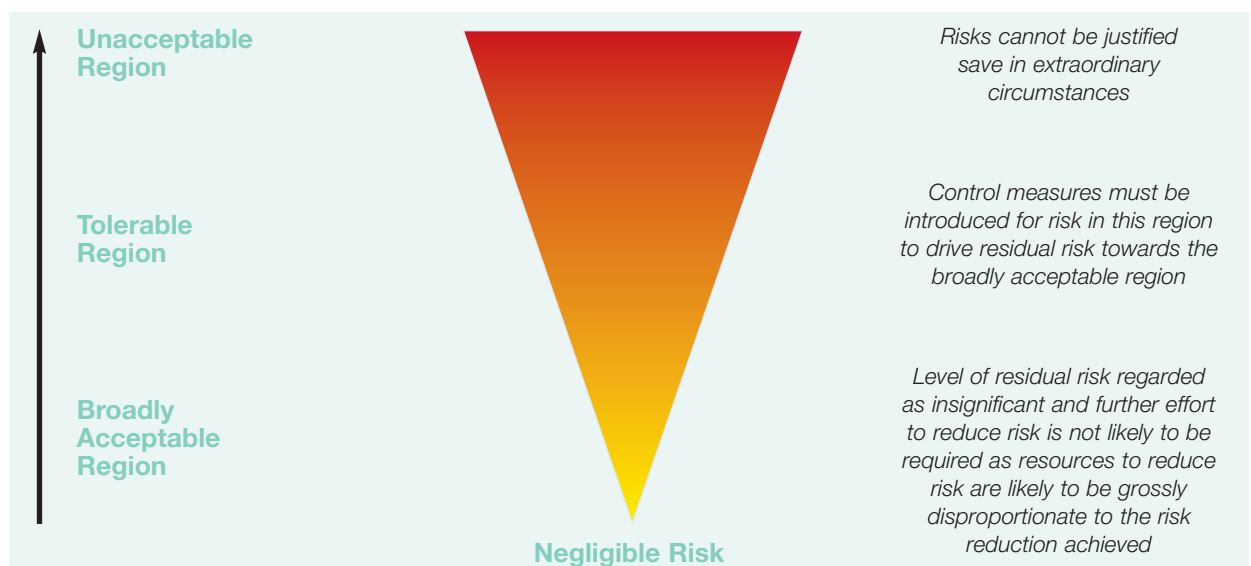


## The Management of Health & Safety at Work Regulations (MHSAW)

The Management of Health and Safety at Work Regulations 1999 (as amended) set out the responsibilities that an organisation carries to manage the risks to its employees and others resulting from their activities. There is a legal requirement to risk assess all operations to ensure that the risks are first of all understood, and then eliminated or reduced. Any residual risk must then be managed to ensure that risks are effectively reduced to As Low As Reasonably Practicable (ALARP).

**Risk is defined as the product of the likelihood of an event occurring and the consequences should that event occur.**

The Health & Safety Executive has developed an approach for helping to determine the acceptability of risk. This approach is known as the 'Tolerability of Risk' (ToR) framework. The ToR framework sets out criteria for determining whether risk is broadly acceptable, tolerable or unacceptable. The Tolerability of Risk framework delineates these three regions of risk, as shown below.





## EMERGENCY INTERVENTION PROPERTY FIRE

*Firefighters (Control) received an emergency call for a roof on fire. On arrival fire & rescue crews discovered that both the first floor and the roof were well alight, with a real danger that the fire could spread to adjacent properties. The fire spread had forced one person onto the roof from where he was rescued. One casualty who was rescued by Firefighters was treated for smoke inhalation and another was taken to hospital by air ambulance.*

**2004**

If something is very likely to happen, and the consequences are predicted as being very bad if it should happen, then the risk can be considered to be unacceptable (or intolerable). Alternatively if something is unlikely to happen, and even if it should happen the consequences are not predicted as being serious, then the risk may be considered to be broadly acceptable (or even negligible).

Between these extremes is a region where the risk is tolerable, but attempts should be made to reduce it to a level that is 'As Low As Reasonably Practicable' (ALARP).

### How does Risk Management Work?

Risk Management is a systematic process which aims to predict the future. Having predicted how 'risky' the future looks, this process then seeks to determine the measures that are necessary to reduce the predicted risk to a level that is acceptable.

Having predicted what is **likely to happen** from the risk assessment, it is necessary to look at **what else can be done** to lower that prediction. Where risks can be lowered or '**managed**' using '**control measures**' that are available at a reasonable cost, these control measures should then be applied.

Predicting the future is not (indeed cannot be) an exact science in all but the simplest of situations i.e. if a pencil is dropped it can be predicted with almost 100% certainty that it will fall to the ground due to basic knowledge of the effect of gravity.

Many risk assessments use a numerical assessment (**Quantitative Assessment**) to determine risk levels and if they are too high. Even before the introduction of the MHSAW Regulations, the 1985 Standards of Fire Cover followed a risk assessment methodology using a simple points formula in an attempt to determine and control risk to property from fire.

Under the 1985 Standards property was graded into different areas according to the results of a numerical assessment of risk. Points were awarded to buildings based on their construction, the number of floors they had, how close they were to other buildings, and what they were used for.

The points were then added up and the resulting total score was used to determine the risk category for an area. A-risk

was the highest risk category, followed by B-risk, C-risk, D-risk and Remote-rural risk.

The predicted risk in each area was then managed (or controlled) by assigning different emergency responses to these different risk areas. A larger and faster emergency response was assigned to higher risk areas and a smaller and slower emergency response was assigned to lower risk areas.

### Integrated Risk Management Plans & Risk Assessment

Integrated Risk Management Plans are risk assessments and their associated control measures on a massive scale. They have to take into account numerous factors, many of which may appear to conflict with one another. However in the final analysis an IRMP attempts to predict the future in exactly the same way that any risk assessment attempts to predict the future and how to respond to it. The primary risk to be managed by the fire & rescue service i.e. fire, can be reduced by a combination of:

**Preventative Strategies** – which aim to reduce the probability of exposure to the hazard (the fire) or to protect against the effects of exposure to the hazard;

- Community Fire Safety (CFS);
- Consumer Safety;
- Statutory Fire Safety & Fire Law Enforcement;
- Building Regulations & Standards;
- Arson Control.

and

**Emergency Intervention Strategies** – which aim to reduce the consequence of exposure to the hazard.

The Risk Management process involves a number of stages:

- Identification of hazards;
- Analysis of relevant data and information;
- Assessment of the risk of the adverse event occurring;
- Identification of control measures;
- Implementation of the selected control measures.

### FBU Policy – Annual Conference 1996 Resolution 40 – ASSAULTS

Due to the ever increasing assaults on our members this Conference demands that the Executive Council pursue with Employers/Home Office nationally better and non-confrontational equipment, procedures and systems of protection for Firefighters from physical assault in the course of their duties, and in particular, Regional and Brigade Officials shall seek to reinforce through the local news media our policy on neutrality in regard to civil disturbances and reaffirm to the General Public that the role of the Fire Service is purely humanitarian and not that of law enforcement.

**HUMBERSIDE. As amended by WEST YORKSHIRE, CLEVELAND and TYNE & WEAR**



## EMERGENCY INTERVENTION AFA via CALL HANDLING CENTRE

*Firefighters were mobilised to an Automatic Fire Alarm operating in a school in the early hours of the morning. The first crews to arrive were confronted with a severe fire in the central classroom area. Additional fire appliances and an Aerial Ladder Platform were immediately requested to attend. Initially two fire & rescue crews wearing breathing apparatus gained entry into the school to fight the fire. The fire was found to involve 2 classrooms and the central corridor area, and had broken through the classroom ceilings into the large undivided timber-trussed roof void where it was spreading rapidly; there was heavy smoke-logging of all remaining classrooms and corridors. Crews working from ladders and the Aerial Ladder Platform used hand tools to break into the roof void either side of the fire to contain its spread. In total 10 BA, five fire-fighting jets and 1 Aerial Ladder Platform Monitor were required to bring the incident under control.*

2003

Hazards are often difficult to define accurately. They may be physical, psychological, operational, systemic or procedural. In order to manage the risk cycle fully, not only must all elements of the risk assessment process be put in place, but the hazard identification process must be undertaken rigorously to ensure that all significant hazards have been identified.

The risk assessment must also be 'suitable and sufficient'. This means that the degree of rigour needed in the assessment of risk should match the actual level of risk. In cases of minor injury or property damage, it would usually be sufficient for competent experts to carry out an assessment based on their experience.

At the other end of the spectrum, in the case of very high risk, a combination of **quantitative** (numerical) assessment and **qualitative** assessment (expert judgement) is more appropriate. In this respect, the expert knowledge of Firefighters is essential to the targeting of appropriate control measures and demonstrating that all risks are reduced 'As Low As Reasonably Practicable' (ALARP).

### Adopting a Risk-Based Philosophy

The IRMP philosophy is to provide a systematic process for planning and prioritising fire & rescue service activity under an Integrated Risk Management Plan. However, to determine the priority for each element in this approach it is necessary to consider the problem of fire deaths and injuries, other deaths and injuries, and fire losses from the point of view of **risk**.

Since people and systems are fallible, preventative strategies alone will not reduce risk to ALARP, and effective emergency

intervention remains the final and critical control measure aimed at protecting the public, Firefighters, property and the environment. This principle is fundamental to the production of the truly 'integrated' risk management plan.

**The question is not whether prevention is better than cure, but where the balance of effort should be applied to ensure that risks are reduced to ALARP.**

**Emergency intervention is not the only control measure. A range of control measures is necessary – but emphasis on one control measure must not be allowed to marginalise another in the risk management process.**

### Managing & Controlling Risk

One of the possible conflicts that arise under the IRMP process is that between ensuring the safety of the community and ensuring the safety of those employees actually delivering the service. The requirements of the integrated risk management planning process are clearly directed at controlling risk to the community. The requirements of the Management of Health & Safety at Work Regulations are directed more at controlling risk to employees.

In addition to the need for legal compliance, there are the wider moral obligations (and expectations of society and the organisation's own employees) to provide a healthy and safe working environment.

In the case of the fire & rescue service, their *raison d'être* is to apply specialist skills and experience to real or potential life-threatening situations. In responding to a call, this requires judgements and assessments of risk to be made rapidly and often in situations of heightened alarm, where the potential for error is increased. To manage such situations as effectively as possible, and to minimise the risks to both Firefighters and also the general public, an holistic approach to the management of risk is needed.

This must take into consideration the various contexts within which the fire & rescue service is required to function, the range of response options available and the resources

## FBU Policy – Annual Conference 1996 Resolution 49 – STAFFING LEVELS

Due to the constant need to work within the realms of the Health and Safety at Work Act, and the necessity to use the correct level of Command and Control on the Fireground, this Conference instructs the Executive Council to pursue all avenues to ensure that CFBAC guidance regarding appliance crew levels be altered to guarantee a minimum of 5 riders on all pumping appliances on all occasions. This to be achieved without any reduction in establishment figures or the loss of any appliances.

NORTHUMBERLAND



required to achieve a level of emergency response which fulfils both legal and moral obligations. The balance between statutory duty to employees and service to the community must be carefully struck.

**To determine the balance for these distinct but overlapping requirements effectively Integrated Risk Management Planning must be approached from the perspective of systematic risk management.**

Gathering of hazard information has taken place over numerous years. It is this information that informs the many procedures put in place by the fire & rescue service for emergency incidents. However as society changes, the hazards to which it is exposed also change. **Section 1** gave details of the changing hazard profile of the UK from 1936 when Riverdale considered the first Standards of Fire Cover to the present day.

These changing hazards also affect Firefighters. The increasing number of attacks on fire & rescue crews stands in contrast with the situation 20 years ago. The threat of terrorism has also increased to a level where it constitutes a risk in its own right for front-line workers in the fire & rescue service, as well as a risk to society.

**Section 6** gives details of the quantitative assessments necessary to predict risk as it affects society in general from the perspective of integrated risk management planning. **Section 4** and **Section 9** give details of qualitative assessments necessary to support the quantitative assessment, specifically the procedures and control measures necessary to ensure that Firefighters are not exposed to greater risks than they should normally expect to be exposed to.

### **FBU Policy – Annual Conference 2000 Resolution 29 – RISK ASSESSMENT**

Conference demands that the Fire Service be given the right to inspect and carry out risk assessment on all property in light of the fire involving depleted uranium at Featherstone in Staffordshire and to supply the results of the assessments to surrounding Brigades that may attend an incident at these premises. **STAFFORDSHIRE**  
**As amended by WEST MIDLANDS**

Whilst the Fire Services Emergency Cover Toolkit (**Section 6**) attempts to assess the impact of different emergency response times on risk to the community, it cannot assess the effect of different emergency response strategies on the health & safety of Firefighters making up those emergency responses. A qualitative approach/ assessment is necessary to supplement the quantitative analysis (**Section 4**).

There are many 'layers' of risk which must be considered in the IRMP process including risk to the public, risk to property, risk to the community in its widest sense, risk to the environment, risk to employees and risk to the organisation. The ability of the fire & rescue service to perform in accordance with the proposals set out in their

## **EMERGENCY INTERVENTION HOUSE FIRE**

*Fire & Rescue Control received an emergency call to a 2-storey terraced property. The callers were upstairs in the property and trapped by a fire that had started downstairs. Fire & rescue crews were mobilised whilst Firefighters (Control) remained on the telephone line giving emergency Fire Survival Guidance to the persons trapped in the property to maximise their chances of rescue by emergency crews when they arrived. Firefighters (Control) were able to determine the exact location of the trapped persons in the property, and passed this information on to fire & rescue crews who were en-route to the incident. The information reduced the time taken by Firefighters to locate the casualties in the premises. Three persons were rescued by Firefighters and transported to hospital by ambulance. 2003*

IRMP will depend upon the availability of competent resources, in its widest context, and the promotion of a risk-based culture at all levels of the fire & rescue service itself. To view integrated risk management planning in the context of a purely resource management problem, or to engage in risk-trading to spread rather than reduce risk, will have failed the process.

**In the final analysis any risk assessment will only be as good as the data which informs it. The quality and accuracy of the information which is used to inform the risk assessment will dictate the accuracy of the results. For a complex risk assessment it is critical that all relevant data is considered. This will be crucial to ensure the accuracy of the risk assessment and resultant risk management strategies employed today, and also to ensure that provision is made for the predicted risk profile of the future.**



Picture courtesy of Firepix International