

The Fire Brigades Union



Lessons of the 2007 floods

**The perspective
of fire crews**

PETER MACDIARMID/GETTY IMAGES

A report by the Fire Brigades Union

June 2008



Foreword

Our Fire and Rescue Service

A service to be proud of – a service worth fighting for



This report addresses a range of major issues facing the Fire and Rescue Service which arise from the floods of 2007. The FBU is in a unique position to produce such a report. The FBU is the organisation representing the vast majority of uniformed fire service staff – it is the professional voice of those on the front line. We hope that politicians locally and nationally will take notice of what we have to say. If the service is to respond effectively to such challenges then the issues identified here must be taken on board.

During the floods, I was pleased to be able to visit firefighters at work in South Yorkshire and in Humberside. I wrote to FBU members shortly afterwards stating:

This operation has once again demonstrated the professionalism and humanitarian commitment of those working within our service at all levels. Officer members have coordinated operations in extremely difficult circumstances. Wholetime and retained members have given outstanding commitment to rescue work and water removal operations. Many of our members have been required to work in other parts of the country at little or no notice, sometimes for days at a time.

I am particularly proud of members working in the various local Emergency Fire Controls, who have dealt with huge numbers of calls, have coordinated responses across many parts of the country and have done so with the utmost professionalism.

But we also highlighted that the floods had demonstrated some very serious problems around issues such as equipment, training, planning and working outside of the normal areas of work. This report addresses these and other issues in detail.

While we are rightly proud of the work of firefighters during the floods, we are also increasingly frustrated that central government seems to endlessly want to deliver our service 'on the cheap'. If firefighters are to be sent to such incidents they have an unarguable right to be provided with the best possible equipment and training. It is simply not acceptable to send crews across the country without proper protective equipment and to expect them to 'make do' by borrowing torches from each other, grabbing inadequate food and, on occasion, sleeping on floors.

In the end, like so many other issues, this one comes down to money. Society expects firefighters to be there in such times of crisis. Firefighters are proud to respond. Government needs to provide the investment in the service to make this work.

A handwritten signature in black ink, appearing to read 'M. Wrack'.

MATT WRACK
GENERAL SECRETARY

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Executive summary

The summer floods in 2007 were unparalleled in post-war history, with record-breaking rainfall in many areas leading to unprecedented flooding.

A massive and outstanding effort by firefighters, including emergency fire control staff, as well as other support staff working alongside other emergency services saved lives, rescued over 3,000 people in the first 36 hours and protected important services. Research and opinion polls have given fire service personnel a big vote of confidence for the professionalism shown during the crisis.

This Fire Brigades Union report puts forward the perspective of fire crews on the floods. Research suggests that the UK can expect many more extreme weather events in the future. The floods were a warning of the impact climate change may have on the UK. Fire and rescue services need to be properly prepared to meet these challenges.

The government has commissioned a number of bodies to investigate the floods and draw conclusions to improve responses to the next deluge. However neither Michael Pitt's review for the Cabinet Office nor Sir Ken Knight's reports for the Department for Communities and Local Government (CLG) deal adequately with important issues faced by fire crews. These reports are flawed by their bias in favour of existing government policy – particularly on issues of the law, funding and regional control centres.

Findings

Over the years fire and rescue services have responded to many flooding incidents, but the scale of the flooding in 2007 highlighted a national problem of:

- unpreparedness for local flooding;
- unpreparedness for regional and national flood events; and
- unpreparedness for other resource-hungry major events.

Brigades need to be suitably equipped to deal with major flooding incidents which can be expected in the future. The ability to deal with regional and national major incidents is a fundamental function of the modern Fire and Rescue Service.

There is a central fault line in current national resilience planning for major events like flooding, as a result of Integrated Risk Management Plans (IRMPs).

Many IRMPs have not tackled the risks of water-related incidents adequately. IRMPs have also been used to instigate cuts in staff which impact on the capacity to respond to major incidents.

Local fire and rescue services need more resources to deal with the effects of last summer's flooding. The Bellwin funding scheme does not cover all costs involved. Fire and rescue services need to be sure central money will be available in the event of major emergencies like flooding.

The Fire and Rescue Service's response to the floods would have been hampered if the government's plans for regional control centres had been in place. Fewer control rooms with a third less staff could not have coped with the level of calls last summer, even with better technology.

The health, safety and welfare of fire crews were put at risk during the floods through insufficient planning, equipment and training. Firefighters should not have had to wade through contaminated water wearing unsuitable protective equipment and exposing themselves to health hazards. Fire crews should not have had to work excessive hours without sufficient nourishment and without decent rest facilities.

Fire crews have not been trained consistently to the standards necessary to deal with the range of water-related incidents they have to tackle.

Recommendations

In its evaluation of the summer 2007 floods the government should listen to and act on views of fire crews. The CLG and fire and rescue services should consult fully with the FBU in implementing improvements to flood provision.

The CLG should ensure that fire and rescue services receive the funding necessary to meet the increased risks of water-related events. Fire and rescue services should ensure that staffing levels are sufficient to respond to water-related incidents without compromising provision for other emergencies.

The government should introduce a statutory duty on fire and rescue authorities to respond to significant water-related events such as flooding, and make the necessary resources available to meet these obligations.

The CLG and fire and rescue services should ensure that provision is made for water-related incidents, including flooding, in Integrated Risk Management Plans.

The CLG should follow the example of Scotland and think again on regional control centres. It should examine how the new premises and technologies can be used in conjunction with existing control centres, without reducing the number of control premises or reducing the number of staff in control.

The CLG should develop national guidance for fire crews working in major floods. It should cover the health risks of water-related work, and explain how risk assessments can be carried out and the kind of prevention and control measures that need to be implemented. It should cover equipment, personal protective equipment (PPE), welfare provision, accredited training, health surveillance and inoculations. The guidance should be drawn up in consultation with the FBU and the Health and Safety Executive.

1. Introduction

1.1 The perspective of fire crews

The summer floods in 2007 were unparalleled in post-war history. According to the interim report produced by Michael Pitt, chair of the South West Strategic Health Authority, in December 2007, record-breaking rainfall in many areas led to some unprecedented flooding, including:

- the largest ever surface water flooding in South Yorkshire and Humberside in June;
- record levels of flooding in some parts of the River Severn catchment in July;
- the most serious loss of essential services since the Second World War after the loss of Mythe water treatment works in Gloucestershire (*Pitt 2007 p.67, p.91*).

The Fire Brigades Union (FBU) said at the time that the Fire and Rescue Service had dealt with five weeks of flooding hell, which involved the biggest sustained rescue and assistance effort since the Second World War. A massive and outstanding effort by firefighters and control and support staff working alongside other emergency services saved lives and protected important services.

The government has since commissioned a number of bodies to investigate the floods and draw conclusions to improve responses to the next deluge. The Pitt Review is due to publish its final report this summer, a year on from the floods. Reports have been published by the Environment Agency, the Department for Communities and Local Government (CLG), and the Audit Commission, as well as by local authorities in the areas most affected.

This report contains the views of the FBU and reflects the opinions of the thousands of fire service personnel who did so much to tackle the emergency.

The report aims to address a number of key questions. What problems did the Fire and Rescue Service face during the summer floods? Were there enough people and equipment available? Does the experience of the floods suggest that Integrated Risk Management Planning (IRMP) is working? What do the floods tell us about the proposed regional control system? What changes are needed before the next emergency?

1.2 Objectives and methodology

This report has a number of important objectives:

- to articulate the experiences and views of firefighters, control staff and others in the Fire and Rescue Service who took part in the rescue efforts during the floods;
- to put the perspective of fire crews into the Pitt Review and other government inquiries into the summer 2007 floods;
- to recommend courses of action which better prepare the Fire and Rescue Service to react effectively during future floods.

In February and March 2008 the FBU surveyed national and local officials and other representatives who played a part in the rescue efforts during the summer floods. Detailed documentation and responses were received from 21 different fire and rescue services in England and Wales.

In addition, reports from ordinary firefighters, control staff and other officers were sought, particularly in the areas most affected by the flooding, and those affected by other major flooding events before and since the summer of 2007. The report reflects the findings of the people who deal with emergencies – the fire crews on the ground.

Acknowledgements

The FBU is grateful to members and officials who contributed their opinions for this report and to the Labour Research Department for helping prepare the material for publication.

2. The Fire and Rescue Service and the floods

2.1 What happened?

Rainfall

Between May and July 2007 the UK experienced the wettest ever period since national records began in 1766. Over 30,000 million cubic metres of rain fell. The record rainfall had no close parallel in modern times for the summer period.

Met Office records show that an average of over 400 millimetres of rain fell across England and Wales – well over double usual levels. In Warwickshire, Herefordshire, Worcestershire and Gloucestershire the rainfall was more than four times the average, while Oxfordshire and Shropshire experienced more than three times their average rainfall (*Pitt 2007 p.9, p.14*).

Flooding

The result was severe flooding affecting much of the country during June and July 2007. The flooding was both fluvial (where rivers flooded surrounding areas) and also pluvial (where surface water flooded areas with insufficient drainage). In the worst affected areas flooding was more extreme than in March 1947, the worst example of flooding in the 20th century in England and Wales.

Department for Communities and Local Government (CLG) research has shown that the floods were linked to the deaths of 13 people. 'They also resulted in damage to approximately 48,000 homes and 7,000 businesses. Power and water supplies were lost, railway lines, eight motorways and many other roads were closed and large parts of five counties and four cities were brought to a standstill' (*Pitt 2007 p.3*).

In Yorkshire, four major electrical substations and 55 secondary substations flooded, affecting the supply to 130,000 people. Sewage treatment works and pumping stations failed, causing local pollution in flooded areas. Between 24 and 25 June 2007 the dam at the Ulley reservoir near Rotherham nearly failed. Had it breached, the city of Sheffield would have been left without electricity and major infrastructure such as the M1 motorway would have been damaged (*Pitt 2007 p.18*).

On Sunday 22 July, Mythe water treatment works in Tewkesbury was flooded. This left 350,000 people across Gloucestershire without clean water. On the same day water levels threatened to inundate the

Walham electricity switching-station, and were only averted by temporary flood barriers. On Monday 23 July, Castle Meads electricity substation was shut down, leaving 42,000 people without power (*Pitt 2007 p.71, p.96*).

Over the same period, there was also substantial disruption to essential services in other parts of the country, including Northern Ireland, the West Midlands, Nottinghamshire, Shropshire, North Yorkshire and parts of Scotland.

2.2 The role of the Fire and Rescue Service

Mobilisation of the FRS

The significance of the floods was recognised at the time by the FBU, which said it was 'the biggest rescue effort in peacetime Britain' (*FBU 28 June 2007*).



JOHN GILES/PA PHOTOS

The sheer scale of mobilisation of Fire and Rescue Service personnel was summed up by Sir Ken Knight, the government's chief fire and rescue adviser, in his *Emerging Issues* report for the CLG in October 2007:

On Monday 25 June, Humberside Fire and Rescue Service (HFRS) received a total of 3,054 calls in 18 hours. A total of 780 incidents were attended, advice was given to a further 3,129 callers and 776 people were rescued.

Between midday Monday 25 June and midday Tuesday 26 June the South Yorkshire Fire and Rescue Service (SYFRS) received 1,800 calls and responded to 600 incidents. Approximately 300 rooftop rescues were carried out. Some 26 fire authorities assisted SYFRS in dealing with the floods and 31 High Volume Pumps (HVPs) being deployed at one time or another.

Gloucestershire Fire and Rescue Service (GFRS) received 2,375 calls for assistance during the period from 20 to 28 July. They attended 1,007 of these incidents and gave telephone advice to 1,368 callers. Thirteen boats from a variety of organisations were deployed and 529 people were rescued.

Between Monday 16 July and Sunday 22 July 2007, Hereford & Worcester Fire and Rescue Service (HWFRS) attended 293 flooding incidents and 162 other non-flooding incidents. The Service received a total of 1,573 calls over this seven day period. There were approximately 1,124 rescues. Firefighters from Buckinghamshire, Mid and West Wales, Greater Manchester, Cheshire and Merseyside and elsewhere assisted with rescue efforts.

Oxfordshire Fire and Rescue Service (OFRS) received 2,000 calls for assistance throughout the period of the floods. Around 3,000 homes were affected either by direct flooding or owing to evacuation caused by loss of electricity supply or for other safety reasons. Approximately 230 boat rescues were carried out.

Other parts of the country also suffered floods throughout the summer period and many FRs including West Yorkshire, London, Royal Berkshire, Nottinghamshire, Lincolnshire, Derbyshire, Warwickshire and the West Midlands were also heavily involved in rescues and pumping operations. (*Knight 2007 p.4-8*).

Acts of heroism

Firefighters took part courageously in a number of high profile incidents and prevented further loss of life and damage to vital services and infrastructure during the floods. BBC reports give a sample of the incidents, large and small, that professional firefighters dealt with:

- More than 30 people were rescued by firefighters in Northern Ireland after torrential rain (*BBC 12/6/07*).
- The fire service rescued a man and a woman from a car covered by a landslip in Blubberhouses in North Yorkshire (*BBC 15/6/07*).
- The fire service rescued workers trapped in a factory in Sutton Coldfield, West Midlands on 16 June. On the same day, more than 30 residents were rescued by boat from their flooded homes in South Yorkshire (*BBC 16/6/07*).
- On 22 June the fire service rescued 39 people from the village of Lambley in Nottinghamshire, including three people on a bus and others in and office (*BBC 22/6/07*).
- More than 70 firefighters helped pump millions of litres of water from the Ulley reservoir to ease the pressure on the damaged Ulley dam (*BBC 26/6/07*).
- Only a concerted effort involving the Fire and Rescue Service and other agencies prevented the loss of Walham electricity switching-station (*BBC 24/7/07*).

2.3 Praise for the Fire and Rescue Service

There has been widespread praise for the role of Fire and Rescue Service personnel in tackling the floods emergency.

Speaking on Monday 2 July in the House of Commons, Secretary of State for the Environment Hilary Benn paid tribute to 'the continuing heroic efforts of the many who have responded so magnificently to this very exceptional rainfall. They include the staff of the fire, ambulance, police and other rescue services' (*Defra 5 July 2007*).

Michael Pitt has also stated that the fire and rescue services, along with other emergency organisations, 'were highly effective in offering practical help, support

and reassurance to affected communities' (Pitt 2007 p.67). Research for the Pitt Review by GfK NOP includes overwhelmingly positive comments for the intervention of fire service personnel expressed by members of the public and victims of the tragedy (see box).

Sir Ken Knight said on 17 March 2008 as he published his *Facing the Challenge* report: 'My review shows that there was a magnificent response by the Fire and Rescue Service's firefighters, control room and support staff. Firefighters responded with their renowned professionalism and complete dedication to the challenges faced in very difficult conditions.'

Mark Smitherman, chief fire officer in South Yorkshire FRS, said: 'I would like to pay tribute to the work of South Yorkshire firefighters and those from further afield, all of whom worked tirelessly to deal with the aftermath of the floods.'

Opinion polls conducted in the immediate aftermath of the floods consistently placed firefighters at the top of the list of those responding to the emergencies (see table, page 12).

The FBU believes that the courage and fortitude of fire crews should be recognised. But we want more than warm words. The views and opinions of Fire and Rescue Service personnel and their representatives must be listened to. There are a number of conclusions drawn by firefighters from the floods which need to be acted on to ensure that fire and rescue services can improve the response to similar disasters in the future.

The tragic death of Mike Barnett

Firefighters fought for four hours to free Mike Barnett after his thigh became trapped in a temporary grille on a storm drain in Hull on 25 June 2007. Sadly Mr Barnett died from hypothermia. A coroner found that the death was accidental and highlighted gaps in equipment and training for underwater rescue.

Mike Barnett's father, also called Michael, said after the inquest that: 'The emergency services did all they could. I've spoken to them. I've told them time and time again. I said, 'Come on lads, get your heads up, you've done more than you should do'. Some dived in without any equipment. All I can say is they were a brave bunch of lads.' *BBC, 14 December 2007*

Comments made by members of the public

GfK NOP research for the Pitt Review gathered a wide range of positive comment from members of the public on the role of fire crews during the floods. Below are some of those comments:

'The firemen that came were marvellous. Oh, they were absolutely brilliant. They actually helped you move your stuff.'

Householder, Doncaster

'The police were excellent, and the fire brigade.'

Business, Tewkesbury

'Fire and Rescue came down with their little inflatable boat and took people that needed to be evacuated. They came down with the boat and took them away.'

Householder, Barnsley

'They were in a big rubber boat going round the estate helping people out and my granddaughter and grandson were carrying the old folks out. With a lot more people carrying the old folks out to the centre and doing them beans on toast and all sorts. The local lads have been brilliant and the firemen were marvellous and the Salvation Army were out of this world, they were brilliant.'

Householder, Doncaster

'They (Fire and Rescue Service) were straight in there, even if they'd not got the leggings up to there or whatever, they were straight in there. Into that flood water. Going down the street, knocking on doors, getting old women out of houses. I thought they were brilliant. They took one woman out on a pallet truck. They went and found it. I don't know where they found that. From B&Q or something. They did their best.'

Householder, Chesterfield

'There were policemen and firemen walking up and down the street and they were bringing babies in carry cots out – they were really helpful.'

Householder, East Riding

Public put fire service top in flood response

The public clearly has very high confidence and faith in the Fire and Rescue Service's ability to respond to the major incidents thrown at it. In the aftermath of the July floods 2007, *The Times* published a Populus poll which included the following findings:

Please give each one a mark out of ten, where 1 means they have done a very bad job in responding to the floods and 10 means they have done a very good job. If you don't have a view either way, please say so.

(Average mark out of 10)	All	Men	Women	Lab	Con	LD
The fire service	8.72	8.68	8.75	8.50	8.93	8.58
The armed forces	7.82	7.79	7.85	7.63	8.23	7.64
Local authorities in the affected areas	6.14	6.13	6.14	6.23	6.31	6.25
The Environment Agency	5.94	5.74	6.12	6.03	5.93	5.96
Gordon Brown	5.05	4.96	5.14	6.47	4.52	5.11
The government as a whole	4.89	4.89	4.88	5.97	4.60	4.85
David Cameron	3.75	3.56	3.94	3.44	4.82	3.73

All voters	8 out of 10 or higher	3 out of 10 or lower
The fire service	77%	3%
The armed forces	58%	6%
Local authorities in the affected areas	25%	12%
The Environment Agency	21%	11%
Gordon Brown	17%	23%
The government as a whole	14%	26%
David Cameron	5%	35%

(Average mark out of 10)	SE	Midlands	North	Wales & SW	Scotland
The fire service	8.63	8.85	8.57	9.01	8.46
The armed forces	7.84	7.98	7.58	8.27	7.27
Local authorities in the affected areas	6.33	6.29	5.75	6.22	5.99
The Environment Agency	6.16	5.88	5.64	6.02	6.14
Gordon Brown	4.96	4.92	5.00	5.10	5.81
The government as a whole	4.69	4.85	5.00	5.06	4.98
David Cameron	3.88	3.74	3.68	3.65	3.74

Source: *The Times*/Populus 31 July 2007

3. The Fire and Rescue Service and extreme weather events

The perception of fire crews is that the UK's weather is already more extreme, varied and unpredictable. The 2005 floods in Cumbria, the grassland fires of 2006, and the floods of 2007 have left firefighters in no doubt about the importance of climate change and of the need to be prepared for extreme weather events.

The FBU and the trade union movement have long recognised the overwhelming scientific evidence of climate change. At the union's annual conference, 9-11 May 2007, a motion was passed urging the union to take up environmental questions, including making fire service premises carbon-neutral and campaigning for legal rights for union environmental representatives. The union spoke in favour of a motion on climate change at the TUC Congress in September 2007.

The FBU wants the government to consider seriously the growing pressures already placed on fire and rescue services by extreme weather events. The union recognises that particular floods or fires cannot be attributed directly to climate change, and that the summer floods in 2007 were 'exceptional' for that time of year, as the Centre for Ecology and Hydrology report makes clear (*Marsh 2008 p.4*).

But even if the flooding in summertime was unparalleled, the evidence of increased precipitation in

the autumn and winter suggests that the Fire and Rescue Service needs to be prepared. Indeed at these times of the year, the consequences of such rainfall and flooding could be even worse. Therefore the FBU agrees with Michael Pitt's interim report that although the floods 'cannot be attributed directly to climate change... they do provide a clear indication of the scale and nature of the severe weather events we may experience as a result' (*Pitt 2007 p.31*).

The UK Climate Impact Programme UKCIP02 scenarios published by the Department of Environment, Food and Rural Affairs (Defra) in 2002 estimated increases in winter precipitation from 5% to over 30% by the 2080s. The FBU would expect a greater level of clarity on the impact of climate change when the UKCIP08 scenarios are produced later this year.

The Foresight report *Future Flooding*, published by the government's Office of Science and Technology, identified changing rainfall patterns, rising sea levels and stronger storm surges as factors that increase the risk of inland and coastal flooding. It estimated that currently 80,000 properties are at very significant risk from surface water flooding. The report estimated that the number of people at a high risk of flooding could rise from 1.5 million to between 2.3 and 3.5 million by the 2080s.



HAMPSHIRE FIRE AND RESCUE/EPA PHOTOS

The CLG report *Effects of Climate Change on Fire and Rescue Services in the UK* (2006) recognised that ‘climate change will bring more frequent, hot, dry summers, warmer wetter winters and an increased frequency of extreme weather events, such as heavy downpours and flooding, summer droughts, and coastal flooding’ (CLG 2006 p.3).

The FBU agrees with the CLG that ‘some climate change is inevitable’ and that ‘historical choices made by society may have already set elements of climate change in motion’. Most importantly, the union recognises that although it may be possible to slow the rate of change, it is not considered possible to prevent climate change altogether (CLG 2006 p.4-5).

The FBU understands that prevention measures alone cannot tackle every eventuality. This does not mean that flood prevention measures should not be taken – of course the government should seek to anticipate changes and prevent threats to life and services as far as possible. However, the experience of the flooding indicates that adaptation is also vital – and fire and rescue services have to be resourced and ready for these eventualities.

For example, Boscastle in Cornwall, which was deluged in 2004, was flooded again in 2007. The much-vaunted new flood defences were found wanting, underlining the need for an adequate, properly resourced, emergency response in addition to steps to mitigate the impact of floods.

In addition, as the Pitt interim report recognised, last summer’s flooding involved surface water flooding, which is more difficult to predict and ‘tends to result in significant amounts of flooding in areas that have not previously flooded’ (Pitt 2007 p.13).

This means every fire and rescue service needs to be prepared for flooding – not only those considered to be higher risk under river or coastal flooding scenarios.

In the FBU’s view, there is no question that changing weather patterns are placing huge stress on personnel and resulting in considerable additional costs for fire authorities. One fire authority – Norfolk – resorted in 2006 to raiding its pension fund to pay for the increased demand on resources caused by ‘unseasonal weather patterns’ which had brought major outdoor fires to the county.

The implications of extreme weather events for Fire and Rescue Service resources are enormous. In 2007 fire crews were working up to 14 hours without a break,

well beyond accepted safe limits. The result was exhaustion, dehydration and at some incidents firefighters putting their health and safety at risk. The strain on officers was severe. Emergency fire control operators handled thousands of extra calls and were placed under major pressure. In some areas the service was so stretched by these incidents that there were almost no crews or appliances to deal with other emergencies.

Given the increased risk of extreme weather events, the FBU wants the necessary resources made available for the Fire and Rescue Service to meet the challenges these conditions will generate.



PETER MACDIARMID/GETTY IMAGES

4. Government policy on flooding

Government policy on flooding has rightly come under scrutiny after the experience of 2007. The FBU believes that there are three main areas of concern:

- the interim report and recommendations of the Pitt Review;
- the law on responsibility for dealing with floods; and
- the lack of guidance on flooding for Fire and Rescue Service personnel.

4.1 The Pitt Review – a critical view

When Hilary Benn announced the Flooding Lessons Learned Review in August 2007, it appeared that the investigation would look at the experience of the floods as a whole and include everyone involved, including fire and rescue services. Defra said that the review, led by Michael Pitt ‘will seek views from those involved in the floods, including affected residents, the emergency services, business and professional associations’ (*Defra 8 August 2007*).

For fire and rescue services, the announcement that ‘the review will draw on evidence from all those involved in the emergency response’ was particularly important. The specific objectives included ‘to look at how best to co-ordinate the response to flooding in future’ and ‘to establish what access to support, equipment, facilities and information is needed by those involved in the response at local, regional and national levels’.

The interim report, published in December 2007, claimed that ‘the over-riding purpose of the Pitt Review is to learn lessons from the floods of 2007 and to bring forward recommendations that will help the country adapt and deal more effectively with future flooding incidents’ (*Pitt 2007 p.3*).

However, the review offered very few opportunities to raise the key issues which affected fire and rescue services and their personnel. From the FBU’s point of view, Michael Pitt has largely ignored the perspective of fire crews. Even Chapter 5 on the emergency response was sadly lacking, and the interim conclusions barely offered any space for suggestions on how to improve flood rescue.

These failings were summed up graphically by Pitt’s statement (§5.24) that fire and rescue services usually

attend to floods ‘as all fire and rescue crews are trained to work safely near water and are provided with suitable equipment to assist people in difficulty in water’. He added that ‘selected stations have also been trained to offer a full water rescue capability, involving crew members working in water, using inflatable boats when the circumstances necessitate it’ (*Pitt 2007 p.72*).

The assertion that all fire and rescue crews have been provided with suitable equipment to assist people in difficulty in water will come as a surprise to many firefighters who waded through contaminated flood water in unsuitable personal protective equipment or rescued stranded people in boats borrowed or supplied from whatever source was to hand. Few FRSS have protocols even with the Royal National Lifeboat Institution (RNLI) and provision of the much-lauded high volume pumps (HVPs) was stretched.

The interim report noted (§5.25) that fire and rescue services have no explicit statutory duties for flood rescue and called for the issue to be addressed. However Pitt appeared to favour doing nothing in this area, stating (§5.26) that ‘this perceived ambiguity’ does not mean ‘that a specific statutory duty is necessarily the appropriate solution’, citing the role played by other bodies such as the Maritime and Coastguard Agency and the RNLI.

The interim report recommended (REC 4) that ‘all Local Resilience Forums urgently review their current local arrangements for water rescue to consider whether they are adequate in light of the summer’s events and their local community risk registers’. It stated (§5.26) that resources such as ‘personal protective equipment, pumps, rescue craft and, especially, trained personnel’ needed to be included in such a review (*Pitt 2007 p.72, p.73*).

The FBU believes that this recommendation is weak. Progress on making substantial improvements to training and equipment since the floods has been slow and has varied between different fire and rescue services.

A similar weakness concerns central government emergency financial assistance in the event of flooding. The Bellwin scheme of assistance to local authorities, although used to cover some claims from the floods, does not cover all costs incurred when fire and rescue services tackle flooding. The FBU is aware that some fire and rescue services delayed mobilisation because of concerns about spending resources that would not be refunded.

The union therefore believes that the interim conclusion of the Pitt Review (IC 50) 'that financial assistance for local responders in relation to emergency response and recovery should be revised to improve speed, simplicity and certainty' does not go far enough to address resourcing concerns (*Pitt 2007 p.87*).

The interim report is also remiss in excluding fire stations from consideration on critical infrastructure (Chapter 6). The experience in Cumbria in 2005, when Carlisle fire station was flooded, indicates that the resilience of fire stations to flooding cannot be ignored.

The Association of British Insurers' report on the floods on the East Coast found that 15% of fire and ambulance stations, as well as 40% of electricity substations and 15% of petrol stations, were at risk of flooding in a storm surge (*ABI 2007 p.17*).

Last year the *Independent on Sunday* revealed official statistics showing vast areas of the country's infrastructure could be disabled by future floods. Environment Agency figures found that across the country 2,215 power stations and substations and 737 sewage and water-treatment sites are at severe risk of flooding. So are 401 schools, 680 health centres and doctors' surgeries, 99 police stations, 86 fire stations, 82 telephone exchanges, 46 ambulance stations and 13 hospitals (*Independent on Sunday 29 July 2007*).

The FBU has obtained details of fire stations on the list. Although the Environment Agency warned that some of fire stations listed may have changed use or been counted twice, it listed the following fire services with at least one of their premises at risk: Isle of Wight, West Yorkshire, South Yorkshire, Derbyshire, Nottingham, Staffordshire, Nottinghamshire, Lincolnshire, Cambridgeshire, Norfolk, Essex, Oxford, London, Royal Berkshire, Surrey, Kent, Hampshire, Devon, Cornwall, Avon, Hereford and Worcester, Cumbria, Northumberland, Cleveland, Durham and Darlington, and all three FRs in Wales.

4.2 The law and responsibility for floods

The FBU believes that a statutory duty on fire and rescue services to attend serious flooding is in the best interests of both the public and fire crews.

However, at present fire and rescue services in

England, Wales and Northern Ireland do not have a specific statutory duty to respond to flooding incidents. Instead fire and rescue authorities (FRAs) have discretionary powers to make provision for such incidents under the Fire and Rescue Services Act 2004 and the Civil Contingencies Act 2004. The Scottish Executive gave mandatory functions to FRAs in Scotland in connection with 'serious flooding' under the Fire (Additional Function) (Scotland) Order 2005. Northern Ireland's Department of Health, Social Services and Public Safety is planning to consult on similar proposals.

The current legal situation in England

The following is a summary of the current legal situation, based on the union's consultation with our solicitors, Thompsons.

The Civil Contingencies Act 2004 placed duties upon fire and rescue authorities (FRAs) to cooperate with other local responders, in the event of major emergencies, such as terrorist attacks, chemical, biological, radiological or nuclear emergencies and severe flooding.

The Fire and Rescue Services Act 2004 made specific provision for the core functions of the fire service whilst empowering the Secretary of State, under Section 9, to confer functions upon an FRA relating to other emergencies. Major flooding is not specified as one of the core functions of fire and rescue authorities but the Secretary of State did initially propose to include it within an Order under Section 9.

However in March 2007, when the Fire and Rescue Services (Emergencies) Order was published, the CLG decided against including major flooding within the Order. This U-turn has substantial consequences for fire and rescue authorities in the event of flooding.

Fire and rescue authorities currently respond to water rescue and major flooding incidents under Section 11 of the Fire and Rescue Services Act. Cover for incidents under that provision is subject to the discretion of the FRAs. There are also duties under Section 5 requiring a FRA with specialist resources to deploy those resources to emergencies outside their area. This does not apply to major flooding incidents.

In addition, Sections 13 and 14 of the 2004 Act with regard to reinforcement schemes (schemes for securing mutual assistance as between FRAs) apply only to

firefighting, road traffic accidents and emergencies within the 2007 Emergencies Order. The exclusion of major flooding incidents from that Order also excludes those incidents from Sections 13 and 14.

Excluding major flooding incidents from the 2007 Order also has the effect of preventing the powers under Section 45 from applying to these incidents. Section 45 provides power for authorised officers to enter premises at any reasonable time in order to obtain information needed for the discharge of fire and rescue authority functions.

Under Section 46, an authorised officer entering premises under the provisions of Section 45 also has powers to take with him/her necessary persons and equipment, and to require any persons present on the premises to provide him/her with any facilities, information, documents, records or other assistance that he/she may reasonably request. Section 46 also provides for criminal offences where any person without reasonable excuse obstructs the exercise by any person of powers under Sections 45 or 46, or fails to comply with any requirements to provide facilities, information, documents, or records.

In terms of funding, the November 2005 Response Document made it clear that the 'new burdens' principle would apply to the Emergencies Order. This provides that where a central government department's policies or initiatives increase the cost of providing local authority services, the government will fund the additional expenditure, unless it is below the £100,000 minimum threshold nationally. Excluding major flooding incidents from the 2007 Emergencies Order had the effect of preventing any application for funding under the 'new burdens' arrangement.

A new statutory duty?

The government has already set out a number of benefits of mandatory functions in other areas, such as chemical incidents, which the FBU believes also apply to flooding. The Regulatory Impact Assessment (RIA) accompanying the Fire and Rescue Services (Emergencies) Order makes a number of strong arguments for statutory duties for specific types of incident.

These include (§27) sending a 'clear signal' that such emergencies are 'core activities for fire and rescue services'; reducing 'the number of seriously injured persons or deaths'; and enabling 'all parts of the

economy to return to their normal functioning capacity more quickly' (§33). It is clear from the impact assessment that these benefits are extensive and justify making an emergency order for specific incident types (*FRS Circular 13/2007*).

The RIA rightly rejects the option of doing nothing in other major emergencies (such as the Buncefield oil depot explosions and fire of December 2005), because (§24) 'relying on FRAs' discretionary powers, even where they receive central funding, means that they could still decline to use the specialist resources to aid other authorities, or in future decide to stop maintaining the capabilities provided by government'. It adds that 'authorities have an incentive due to immediate local pressures to make provision for likely local needs, rather than ensuring that collectively there is provision for very unlikely large-scale incidents. This could, over time, reduce national resilience to such disruptive incidents' (*FRS Circular 13/2007 p.15*).

However the FBU is concerned about the weak arguments given by the government for its U-turn on flooding. The union is particularly alarmed that the government believes a 'light touch approach' (§24) to legislation is an advantage in emergencies of any kind, including major floods.

The main justification given for not including major flooding was (§15) that 'Defra is examining the existing flood response capability and what may be necessary to improve existing provision'. The RIA concludes that 'giving every FRA a mandatory duty to make provision would be premature at this stage' (*FRS Circular 13/2007 p.14*).

This objection will be met this year when Defra finishes its capability study. The FBU believes that issues around equipment and training – and the appropriate funding to provide appropriate numbers of personnel – need to be addressed if the fire and rescue services nationally are to be properly prepared for respond to flooding in the future. But equipment and training are not enough on their own – fire and rescue services also need sufficient personnel.

The union believes that a specific statutory duty with respect to flooding incidents is in the interests of the public and those who work in the Fire and Rescue Service. The union is aware that the Chief Fire Officers' Association favours a statutory duty to respond to significant flooding.

After the experience of the summer 2007 floods, the

FBU believes that the case for imposing a statutory duty for major floods is overwhelming. The public expects fire service personnel to respond in an emergency situation, while fire service personnel, with our training and expertise, expect to participate in rescue efforts. Imposing a duty, as long as it is backed by the necessary resources, will help the Fire and Rescue Service prepare for the next floods.

The government has at times appeared to accept this argument. On Monday 2 July 2007, Secretary of State for the Environment Hilary Benn told the House of Commons: 'We are prepared to consider giving the fire and rescue services a flood rescue duty, if and when full equipment and training are in place.'

HSE Prosecution – Death of Paul Metcalf

On 5 September 1999, FBU member Paul Metcalf drowned whilst engaged at a water rescue incident. His employers, Greater Manchester Fire Service (GMC), were heavily criticised at the coroner's inquest leading to a prosecution by the Health and Safety Executive in September 2004.

The HSE reported that:

- GMC had failed over a lengthy period of time to address the risks associated with water rescues.
- A catalogue of failures by GMC led to Mr Metcalf's death.
- The firefighters had no specialist equipment or training and had been given no information about the risks they faced during water-based operations
- There had been occasions prior to this fatal incident when safety procedures were recommended for such operations but never implemented.

It should be noted that this was the HSE position. The charges were denied by GMC and they were acquitted by the jury at Bolton Crown Court. Although there have been no water rescue fatalities in the UK fire service since this incident, it does not follow that fire and rescue authorities have the equipment, training and procedures to cope safely with major flooding incidents.

However there are other indications that the U-turn on statutory duty is now entrenched. The FBU is extremely disappointed that Sir Ken Knight decided to oppose the introduction of a statutory duty in his Facing the Challenge report. His arguments about the diversity of rescue incidents and about such a duty cutting against flexible local responses are not decisive. Knight recognises the increased risk of flooding and the current gap in local provisions – but fails to draw the conclusion that a statutory duty would contribute towards securing the kind of resources necessary to deal with future flood events.

4.3 CLG guidance

The FBU believes that the Department for Communities and Local Government, which is responsible for fire and rescue services, has not issued sufficient guidance to enable fire crews to discharge their duties safely during floods.

The CLG does know how many water-related incidents fire and rescue services have had to respond to in recent years. On 14 March 2008, John McDonnell MP asked the Secretary of State for Communities and Local Government how many incidents on or near water were attended by the fire service in each year since 1994, broken down by (a) brigade and (b) region. The Minister, Parmjit Dhanda, replied that the information requested was not held centrally.

CLG guidance on climate change, which includes a chapter on floods, states that fire and rescue services have a vital role to play in all the phases of flooding: emergency response and rescue; damage mitigation; and making flooded areas safe before residents are permitted to return to them. It makes similar assumptions about storms and other extreme weather events (*CLG 2006 pp.20-21, 27*).

The CLG has argued that the Fire and Rescue Service role in a major flooding event includes 'the saving of life and rescuing trapped persons from fire, wreckage or debris', 'carrying out essential damage control operations, such as pumping out flood water and salvage works', and 'the provision of monitoring procedures in respect of health and safety of those persons operating within an established inner cordon' (*CLG 2006 p.20*).

The FBU wholeheartedly agrees that the public expects fire crews to undertake such a role during such an emergency. Our members have demonstrated their commitment time and time again.

Yet the CLG has issued no guidance at all on the kind of equipment fire crews require to do this work. Nor has the department set standards for the kind of training fire crews need in order to rescue people without putting their own health and safety in jeopardy. This failing has been highlighted in Sir Ken Knight's *Facing the Challenge* report on the floods.

The CLG has noted that during periods of flooding, fire and rescue services receive a huge volume of calls, many more than they would usually have to handle, and that 'greater call centre capacity' needs to be considered.

However, the guidance also makes a completely unsubstantiated and self-contradictory assertion on control centres during flooding emergencies. Its guidance states: 'It may be advisable for more vulnerable fire and rescue services to come to an arrangement with neighbouring fire and rescue services that in times of high call volume, quieter fire and rescue services will assist the busier fire and rescue services with their call handling. *Arrangements such as these will be made much easier following the introduction of the Communities and Local Government FiReControl project of regional control centres*' (CLG 2006 p.21) .

The FBU believes that regional control centres will not improve responses to flooding or other emergencies. The union also believes that the CLG can do more to help fire and rescue personnel tackle flooding without jeopardising their safety.



GARY CURTIS/ALAMY IMAGES

5. Resources, funding and the floods

The FBU believes that integrated risk management planning – which is supposed to cover the number, type and location of fire stations, fire appliances and firefighters to deal with fire and other rescue responsibilities – has been used by some fire and rescue services to initiate staff cuts. It is the union's view that Integrated Risk Management Plans (IRMPs) have created a central fault line in current national resilience planning, and that personnel levels have reduced overall capacity to respond to a series of protracted major incidents.

If IRMPs were well integrated with wider resilience planning, issues such as overall FRS staffing levels would be more likely to be adequately considered. The FBU wants the government to examine this as a matter of urgency. The union's concerns have been supported by the House of Commons Communities and Local Government Committee.

The committee's Fire and Rescue Service report for 2005-2006 stated: 'We recommend that the government give urgent consideration as to how the Integrated Risk Management Plans may be better linked to planning for major catastrophic incidents (2006 p.40).

These issues remain of serious concern. For example the National Audit Office told the committee last year: 'Integrating national resilience planning within the context of locally determined risk assessment will be challenging.' It added: 'Recent events like the flooding in England and the Buncefield oil depot fire have shown the importance of ensuring that local decisions on resourcing and placement need to meet the needs of wider national events' (*Second Report of Session 2007-08, §7.20 Ev 105 p.133*).

5.1 IRMPs and preparation for flooding

Many IRMPs that were operative at the time of the floods last summer did not make provision for major flooding events. The issue was summed up obliquely by Sir Ken Knight in his interim report: 'Some of these flooding events had historically been thought to be of such low frequency that it might be considered imprudent to allocate resources via IRMPs to conditions that may not occur more than once in thirty years' (*Knight 2007 p.9*).

In his later *Facing the Challenge* report, Knight recognised the limitation of IRMPs in this respect. He wrote (§69): 'Whilst some FRAs have included the provision of resources (boats, PPE and training) within the FRS as

part of their integrated risk management planning process it is recognised that the provision is predominantly for localised water rescue, e.g. people reported falling into rivers, canals, as well as flood rescue' (2008 p.48).

For example, the South Yorkshire FRS IRMP for 2006-2009 mentioned the issue of flooding only once in a 48-page document and only in anticipation of expected duties under the Fire and Rescue Services Act 2004. The FRS said it planned to 'introduce a new specialist rescue response unit to provide a county-wide capability to deal with new statutory responsibilities for rescue e.g. collapsed structures, major transport accidents and water rescue' by April 2009 (p.15). The latest IRMP for 2007-2010 only mentions the legal obligations.

Gloucestershire FRS Business Plan 2006-09 only mentioned flooding as a priority under its New Dimensions work: 'To train our operational staff in the use of equipment provided by the CLG under the New Dimension project in order to provide a co-ordinated and resilient response to the increased risk from conventional (e.g. flooding) and CBRN (Chemical, Biological, Radiological and Nuclear) and terrorist incidents.'

The Gloucestershire IRMP requires all operational personnel to be provided with training for safe working near water training and with PPE. This also includes the ability to assist people in difficulty with the intervention of both sinking and floating lines. However FBU members report problems with PPE, the availability of dry suits and the absence of a welfare policy.

There are also other FRSs where the risk of flooding is barely, if at all, taken into account. The Oxfordshire FRS IRMP 2007-08 made little provision for flooding or water-related incidents. The Mid & West Wales IRMP only mentioned it under statutory responsibilities. In Tyne and Wear FRS, swift water rescue and flooding was barely mentioned in the 2006-07 IRMP and only appeared in the draft IRMP 2008/2009 document.

The FBU recognises that some FRSs have made more provision for tackling flooding in the future. For example the Hereford and Worcester FRS IRMP 2006-2009, published in February 2006, made water rescue a core duty of the service and set out plans for training and equipment.

Similarly, Avon FRS IRMP for 2008-2009 promises to introduce the first hovercraft rescue facility in the UK, for use on the shoreline and mud flats and for

enhancing capability at major flooding and other water-related incidents. The IRMP also promises to 'review our approach to incidents involving flooding and other water-related incidents including equipment, training, and risk planning'. The Cheshire IRMP states that the FRS has purchased two new boats in order to respond to emergencies involving inland waterways.

The union is also aware that some FRSs have adequate paper policies for water-related incidents. Greater Manchester FRS has a 44-page policy document and guidance on working in, on or near water. Lincolnshire FRS has a similar document. And Mid & West Wales FRS has standard operating procedures (SOPs) for both flooding and working near, on or in water. However policies and procedures will need to be updated in the light of the floods, in consultation with the FBU.

In Northumberland FRS, water-related incidents are now considered an operational priority. Northumberland has more than 60 miles of coastline, one of the largest reservoirs in Europe, and thousands of miles of inland waterways. According to the IRMP 2008-2010: 'All operational personnel have been trained to water awareness standard level one. All operational personnel have now been issued with foul weather PPE and a business case has been drafted for

the introduction of a swift water rescue capability. This will ensure strategically located crews are trained to work in swift water, whilst attending flooding incidents or water rescues' (p.9).

The IRMP also promises to 'procure new special equipment such as an aerial appliance, rescue boats and associated protective clothing to address flooding risk in the county. We will also train our funding firefighters to effectively use this equipment' (p.16).

The FBU is aware that some progress has been made since it raised concerns during 2006 about risk assessments for water-related incidents. At the time the union argued that firefighters were not trained for water entry and that appropriate PPE such as waders and dry suits were not carried on appliances.

However the FBU believes that there are several outstanding issues in Northumberland. The union understands that the roll out of equipment and training depends on financial commitments. No fire stations are equipped to provide a full water rescue capability and only two persons are currently qualified to swift water rescue capability level 3. In a water-related incident in January 2008 only one member of the crews in attendance was sufficiently trained to enter the water.



JEFF MORGAN/ALAMY IMAGES

5.2 IRMPs and staffing cuts

Humberside

The Humberside FRS draft strategic plan and IRMP for 2008-11 contains some information on flooding provision. The IRMP states that the FRS has two high volume pumping units to assist in the event of large scale flooding, two rescue support units (carrying special equipment to assist in rescues from vehicles, collapsed buildings and water), and one water support unit (carrying high volume hoses).

However, the FBU is concerned that Humberside FRS has announced cutbacks for the next financial year, using water rescue as an excuse. Its *Operational Resource Disposition: Benefits* argues that 'the current provision of training and equipment to deal with this risk is severely limited', and then effectively that job cuts are the only way to ensure firefighters have the right equipment and training for water rescue.

The cuts are being proposed because Humberside Fire and Rescue Authority wants to make budget cuts of £4 million over the next three years. This is despite the authority getting far more money than it expected from central government to help pay for the fire and rescue service.

There are plans to close four fire stations, remove a fire engine at another, and end the immediate response capability of a fire engine at another. As fire appliances can attend, assist, support and provide cover well outside their station areas, these cuts will have an impact right across Humberside.

Local fire crews estimate the cuts will see the loss of one in ten front line firefighter posts. If the plans go ahead, there will be between 100 and 110 fewer front line firefighters to deal with all the emergency incidents the fire and rescue service needs to respond to, including flooding.

Cleveland

There is a similar situation in Cleveland. The Cleveland FRS IRMP does not consider flooding and water rescue. Its standard operating procedure and risk assessment for flooding incidents, updated in March 2006, specified that personnel should not 'enter moving water if the depth is above knee height. If wading in shallow water, use a depth pole before advancing'. However the FRS had very little suitable PPE for swift water rescue.

Cleveland's government grant funding over the next three years is the worst in the North East and amongst the worst in the UK. It takes no account of the authority's unique, high-risk operating environment, which includes 37 of the highest level of COMAH sites (Control of Major Accident Hazard sites) and the busiest port in terms of tonnage handled in the UK.

The fire authority says it needs to make savings of at least £2.1 million. One of the proposals is to completely close the Marine fire station in Middlesbrough or close it at night. The cuts will result in the loss of about 60 firefighter posts. The union says this must not be at the expense of public or firefighter safety.

North Yorkshire

North Yorkshire's Corporate Plan and Integrated Risk Management Action Plan for 2007-08 barely mention water rescue and say nothing about flooding. Yet the North Yorkshire FRS may be planning to sell off a fire station in the centre of York, which includes a specialist boat unit, despite frequent river flooding in the city.

Swift water response teams were introduced at Whitby and at Richmond at the end of January to provide specialist crews to deal with any rescues involving fast-flowing rivers. However, both these teams were called out in March to an incident in Tadcaster, some 58 miles from Whitby and 46 miles from Richmond, while York is only ten miles away.

The FBU is concerned that senior officers are attempting to show that the York boat rescue unit is no longer needed to add weight to any plans to sell off the city's central base and move to the outskirts.

North Yorkshire FRS is not guaranteeing that a rescue boat will remain in York once a review of the brigade's services is completed. The FRS has a shortfall of £900,000 over the next three years after government funding plans were announced.

5.3 Funding the costs of the floods

Fire and rescue services which responded to the summer 2007 floods incurred additional costs, including for fuel and equipment, but mostly related to staffing, for example including accommodation and supplies for some firefighters.

An Audit Commission report published in December 2007 found that the bulk of additional costs were for staff time and that ‘it appears that there was very little damage caused by the flooding to fire service assets’ (2007 p.83).

The report found that ‘the total extra cost of the emergency for these five services [South Yorkshire, Humberside, Hereford and Worcester, Gloucestershire and Oxfordshire] was just over £2 million, ranging from £250,000 in Hereford and Worcestershire to at least £735,000 for South Yorkshire’.

It said that three fire and rescue authorities (South Yorkshire, Humberside, Hereford and Worcester) were intending to claim over £1 million through their Bellwin arrangements, which is between 70% and 85% of identified costs (*Audit Commission 2007 p.81*).

The breakdown of costs was set out in the report (see table).

One weakness of the Audit Commission report is that it did not investigate the costs of the floods for FRSs outside the five most affected areas. At least 35 FRSs provided assistance outside their brigades during the floods, according to Sir Ken Knight (2008 p.24). Given the extent of this deployment and the need to cover their absence in case of local emergencies – these additional costs were significant.

For example, the FBU understands that the Northumberland FRS, which sent personnel to Humberside to operate its high volume pump, also had to call in other staff to cover, at a cost of around £30,000. Given the number of FRSs that did deploy personnel and equipment to the worst flood affected areas, these costs also need to be considered.

In February 2008 the government announced that it had paid over £16 million to 38 local authorities under the Bellwin scheme (*CLG 13 March 2008*). However the Bellwin scheme, although used to cover some claims from the floods, specifically excludes ‘the normal wages and salaries of the authority’s regular employees, whether diverted from their normal work or otherwise’ (*CLG Bellwin guidance 2007-08*).

It is also clear from two county fire and rescue services (Gloucestershire and Oxfordshire) that current Bellwin thresholds are too high to help meet their costs from the flooding.

The FBU wants the government to tackle the question of funding FRSs for their role in responding to the floods, either through the Bellwin scheme, or from some other fund.

Service	Staff costs	Other costs	Total	How covered?
Hereford and Worcester (Authority)	Front line and support staff £130,000	£116,000	£246,000	£10,000 income from other authorities for assistance. Own resources £57,000. Bellwin claim £179,000.
Humberside (Authority)	Front line and support staff £121,500. Recharges from other authorities £151,300.	£20,600	£301,100	Own resources £88,500. Bellwin claim £212,600.
South Yorkshire (Authority)	Front line and support staff £75,000-£100,000. Recharges from other authorities of £400,000 expected.	£260,000-£350,000	£735,000 so far	Own resources £110,000. Bellwin claim at least £740,000.
Gloucestershire (County)	£260,000	£258,000	£518,000	Internal reserves, as total costs fell below county Bellwin threshold.
Oxfordshire (County)	Front line and support staff £189,200. Recharges from other authorities £45,800.	£52,100	£287,100	Internal reserves, as total costs fell below county Bellwin threshold.

Source: Audit Commission, Table 6, 2007 p.83

6. Regional control centres and the floods

The flooding in the summer 2007 made incredible demands on Fire and Rescue Service control rooms and their staff, who worked tirelessly to coordinate responses. The professionalism of control staff has been widely recognised, even as the shadow of job-threatening regional control centres hung over them.

6.1 The floods and control rooms

Call handling and mobilising was a significant issue for all fire and rescue services affected by the floods. According to Sir Ken Knight's interim report: '...the service provider attempted to route 72,000 calls to the HWFRS [Hereford and Worcester FRS] control in one twenty four hour period. Their control room was unable to manage this volume and calls were re-routed to other FRAs as far away as London. Many of these controls were themselves struggling to cope with the level of calls. At the peak of calls the emergencies tied up the 999 system at service provider level, which had a knock on effect on other emergency services.'

Knight argued: 'The sheer number of calls received hampered operational effectiveness and the ability to maintain a core response to other incidents in the early stages. An example was given where a fire station was unable to contact control for several hours' (2007 p.10).

Similar issues were raised in the Pitt interim report. It highlighted the case of 'Mark Harris' (an alias used to protect the respondent's identity) who called the Fire and Rescue Service and got through to the service in another county, Hampshire, because the local one was so overloaded with calls. The Hampshire service was not able to respond. Pitt's interim report also highlighted the issue of multi-agency communication. According to Pitt, 'some responder organisations had difficulty in engaging effectively with the local response effort, possibly because Silver Commands were activated instead of Gold' (Pitt 2007 p.71, p.75).

6.2 Regional control centres (RCCs)

The government continues to press ahead with regional control centres (RCCs), which will reduce the service's 46 control centres to just nine, despite opposition from unions, local people and MPs of all political parties.

An obvious question arises out of the experience of the floods: is the proposed system up to the special demands created by an emergency such as freak weather conditions?

Prior to the summer floods, on 2 February 2007 John McDonnell MP asked the Secretary of State for Communities and Local Government what the typical or average maximum hourly call handling capacity is expected to be of each of the regional control centres proposed under the FiReControl project.

In a written answer Angela Smith, the Fire Minister at the time, said that 'based on the current indicative staffing numbers and shift patterns', the call handling capacity nationwide in a 24-hour period would be:

Regional Control Centre	Call capacity (24 hours)
London	5,100
South East	3,375
South West	6,090
East of England	3,090
East Midlands	3,090
West Midlands	3,555
Yorkshire and Humberside	3,555
North East	2,910
North West	4,740
Total	35,505

NB: The government table as supplied in the Minister's answer incorrectly gave 32,505 as the sum of all RCCs' call capacity. It actually adds up to 35,505.

This level of national capacity was half the level needed by just one fire and rescue service (Hereford and Worcester) which, as Sir Ken Knight noted, was handling 72,000 calls in 24 hours at the height of the floods just a few months later. Clearly the government has underestimated the capacity needed.

The FBU argues that control is one of those jobs where technology is no substitute for people. The union estimates that the new RCC scheme will cost £1billion and will involve about 570 job losses – nearly a third of the total. If a third fewer staff had been available during the floods, then many more calls would have gone unanswered.



CATE GILLON/GETTY IMAGES

These fears were highlighted by a recent written answer to a parliamentary question, on 7 March 2008. Asked what estimate had been made of the number of staff required at any one time to provide a resilient 24-hour operation once RCCs have been introduced, Fire Minister Parmjit Dhanda supplied the figures in the table below for expected staffing levels when RCCs are fully operational:

Time period	Control operators	Team leaders	Other control room staff	Control room management
8am to 4pm	76	18	9	9
4pm to 8pm	103	19	9	9
8pm to 11pm	86	18	9	9
11pm to 8am	59	9	9	9

It is a matter of concern to the FBU that for 17 hours from 11pm until 4pm the following day there would be no more than 76 control operators – and for most of that time only 59 – on duty across the whole of England.

This is simply not enough staff to respond effectively to an emergency such as the floods. Looking at the timing of the recent terror attempts, Buncefield and many other major incidents including the floods, such staffing would make it far harder for fire and rescue services to respond effectively.

Another concern about the FiReControl project has become clearer as a result of the floods. The FBU has argued that local knowledge is crucial for dealing with calls quickly and efficiently, and that such expertise would be lost in the proposed new regional centres.

For example, after the flooding in their brigade area in 2007, fire control operators in Humberside argued that their local knowledge was invaluable and that, had everything been coordinated from a regional control centre in Wakefield, the operation would have been impossible (*FBU Firefighter magazine*, August/September 2007).

The FBU reported in August 2007 that Gloucester chief fire officer Terry Standing had said that his brigade's response to recent flooding would have been hampered if the new system had been in place. Under government proposals, the fire control centre in Gloucester, covering Gloucestershire, will be replaced by a big centre in Taunton covering seven counties.

Standing told the *Gloucestershire Citizen*: 'We won vital battles because we were able to put the right resources in place at the right time. We used our professional judgement. My concern is when we get a regional control, that ability is somewhat removed from us. It's that ability to work locally and know your patch and people.'

The *Gloucestershire Citizen* continues to run a vigorous campaign to keep Gloucester's own control room. Both firefighters and fire control staff in Gloucester support the chief fire officer on this. A typical view comes in a comment sent to the paper: 'My daughter works for Fire Control... [During the flood] they used their local knowledge to bring appliances in from other areas and guide them... People came in when they were off duty to help as they lived locally – she and her colleagues won't be able to do that when fire control is in Taunton.'

In the light of the figures and the testimony of participants in the summer floods, the FBU is astonished that Sir Ken Knight concluded in his *Facing the Challenge* report that he is 'satisfied that the introduction of the RCCs will significantly enhance the service to the public and the response from the Fire and Rescue Service, particularly during periods of peak demand'.

Such a conclusion cannot be drawn from the staffing levels outlined by the Minister.

Knight has recommended that fire authorities 'consider whether their current staffing arrangements for their existing fire controls provide sufficient flexibility to increase their capacity during spate conditions' (2008 p.13, *Recommendation 1*). The FBU would welcome such a review, but if it were carried out in the light of the government's own figures, then the only conclusion to be drawn is that such staffing arrangements would be inadequate.

The FBU is also concerned about Knight's proposal for a call queuing system, whereby members of the public would be given (§33) 'an automated announcement during periods of extreme demand' (Knight 2008 p.32). If this is the kind of service the public might expect under regional control centres, it is not one that the FBU and its members are willing to accept.

There is an additional concern with regional control centres arising out of the experience of the floods. Gold Command during such emergencies is under local police control. Coordinating with regional centres for fire and rescue services might make Gold Command even more difficult compared with the current system.

Knight acknowledges (§48) that Gloucestershire FRS believed that 'having Gold Command bases close to the local mobilising centre had significant operational benefits' during the floods, but chooses to ignore the concern. The FBU believes that the move to RCCs will have a damaging effect on these kind of local arrangements.

The FBU has proposed a cheaper, less risky and more easily implemented system of Resilience Controls, based on existing fire control rooms. This would allow FRSs to benefit from the new communication technologies available without weakening their ability to respond to emergencies such as flooding.

The FBU is pleased that the Scottish Executive decided in December 2007 to abandon plans for a single control centre in Scotland and instead to upgrade existing facilities. Justice Minister Kenny MacAskill cited the experience of flooding as one of the factors behind the decision. The union wants the CLG to take note and change course before it is too late.

7. Health and welfare of firefighters during the floods

One of the lasting images of the summer 2007 floods was the sight of firefighters wading up to their waists in contaminated flood water, rescuing stranded and frightened victims of the deluge.

However the sad fact is that fire crews carried out rescue missions in the floods without appropriate protective clothing, wearing equipment designed for fighting fires. More widely, the health, safety and welfare of fire crews was not considered a priority by many fire and rescue services. Nor have these concerns been dealt with adequately by the Pitt Review or by Sir Ken Knight's reports for the CLG.

The FBU believes that that fire crews should expect a reasonable level of pre-planned welfare provision. The duty of care under the Health and Safety at Work Act 1974 falls on the employing fire and rescue authority – but in practice during the floods this duty was often disregarded.

7.1 Health concerns

There are known health risks from flood water, including the presence of sewage. The Health Protection Agency's Thames Valley Health Protection Unit said at the time that hundreds of bacteria could be contained within flood water, including salmonella, campylobacter and cryptosporidium – with symptoms including diarrhoea, headaches, vomiting and stomach cramps.

A *Daily Mirror* investigation of flood waters around Tewkesbury in Gloucestershire found a total of 160,000 bacteria per one millilitre of water. The samples included levels of *E. coli*, coliforms and clostridia which were enough to cause vomiting and stomach upsets if drunk (28 July 2007).

Zoonoses – infectious diseases transmitted from animals to humans – are also a particular concern, with victims and rescuers at increased risk from leptospirosis (Weil's Disease), hepatitis A, brucellosis, cryptosporidiosis, Lyme disease, orf, ovine enzootic abortion, Q fever, ring worm and streptococcus.

Michael Pitt's interim report recognised that the health of flood victims was at risk, noting the case of 'Martin Brody'. The report stated: 'Some people also reported physical health problems, including sickness, diarrhoea, asthma, sore throats, cold sores and bad chests, which many attributed to the damp living conditions and continuing contamination of their homes' (Pitt 2007 p.23, p.81).

However Pitt did not explicitly refer to health issues for rescuers in this report. Similarly, the issue is dealt with only fleetingly and inadequately by Sir Ken Knight's *Facing the Challenge* report.

The FBU raised these concerns at the time of the floods. The union reported the case of a firefighter who rescued someone from a flooded ditch and went down with a virus, thought to have been contracted from contaminated water. He was in hospital for six days and off work for two weeks. The FBU South West Region issued advice on 25 July on the risks of zoonoses.

It is not clear that all FRSs have understood the risks of infection. FBU representatives have raised the issues of inoculation and health surveillance with management during debriefings following the flooding, but have not met with a satisfactory response. For example, Devon and Somerset FRS has recently ceased its in-house hepatitis A and B inoculation programme, even though hepatitis A can be caught from contact with sewage.

7.2 Welfare provision

The FBU is concerned about the wider welfare provision for fire crews during the floods. The union has received reports of crews being mobilised from their usual fire station to incidents hundreds of miles away without any clear idea when they would be returning home. Fire crews put in extremely long shifts, usually with little opportunity for a break, in order to rescue people or protect vital infrastructure.

Crews had to make their own arrangements for food and drink and in some cases the places hosting them provided little or no refreshment. Some crews reported that no main meals were provided. Instead they had to rely on light refreshments or small microwave meals – no substitute for the nourishment needed for such intensive work. Some crews resorted to local fish and chip shops or supermarkets to get something to eat.

Accommodation was also a problem, with crews being bunked in hotels often miles from the incidents, restricting rest time and leading to fatigue. Some rooms were used by other crews as duties were rotated, which was not satisfactory.

Northumberland firefighters complained that they were given very little in terms of welfare or personal items when mobilised – and had to rely on a 24/7 Asda

supermarket close to where they were deployed for food and refreshment. Firefighters noted that other FRSs had provided mobile phones for personal use. Changing facilities were also a problem.

Cleveland FRS still does not have any real welfare policy, despite the FBU pursuing this at health and safety committee meetings. Cleveland crews were mobilised to South Yorkshire and reported haphazard arrangements, with crews arriving for work to start a night shift being told that they were to relieve crews 100 miles away from home. Firefighters said communication was extremely poor although these crews were better fed and watered and apparently provided with adequate facilities.

Fire crews from the South West of England also report that little or no welfare provision is in place to ensure that those who attend water incidents have washing, toilet and other facilities. During the floods one crew responding to the Gloucestershire incidents had no accommodation or rest facilities provided and *had to sleep on the floor*.

Many FBU officials report that welfare policies are under discussion but are not finalised. This is a serious deficiency. For example in Lancashire FRS the welfare service order is yet to be issued.

7.3 Working hours and payments

Sir Ken Knight's reports on the floods for the CLG noted the long hours worked by individual firefighters – retained and whole time personnel, control staff and senior officers – without suggesting how this can be avoided in future incidents (2007 pp.12-13, 2008 p.59).

The FBU has reported that retained firefighters in the Malvern area worked more than 40 hours over the weekend of 20-22 July to deal with the floods (*FBU Alerter magazine, Winter 2007*).

Three watches from Lancashire FRS assigned to South Yorkshire between 26 June and 1 July each worked for between 15 and 32 hours at a time, during which they rescued over 180 people. Firefighters from Northumberland worked six hours on six hours off while in Humberside, although the debrief recognised that 'there were occasions where they worked longer than that and had slightly less time off'.

The FBU is concerned about recall to duty arrangements during flooding incidents. The Grey Book

states that recall to duty should be for a minimum of three hours at double time. However during the floods some personnel were mobilised and then recalled, but only paid for an hour as goodwill.

In addition, the FBU is concerned that HVP personnel are not subject to an availability or an additional responsibility payment, in contrast to personnel in the Maritime Incidents Response Group.

8. Fire crews' equipment and training

Firefighters know that without the right equipment to fight fires, their health and safety is at risk. Yet many fire and rescue services did not have the right equipment, in sufficient quantity, to cope with the floods of 2007.

One reason for this – and not a reason the FBU is willing to accept – is cost. Sir Ken Knight made a remarkable admission in his interim report for the CLG: 'The Services consulted felt that they could not equip themselves for flooding on the scale experienced in the summer as the cost would be prohibitive for incidents for which they had no statutory duty' (*Knight 2007 p.12*).

If FRSs choose to mobilise fire crews to flooding or any other rescue situation, they have a legal duty under the Health and Safety at Work Act 1974 to provide a safe system of work including suitable equipment. Although some improvements have taken place since last summer, there is still a long way to go before the right equipment is available.

8.1 Personal protective equipment (PPE)

Many will remember the scenes during the 2007 floods of firefighters wading up to their chests to rescue people, but few have asked why they were not wearing the right personal protective equipment (PPE) for making such rescues safely.

Sir Ken Knight made this point in his final report: 'The scale of the flooding incidents in 2007 meant that the majority of personnel were deployed simultaneously and for extended durations. This was not something for which most of the FRAs involved were well equipped. This led to firefighters being deployed in normal firefighting PPE which rapidly became wet, cold and contaminated by flood water. The use of firefighting PPE cannot be viewed as being appropriate since it is "not fit for purpose", in the sense that it was not designed for such use and carries with it extra risks, e.g. restriction to the wearer's mobility, contamination etc.'

The situation was clearly serious, as Knight has called for national guidance to be developed for FRS staff working in major floods (*Recommendation 14; 2008 pp.59-60, p.64*).

Firefighters pointed out at the time of the floods that kit designed to resist heat offers little water resistance

and that they risk hypothermia if flooding takes place in winter. The FBU knows of recent testing by Grampian FRS on some PPE which turned out to have 'negative buoyancy' – i.e. it sank.

Northumberland firefighters mobilised during the floods have raised concerns that the life jackets with which they were issued were restrictive when physically rescuing and lifting people. Nor were they issued with head torches or hand lamps, despite working throughout the night. Firefighters had their PPE borrowed by other crews because of shortages.

Retained firefighters from Malvern have complained to the FBU that their clothes and boots were drenched during deployment over the worst period of flooding. Waterproof clothing and waders were not available and firefighters carried out rescues at a waterlogged caravan park while their kit was still soaked through.

The FBU is concerned about the highly variable provision of suitable PPE across different FRSs. There are places where adequate procedures are being developed. For example Lancashire FRS specifies that crews trained to enter water should have a dry suit with thermal undersuit, river shoes, personal floatation device, neoprene gloves, throwline and belt, Petzl helmet, ear plugs, nose clip and quick-release knife.

In Cornwall FRS, all pumps have two dry suits/thermal suits and six wading poles and six life jackets, as well as a hose inflation kit, throw lines and loud hailer. The FRS has two support vehicles with additional dry suits, floating lines, throw lines, rescue paths and boat. In Avon FRS, all appliances carry four life jackets, suitable for off shore extreme conditions, foul weather clothing. Safety boats carry buoyancy aids (enough for each crew member) and crews are provided with dry suits.

Provision elsewhere is less clear. In Gloucestershire FRS, the PPE for most crews is simply a life jacket and a lanyard when working within three metres of the water's edge. Although personnel are told not enter water above boot height, FBU members reported that this went out the window during the July floods. Only three out of 19 stations in Gloucestershire are provided or being provided with full level 2 water rescue/unstable surface training and PPE. The PPE consists of dry suits, bump hats, boots, life jackets and lines combined with a rigid inflatable boat on each station.

FBU officials in the South West report that there is a shortage of dry suits (only two per appliance in Devon), so that firefighters can find themselves having to enter

contaminated water wearing only fire kit. They also report a severe shortage of ancillary PPE equipment. For example: 'We have insufficient and inadequate water-resistant torches/helmet lights, no depth-testing poles for use in flooded areas, and our operational hand-held radios (which are poor at the best of time) are not waterproof.'

The Cleveland FRS standard operating procedure, revised in March 2006, specified only two dry suits, two helmets, six gloves and two fleeces in its incident support unit for flooding. As noted earlier in this report, Cleveland's standard operating procedure specifies that personnel should not 'enter moving water if the depth is above knee height. If wading in shallow water, use a depth pole before advancing'.

Cleveland crews are now issued with water rescue boots and gloves and will soon be issued with 'Wooly Bear' suits which are worn under the storm suits that are carried on the Land Rover used to tow the inflatable craft. All staff on the craft will wear this clothing along with a personal location device and nominated swimmers will get full dry suits and life jackets. Anyone working near the water's edge will also wear personal flotation devices.

The FBU is also concerned about the disinfection and cleaning of contaminated PPE following floods. Every FRS must have policies in place to ensure that decontamination takes place and is carried out safely.

8.2 Other equipment

Fire crews utilised a range of equipment to tackle the effects of the flooding. According to Sir Ken Knight, 36 high volume pumps (HVPs) were deployed between 25 June and 5 July, and 40 HVPs between 20 and 24 July to protect critical infrastructure (2008 p.24).

The FBU believes that these pumps were deployed effectively during the floods, but there were problems over the length of deployments and over welfare provision for crews. HVPs are meant to be deployed initially for 72 hours. Thompsons Solicitors have advised the FBU that the Grey Book does not provide for crews to be deployed to other parts of the country for such periods of time.

The union also has concerns about equipment provided for HVP crews. For example Avon FRS HVP crews are currently not provided with any PPE other than life jackets, although various types of protective

waterproof clothing are being trialled at the designated retained station.

The FBU is concerned about the level of welfare provision for HVP crews during the floods, and believes that all crew members should be issued with a welfare pack, suitable for a minimum of 24 hours working in the event of mobilisation.

Apart from HVP, the other main equipment issue during the floods was the provision of suitable boats. Firefighters have told the FBU that there were not enough suitable FRS boats to undertake all the rescue work. Although some boats were provided by other agencies and organisations, they were not always fit for purpose

This was confirmed by the *Facing the Challenge* report, which noted: 'The outcome of a Defra survey into flood rescue capability, due to be carried out in the early part of 2008, is expected to indicate that there is a case for increased investment in boats and related equipment' (Knight 2008 p.62).

The FBU believes that a range of boats and floating platforms are needed, including standard inflatables and powered outboards. Jet-skis, amphibious vehicles, and even hovercraft should also be seriously considered.

Although some progress has been made since last summer, some local FBU officials have not been consulted regarding these additional craft and the increased burden on training.

8.3 Training

The FBU believes that there is currently a lack of training specifically designed for dealing with flood water. The union does not accept the assumption that current water safety training and water rescue training is equipping fire service personnel with the skills to deal with flood water. Variation in the training provided across different FRS also needs to be addressed.

These deficiencies require a national response. The guidance in the Fire Service Manual is outdated and should be revised to include the lessons from recent floods. There is also the need for consistent training to clear standards for working with water. The Fire and Rescue Service was lucky last summer that no personnel were killed or seriously injured.

The union is aware that some IRMPs are now taking

water rescue training into account, for example in Northumberland's plans, cited earlier in this report, to introduce a swift water rescue capability. This FRS also has a Maritime Incidents Response Group, which it says enhances its capability to respond to inshore water-related incidents.

Similarly in East Sussex FRS all crews are trained to level 2 for working safely near water.

However, in many other FRSs all personnel are only trained in water awareness to level 1. For example the Lancashire FRS IRMP review 2007-08 stated: 'Basic water awareness training should be incorporated into the training syllabus for whole time and retained personnel and it should be confirmed that all existing personnel have received this input.'

In the South West of England, FBU representatives

argue that there are serious deficiencies in water incidents training and want a complete overhaul to ensure crews receive and maintain the necessary competencies. Officials point out that training is often undertaken on the watch and that it is therefore hard to ensure that all personnel have completed it.

8.4 The need for a statutory duty

Having local IRMPs decide the level of service provision results in wide variation of PPE and other equipment, which can cause incompatibility in the face of cross-border incidents. There is also no consistent standard of training across FRAs. The FBU firmly believes that water and flood rescue needs to be made a statutory duty to introduce a consistent level of provision and training throughout the country.



JOHN GILES/PA PHOTOS

9. Recommendations

- The government should listen to views of fire crews and their representatives in its evaluation of the summer 2007 floods. The CLG should engage the FBU and the Chief Fire Officers' Association (CFOA) in negotiating national agreements in the light of lessons learned. Fire and rescue services should consult fully with the FBU on implementing improvements to flood provision.
- The CLG and fire and rescue services should incorporate climate change and extreme weather events into their risk management models, clarify the increased risk of flooding, and make appropriate funding available for staff and equipment to meet these challenges.
- The government should introduce a statutory duty on fire and rescue authorities to respond to significant water-related events such as flooding, and make the necessary resources available to meet these obligations.
- The CLG and fire and rescue services should ensure that all water-related incidents, including flooding, are incorporated into Integrated Risk Management Plans.
- The CLG should ensure that fire and rescue services receive the funding necessary to meet the increased risks of water-related events. Fire and rescue services should ensure that staffing levels are sufficient to meet the growing demand for rescue in water-related incidents without compromising provision for other emergencies.
- The CLG should ensure that fire and rescue services are not penalised when they mobilise personnel to deal with incidents outside of their locality. It should provide a funding mechanism to cover flood relief, either by augmenting the existing Bellwin scheme provision or through an additional fund.
- The CLG should follow the example of Scotland and think again on regional control centres. It should examine how the new premises and technologies can be used in conjunction with existing control centres, without reducing the number of control premises or reducing the number of staff in control.
- The CLG should develop national guidance for FRS staff working in major floods, as suggested by Sir Ken Knight. It should cover the health risks of water-related work, explain how risk assessments can be carried out, and detail the kind of prevention and control measures which need to be implemented. It should cover equipment, welfare provision, health surveillance and inoculations. The guidance should be drawn up in consultation with the FBU and the Health and Safety Executive.
- Steps should be taken rapidly to address the issues identified recently in discussions around health and welfare provision during floods and similar major incidents. It is also necessary to ensure suitable arrangements are made for all HVP crews during emergencies such as floodings. In relation to these issues, any matters relating to remuneration, hours of work and conditions of service will need to be negotiated between the FBU and the FRS employers.
- Fire and rescue services should provide welfare packs or grab bags for individual crew members mobilised for emergencies such as flooding. Welfare packs should include working rig shirts and sweatshirts, cotton disposable coveralls, socks and underwear, towels, personal hygiene sets, packs of wet wipes, ready meals, energy snacks, sealed bottled water, toilet rolls, torches, sleeping bag, and mobile phone and charger.
- Fire and rescue services should ensure that the officer in charge has the means to secure suitable welfare and accommodation facilities for crews, including relief crews, for the full duration of the incident. This should include 24-hour access to funds to support and finance welfare provision for crews.
- The CLG and fire and rescue services should carry out a review with the FBU on existing personal protective equipment (PPE) in the light of water-related incidents. This should include the suitability of firefighting kit for water-related incidents, the full range of PPE available for flooding incidents, and the arrangements for dealing with contaminated PPE.
- The CLG should evaluate with the FBU and CFOA the forthcoming Defra report on boats and other equipment available to deal with water-related incidents. New resources should be made available to ensure there are no gaps in provision, as there were in the New Dimensions programme for HVPs.
- All Fire and Rescue Service personnel should be trained to understand the risks to themselves and others caused by flooding. This would go beyond

basic health and safety and water awareness training to encompass: health risks of working in flood waters, including from long hours without rest; the risks of entry into flood waters; manual handling of victims in flood waters; and the use of equipment made available by mutual aid.

- The CLG should develop a national accredited training system to ensure consistent and appropriate training for sufficient personnel to deal with the full range of water-related incidents.

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