



LONDON FIRE BRIGADE

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Request:

I would like to know if the brigade is beginning to look into procuring new specialist appliances for wildfire firefighting. If so, I would like to know what these vehicles will be, where they will be allocated and how many there will be.

Response:

Please see below our Operation News 45 – Extreme Heat Learning.

We have dealt with your request under the Freedom of Information Act 2000. For more information about this process please see the guidance we publish about making a request [on our website](#).



Property damage following the Major Incident in Wennington.

Extreme Heat Learning

The Meteorological Office (Met Office) issued a 'Red Extreme' heat warning for the whole of the United Kingdom on 15 July 2022, and by 19 July, temperatures in the UK exceeded 40 degrees Celsius. As a result of this extreme heat, the Brigade declared a Major Incident due to the high number of pan-London incidents, including numerous grass and wildfires,

exacerbated by the weather conditions. A Major Incident was also declared at the 15-pump fire in Wennington on the same day, as well as a further Major Incident at the 15-pump fire in Dagenham.

While the extreme weather conditions experienced in the capital were predicted at the time, the impact was unprecedented and the Brigade

faced one of its busiest days in the modern firefighting era. Specifically, this manifested itself as a significant increase in the number of large incidents per day.

On 19 July, 26 incidents of four (or above) pumps were recorded, compared to two four-pump fires (or above) on average per day. See the table overleaf:

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INCIDENTS OF FOUR OR MORE PUMPS ON 19 JULY

Incident Size	Number
4 pump fires	6
6 pump fires	5
8 pump fires	4
10 pump fires	4
12 pump fires	2
15 pump fires	3
20 pump fire	1
30 pump fire	1
Total	26

Similar conditions were experienced across the country, with 11 of the 46 fire and rescue services in the UK declaring Major Incidents.

The National Fire Chiefs Council (NFCC) Wildfire Team reported that there were 972 National Operational Guidance (NOG) criteria wildfires recorded in England and Wales during 2022. The previous record for recorded wildfires was 247 in 2021. The Brigade had the third-highest number of wildfires nationally in 2022, with 65 incidents meeting the NOG wildfire criteria.

From 0800 on 19 July until 0630 on 20 July there were:

- 2,496 calls to Control
- 359 incidents
- 740 calls relating to grass alight
- 59 grass fires attended
- 822 fire engine mobilisations

The whole of the Brigade – from firefighters to Control officers through to staff in support functions – rose to the challenge presented by this unprecedented demand with bravery, tenacity and determination. Without this concerted and coordinated effort, there is no doubt the damage to London's communities would have been much worse.

Immediately following this unprecedented period, our post-incident review and debriefing procedures were instigated to identify all the relevant learning to improve our response in future.

The review identified areas of learning and recommendations were made through the Operational Improvement Process. All of the review's recommendations were accepted and teams from across the Brigade are working hard to deliver them.

RISK MANAGEMENT PROCESS

In order to ensure we manage risks effectively, such as those posed by the climate, we need to ensure that the contribution made by all areas of the Brigade – from Prevention through to Response – are understood in a holistic way, and that our learning processes examine this arrangement in a systematic and auditable way to ensure it remains current. This will be a key deliverable of the current project to deliver the next phase of our implementation of National Operational Guidance.

RURAL-URBAN INTERFACE (RUI)

The most significant property damage that occurred on the 19 July was at the rural-urban interface. The extent of this damage was unprecedented for the Brigade, and as a result, our policies and procedures will be reviewed to ensure we understand and mitigate this key hazard.

WILDFIRE RESPONSE ARRANGEMENTS

The review identified that the Brigade had limited arrangements in place with organisations that could support our response to wildfires. In addition, we do not have any wildfire tactical advisors with specialist knowledge and training to support personnel in resolving these incidents. Our equipment and vehicles also require review to enable a wider range of tactical options.

As such, all aspects of our response to wildfires are under review, with officers in Operational Policy and Assurance undertaking a review of our risk assessments, policy and procedures for wildfires. We are also reviewing our equipment and training. In addition to this – to ensure we engage with staff with relevant wildfire experience – we will put together a stakeholder group to assist officers in Operational Policy and Assurance when selecting the right equipment and capabilities for the future.

WELFARE, PPE AND RPE

It became clear during the debriefing that our current welfare equipment and procedures are not sufficient to mitigate the impact of working in 40-degree heat. This includes our personal protective equipment (PPE) and respiratory protective equipment (RPE), and also our welfare arrangements, such as portable shelters and cooling fans. As a result, these will be reviewed to ensure that we put in place suitable measures to protect staff working in extreme temperatures in future.

RECALL OF PERSONNEL

Due to the levels of demand placed on the Brigade, some members of staff wished to report for duty to support our response. However, we do not have any procedures in place to support a voluntary return to duty for personnel in times of excessive demand and so these procedures will also be reviewed.

EMERGENCY RESPONSE PLANS

Our operational risk information-gathering processes (as outlined in policy 800) do not cover open areas, and therefore there are very few tactical plans available for wildfire-prone sites. This means there is little information on the Operational Risk Database to support personnel responding to these incidents. This will be reviewed to ensure that, where appropriate, we create effective tactical plans for wildfire sites to support an efficient and effective operational response.

LARGE SCALE RESOURCE REQUIREMENTS

There were periods on 19 July 2022 when almost all LFB appliances were deployed at incidents across London. This caused significant challenges in transporting and relieving crews and meeting the resource demands across the Brigade, with mutual aid from surrounding Brigades stretched to its limit. This was an issue in large parts of the country, and as a result, our Major Incident procedures will be reviewed to better deal with these issues in future.

EMERGENCY EVACUATION ARRANGEMENTS

When relaxing PPE in extreme heat, it was identified that emergency evacuation whistles were left in tunic pockets, which meant they were not available for use if needed to communicate an evacuation signal. As a result, operational guidance will be reviewed to make clear that when PPE is being relaxed, evacuation whistles should be placed into leggings when tunics are removed.

EMERGENCY EVACUATION AND MASS RESCUE TERMINOLOGY

The rapid fire spread through the rural-urban interface in Wennington resulted in a mass evacuation being declared and carried out. Our current operational terminology is for 'emergency evacuation' or 'mass rescue'. However, on both occasions when this procedure has been put into place, the terminology used was 'mass evacuation' which indicates potential confusion. As such, officers in Operational Policy and Assurance are reviewing our operational guidance for emergency evacuation and mass rescue to determine whether the terminology can be simplified.

WATER SUPPLY INFORMATION

In some areas, the water authorities reduced water pressure without informing the Brigade, which affected our operations. As a result, to ensure that water authorities inform the Brigade

of any potential supply issues, our Memorandums of Understanding with water authorities will be reviewed.

CONTROL

Due to the pan-London resourcing challenges, Control redirected appliances on numerous occasions to ensure the fastest-possible attendance to an incident. The Brigade currently has no procedure or guidance to assist with this. In addition, the two airwave talk-groups, FLON-OPS05 and FLONS-OPS06 became congested. The current LFB Operational to Control talk-group usage does not provide sufficient capacity to deal with pan-London spate conditions, and so these areas will be reviewed by Control and Operational Policy and Assurance.

COMMUNITY ENGAGEMENT

A lack of communications and engagement was identified with communities affected by these incidents. This was caused by the lack of a clear role to undertake this engagement activity. As a result, our operational guidance relating to warning, informing and advising the public will be reviewed and a Community Engagement Officer role will be introduced to perform this function at significant incidents.

DRONE AVAILABILITY

At most operational debriefs, the use of drone footage in building situational awareness was greatly valued by personnel. At incidents where drone footage was not available, challenges were reported building and maintaining situational awareness. Currently, the Brigade's drone availability is limited, with only one team available for deployment at any one time. Officers in Operational Policy and Assurance will explore measures to increase the availability of drones to support situational awareness at widespread incidents.

SUMMER 2023

The latest prediction from the Met Office

is that this summer will have above average temperatures, in conjunction with the above average rainfall throughout the early part of this year. While record temperatures are not expected this year, the mix of warm weather with above average rainfall means that there is likely to be an abundance of 'wildland fuel' available to burn if ignited. The risk of surface water flooding from violent rainstorms brings additional complexity to our preparedness and response work. With any moisture added to green areas evaporating in the heat within 48 hours, the risk exists for combinations of flooding and wildfires within days of each other.

Work is in progress on the learning areas that have been identified. Some of these changes are significant and will not be delivered before the summer period when extreme weather is expected. However, there are a number of changes that are already in place – or will be completed by that point – to ensure we provide a more effective operational response this year.

The following articles in this issue of Operational News outline the details.

WILDFIRES IN THE RURAL-URBAN INTERFACE (RUI)



A fire that spread across the rural-urban interface and resulted in significant property damage in 2022.

Wildfires in the rural-urban interface (RUI) are fires at the point where green space – open fields, woodlands, and everything in between – meets industrial, commercial, or residential property.

London has some of the most unique rural-urban interfaces in the country, with major transport infrastructure, densely-populated communities and Sites of Special Scientific Interest all bordering the rural environment.

The impact of climate change and extreme weather mean wildfires are likely to continue for decades to come. We must aim to learn from our experiences, as well as from other fire and rescue services (FRS) nationally and internationally, to develop all areas of our prevention, preparedness and response to meet the demands wildfires place on our service. Operational Policy and Assurance (OP&A) have identified climate change as a risk and have started to engage with national and international FRS to learn how these risks are managed. This work is

being prioritised to ensure we are better prepared for wildfires in future.

To support our development, learning and understanding, the Brigade is working with the Hazelab Research Group at Imperial College London to understand climate change and weather extremes.

Officers from OP&A have made a number of recommendations, deliverable over a three-year period, which have been approved by Deputy Commissioner Dom Ellis. Our prevention, preparedness and response to wildfires is an area that will continue to develop and evolve over time. It is essential that we lay solid foundations now so we are better prepared for the challenges that extreme weather will bring in the coming years.

TRAINING

We have decided to align our training with the National Fire Chiefs Council (NFCC) Wildfire Group and a new Level 1 wildfire training package is now live on Big Learning. This mandatory training

is for all operational ranks up to Deputy Assistant Commissioner and is made up of eight modules that cover:

1. Wildfire terminology
2. Map reading
3. Topography
4. Weather
5. Fuel
6. Wildfire Prediction System
7. LACES Safety Protocol
8. Suppression

It must be acknowledged that some staff may consider elements of this training to be not relevant to the risks within London. The majority of fires that LFB attend are static and do not move, but wildfire is dynamic and can be fast-moving over large areas of ground and terrain. These fires are influenced by weather conditions and require specialist resources and training to ensure that firefighters are best prepared when faced with these incidents.

With the ongoing threat from climate change and extreme weather, it is likely that wildfire events will become more frequent in the UK, with more requests

for mutual aid from other FRS around the country and internationally. The Level 1 training package gives operational staff the foundation of knowledge they need to operate safely at wildfire incidents, regardless of the terrain.

WILDFIRE SUPPORT OFFICERS

In addition to the Level 1 training, 40 station and group commanders – drawn mainly from the Bulk Media Advisor (BMA) cadre – have undertaken Level 2 training delivered by specialist trainers from Northumberland FRS where the same modules were covered in greater detail. Of those 40 officers, 30 will be undertaking the Level 3 practical training. Successful completion of the Level 3 training will mean that the Brigade will have 30 Wildfire Support Officers (WSO), providing incident commanders with tactical advice. Wildfire Support Officers will be on the pre-determined attendance for six pump (and above) grass fires where they will provide incident commanders with tactical advice. All new training (Levels 1-3) should be completed by Tuesday, 4 July 2023.

EQUIPMENT

'Holey hose' is a 45mm lay flat hose that has 6mm holes drilled into it. Hose lengths are connected together with a stop end or closed branch in the end female coupling; sandbags are placed on the couplings to maintain a straight run. Water is pumped through create a 'water curtain' over a considerable distance that creates a fire break in a rural-urban interface. The early use of holey hose will wet unburnt fuels and soak into the ground, making their ignition more difficult. This equipment has been used successfully by many fire and rescue services nationally. Holey hose will be carried on the OSU with a 5,000-litre water dam for areas that are difficult to access. A separate briefing note is available [here](#).

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then click on Operations>Operational Updates>Operational News to read the PDF version.

Many of those who responded to the grass fires of 2022 will have seen the 4x4 vehicles belonging to neighbouring FRS that supported us through mutual aid. In order for LFB to gather data on the specifics of what we require a vehicle to do, we will add the all-wheel drive vehicle based at Biggin Hill to the pre-determined attendance for all six pump (and above) grass fires. Based on what we learn from using this vehicle, we will find out whether 4x4s offer us additional capabilities. We are also considering buying additional equipment, such as leaf blowers and small hand tools and discussing how to mobilise these assets to incidents.

PPE

Learning from other FRS and hearing suggestions from staff has led to the procurement of sun protection headwear. In June, all operational staff will be issued with a 'bucket hat' to provide 360° protection from the sun when working in open spaces. The bucket hats will be used based on the Incident Commander's risk assessment for the required level of PPE. Bucket hats should not be worn while undertaking direct fire suppression tasks including the use of beaters or extinguishing media, in those cases a helmet should be worn to offer head protection.

Officers are engaging with PPE manufacturers to identify suitable lightweight PPE to protect firefighters from the sun, contaminants, and the operations they undertake. Although this PPE will not be available this year, we will provide an update in due course.

RPE

The current minimum level of RPE for wildfires is the use of half mask respirators with P3 particulate filters and gas detection monitors. This level of protection is currently being improved with the introduction of face fit testing for all

operational staff. This will not only ensure correctly-fitting RPE, but also provide additional education on its use.

While particulate filters offer protection in organic environments, when grass fires spread to involve the built environment (as happened at Wennington in the summer of 2022) the level of RPE must be increased to BA to ensure that crews are not exposed to toxic fire gasses from non-organic materials. This increase in respiratory protection escalates the risk of heat stress. Officers in charge must remain aware of this increased risk and ensure that appropriate safe systems of work are in place. RPE must form the basis for the incident's analytical risk assessment and be reviewed in each revision to ensure that it is still the best level of protection.



Demonstration of 'holey hose'.

STRATEGIC FORECASTING



Control officers at the London Operations Centre in Merton.

Following a variety of incidents that have tested the LFB's operational response, including last summer's wildfires, we identified a need to capture intelligence and information to inform the way we plan our resources to meet the risk that has been identified. Since March 2023, Central Operations have been hosting a weekly strategic forecasting meeting with various key departments, including Operational Resilience, Learning and Professional Development, Establishment and Performance Team, Fire Stations, Strategy and Risk and the Resource Management Centre. The aim of the meeting is to review the Brigade's operational availability for the next seven days.

Operational Resilience provide the meeting with an update on a seven-

day forecast for Threat and Protective Security, Events, Intelligence and the weather. The high-level risks are then fed into the group, along with the actions taken within Operational Resilience to meet the risks, which could include staffing the Metropolitan Police Service Special Operations Room (SOR) with a GT command offer or ensuring that a venue has an event liaison officer (ELO) in place.

Part of the meeting involves analysing the weekly weather forecast provided by the Met Office to identify areas of concern, for example a heatwave or flooding. This information is then evaluated by Central Operations and staff at the meeting to consider what control measures could be implemented to minimise the risk. This could include

ensuring the all-wheel drive (AWD) vehicle is available when the weather indicates an increased risk of wildfires or having high volume pumps (HVPs) available for an increased flood risk.

Central Operations along with the Establishment and Performance team take into the account the recommendations, identifying potential gaps in skills and establishment to ensure the correct level of resources are available to deal with the identified risk, whether that be intelligence, events or the weather. This information is then cross checked with appliance availability to ensure a balance between scheduled training courses and appliance availability to meet the identified risks.

REHYDRATION FOR PERSONNEL AT WILD/GRASS FIRES



Hydration through drinking plenty of water is paramount and a vital way to maintain health and wellbeing during periods of physically demanding work. Individual personal issue water bottles are to be kept full and available at all times.

It is recognised at incidents of an arduous nature that the potential for dehydration is increased, which can leave firefighters more susceptible to heat-related illnesses. Dehydration means your body loses more fluids than you take in, and if left untreated, it can lead to reduced physical and mental performance.

These are the signs and symptoms of dehydration:

- Headache
- Nausea
- Dry mouth, lips, and eyes
- Feeling dizzy or lightheaded
- Feeling tired
- Passing small amounts of urine and fewer than four times a day
- Dark yellow and strong-smelling urine*

Last year, Revival Rehydration powders were introduced in sachets to supplement water intake. The powder replenishes the electrolytes and vitamins that are lost through sweating. These powders will also be made available this year. Although Revival Rehydration powders assist with rehydration, they should not be a substitute for proactively managing your own personal hydration by drinking enough water.

The allocation of rehydration packs is as follows:

- 10 sachets per Pump, Pump Ladder, Fire Rescue Unit, Command Unit, and the Rapid Response Team.
- Five sachets for all specialist appliances and senior officers.

Please see the training note on Hotwire for directions for use [here](#).

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REORDERING

An additional 120 sachets will be kept at the six Operational Support Unit (OSU) stations and requested by incident commanders via Control. OSU stations can replenish their stock directly from the Operations Support Centre.

Stations can order a box of 30 sachets on POMS (item number S3072) and replenish appliances from this stock. The sachets are part of appliance inventories, so it is the responsibility of station personnel to ensure that a physical check of the amount, expiry dates and condition of the sachets is carried out.

*Please also refer to the standard urine chart to monitor hydration levels.

FLOOD RESPONSE

According to Environment Agency figures, one in six properties are at risk of flooding at an estimated cost of more than £1 billion. With above average rainfall predicted this summer, there is a risk of short intense storms with associated surface water flooding.

OUR PREPARATION

Borough Commanders have been engaging with their local authorities – as part of an extreme weather preparation scheme – with requests to ensure that gullies and drains are serviced and maintained in known flood risk areas.

The Brigade has 500 meters of flood protection barriers at Finchley and Sutton fire stations available on incident commander's request and delivered by Operational Support Units. The barriers are quick to deploy and enable crews to divert water away from properties. When the flood barriers are requested, a Tactical Advisor Rescue (TAR) is also mobilised to support and advise the incident commander on water rescue and flood capabilities. To support the deployment of the barriers, two-piece flood suits are available for front line crews.

ICs must remain aware of the dangers associated with wide area flooding incidents. The following guidance must be adhered to when firefighters are wading in flood water:



Flood Protection Barriers slot together to divert water away from properties.

- Wading poles must be used to assess the depth of the water and to locate any obstacles.
- Use landmarks to help establish the depth of the water and constantly monitor the surroundings, depth, and movement of water, etc.
- The maximum depth for wading when wearing flood suits is 60cm, usually knee height. If there is any need to operate in deeper water, this work must be carried out using boats and water rescue trained firefighters.

We have 10 water rescue Fire Rescue Units strategically positioned throughout the Brigade with crews trained in Swift Water Rescue. Each FRU carries an inflatable rescue boat for 'on water' operations with an additional 12 rigid boats available for deployment from the Operations Support Centre.

To support crews attending floods within properties, ejector pumps are available on front line appliances to enable crews to safely pump out confined spaces. Further specialist equipment is available on the OSUs at Finchley, Stratford, and Sutton fire stations via the water removal resource pack, including aqua vac, various adapters for the vac, and long handle squeegees to remove water.

While we all hope that the risk of surface water flooding reduces in the drier summer months, all operational crews should be aware of the equipment available to support flooding operations.



RESOURCING AND RELIEFS



When planning how to resolve an incident, one key area for incident commanders to consider is incident resourcing. When determining their incident plan, incident commanders should identify the resources currently available to take immediate action, and request those likely to be needed to deliver a full incident plan. They should also consider the potential for the incident to escalate.

The required resources should be identified by considering what tasks or activities need to be performed on the incident ground to deliver the incident commander's plan. This is important, as different tactical approaches may require significantly different levels of resource. For example, if an incident commander decides to commit BA teams to a building to conduct internal firefighting, this may require more personnel than selecting a defensive approach using handheld jets outside the building.

When selecting the resources they require, incident commanders should consider:

- Personnel
- Appliances
- Equipment
- Time and location of resource arrival
- Specialist skills and expertise
- Tactical and specialist advisors

- Police, ambulance and other category 1 and category 2 organisations (for more information on these responders, [see the LESLP Major Incident Manual, section 8](#))
- National resilience capabilities
- Relief crews

In addition to pumping appliances, the Brigade has a significant number of specialist resources. The resources that may be suitable for use during periods of extreme heat include:

- Lightweight portable pumps
- Hose laying units
- High volume pumps
- Operational Support Units
- Aerial appliances
- Drone Team

These should be considered for use, as they have the potential to reduce the number of personnel and appliances required to resolve an incident and have a positive impact on the operational resilience of the Brigade, particularly in times of high operational demand.

RELIEFS

The approach above also applies when considering reliefs to ensure the appropriate level of relief resources are requested in good time. Relief timing should be based on the quantity, type and duration of work that crews are detailed to perform, and the environment and conditions they are working in.

When developing a relief plan, it is important that incident commanders communicate with Control to support their situational awareness and enable Control officers to arrange the required resources, while maintaining fire cover across the Brigade.

In times of extreme demand, the management of reliefs may be coordinated across the Brigade by the Brigade Coordination Centre (BCC) to ensure the best use is made of all available resources. In addition to this, officers across a number of departments are developing arrangements to support large-scale reliefs across the Brigade with partner agencies during periods of extreme weather. More information will be communicated to staff when these arrangements are finalised.

For more information, please read [Incident Command – Command Skills – Decision making](#), [Incident Command – Organisation at Incidents – Additional Resources](#) and [Reliefs at incidents](#). If you are reading a printed copy of Ops News 45, please go to Hotwire and then click on Operations>Operational Updates>Operational News to read the PDF version.

DRIVING SAFETY

Safe driving has featured in the previous two issues of Operational News and will continue to be highlighted while it remains a risk to our crews and to the public we serve. This year has seen multiple instances where our appliances have been involved in serious road traffic collisions (RTCs) with members of the public, causing significant damage to property and injuries to members of the public and our staff. Officers who have viewed appliance CCTV as part of accident investigations have warned that LFB has come very close to causing significant life changing injuries and possibly fatalities.

The number of RTCs involving Brigade vehicles has continued to remain high over the past three years. Please see the RTCs involving Brigade vehicles diagram, below right.

These RTCs come at a cost to the organisation, both financially and in our ability to respond effectively. The bill for vehicle repairs for 2022/23 is forecast to exceed £900,000. In addition, the large number of damaged appliances mean that we are over-using our reserve fleet.

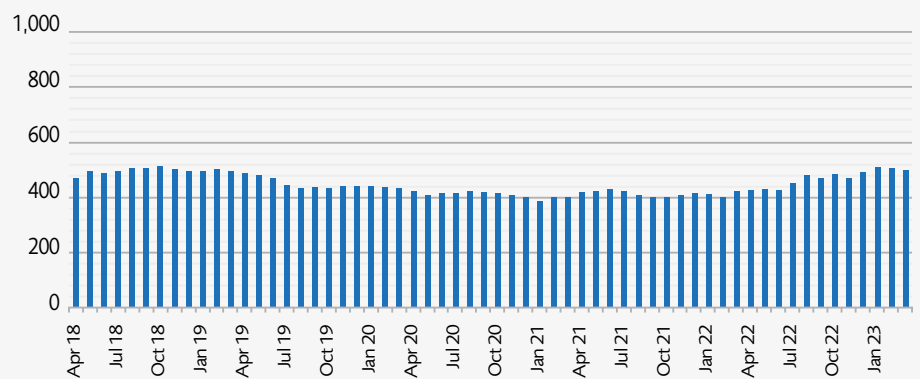
To assist us in making the necessary improvements, we are:

- Liaising with MPS traffic colleagues to see what LFB can learn from RTCs.
- Changing the mobilising message to reinforce safety considerations.
- Looking to install updated WiFi-enabled CCTV and telematics. CCTV and telematics are useful tools to help protect our crews and to help us learn from our experiences and to enhance our performance.

We all have a part to play in changing our culture in relation to RTCs. Drivers and appliance commanders have a combined responsibility to ensure we 'Drive to Arrive'. 'Drive to Arrive' is more than just a slogan; it is a mindset that must be adopted. There is no benefit to the public we serve by pushing our driving standards beyond acceptable levels if that puts us at risk



RTCs involving Brigade vehicles – Rolling 12 months



of causing collisions and being unable to attend the incidents we are trying to respond to.

- The driver is to ensure that the appliance proceeds to the destination and is driven in such a manner and speed so as not to endanger themselves, their crew/passengers, other road users and pedestrians.
- The appliance commander is responsible for monitoring the standard of the driving and should provide a steadying and calming influence over the driver. When appliance commanders observe a standard of driving below that expected, they need to discuss these performance issues with drivers.

- The crew's role is to support driving safely by ensuring they are all wearing their seatbelts and checking that all equipment is correctly stowed. We have had several safety events in the past 12 months where appliances have been driven out of stations with lockers open and even with trays fully extended.

Unless we start working together to reduce these events, we will continue to see financial impacts, a decrease on our ability to deliver an effective service, and ultimately we could see our crews facing criminal action after serious RTCs that have led to significant injuries or even death.

OPERATIONAL DISCRETION INCIDENTS

In order to share operational learning across the Brigade, we are including details in this issue of Ops News of recent incidents that resulted in operational discretion being declared. Operational discretion is for use on the rare occasions where operational policy, procedure and guidance does not meet the needs of an incident. Operational discretion allows incident commanders to adapt or move away from operational policy, but only where this is necessary and justifiable in terms of risk versus benefit.

Situations where the use of operational discretion may be appropriate include:

- Saving human life.
- Taking decisive action to prevent a rapid or serious escalation of an incident.
- Incidents where taking no action may lead others to put themselves in danger.

All incidents where operational discretion is declared are reviewed and debriefs are held to identify any potential operational learning.

WATER RESCUE

Crews in South-West London attended a call to a person in the River Thames. On arrival they were informed that a male had jumped into the river and not been seen since. In order to try and locate the casualty, the initial incident commander requested a Level 2 water operations attendance, and committed firefighters attached to floating safety lines to the water to search for the casualty. Operational discretion was declared for committing firefighters to the water.

On review, it was identified that actions taken at this incident were in line with our [Water Operations Standard Operating Procedure \(SOP\)](#) which includes the control measures that must be put in place before a firefighter enters the water. Any firefighter committed to the water must be replaced by FRU Swiftwater Rescue Technician personnel as soon as possible.

However, it is important that staff do not attempt to undertake a sub-surface water rescue. The risks associated with



The scene of a gas explosion in South East London where operational discretion was declared.

sub-surface rescue are too high because it involves hazards that go beyond the capability of LFB safe working procedures, breathing apparatus and PPE.

As a result, firefighters must not attempt rescues which involve them placing their heads under the surface of the water. Breathing apparatus must not be used under water, as the equipment is not designed for this task.

BUILDING COLLAPSE

Crews in South East London were called to a gas explosion at a residential property. On arrival they found a significant explosion had taken place, destroying one property and leaving multiple properties at risk of further collapse. There were people involved in the collapse that required rescue, and members of public were already on the debris pile attempting to reach casualties.

In order to reduce the risk to members of public, the incident commander immediately committed crews to conduct rescues and remove people from the risk area while awaiting the arrival of Urban Search and Rescue resources. They also asked the gas authority to isolate supplies,

implemented a cordon and deployed safety officers to monitor surrounding buildings for any sign of further collapse. The incident commander declared operational discretion as they had committed crews prior to the gas supply being isolated.

The actions taken and control measures employed at this incident were in line with the [Rescue foundation document](#) and the six stages of rescue. While utilities should be isolated at the earliest possible opportunity to ensure any potential explosive risk is removed, there may be casualties in the incident that could be rescued in the early stages.

In order to provide expert advice and support in collapsed structure incidents, the Brigade has an arrangement with the National Emergency Services Support Taskforce (NESST) which can attend incidents to assist in assessing structural integrity. NESST can be requested through a USAR advisor.

Following review of this incident, the Brigade will be introducing a clearer means of identifying USAR personnel when they are wearing firefighting PPE. Officers in Operational Policy and

Operational discretion incidents

Continued from page 11

Assurance are also working to reintroduce attendance at annual USAR confirmation exercises for non-USAR officers to ensure more staff are exposed to this type of incident. This incident will also be used as a case study as part of our incident command training in future.

SHIP RESCUE

Crews in East London were called to assist the London Ambulance Service (LAS) to remove an injured casualty from the hold of a ship. The casualty had suffered significant lower limb injuries and needed to be removed urgently, in a manner that minimised movement to prevent their condition deteriorating.

They found that carrying the casualty out through the stairs on the ship would not have been possible due to the tight spaces involved. Following discussions with the ship's crew and LAS, the incident commander declared operational discretion and used the ship's crane to lift the casualty up to deck level in a basket stretcher.

Crews confirmed that the operator was competent, that the equipment was tested and rated for carrying the casualty and then put safety officers and a Level 2 line operations system in place as a backup and to control the movement of the casualty during the rescue. The casualty was lifted to deck level and transferred to the care of LAS. The use of the crane meant that the casualty was rescued in good time and remained stable.

On review following this incident, it was identified that there is no current guidance on the safe use of non-Brigade plant at rescue incidents. As a result, we will be amending our operational guidance to provide clearer guidance for all personnel in this area.

PERSON STRUCK BY TRAIN

Crews were called to person struck by a train in East London. On arrival, the casualty was alive and required medical treatment and rescue. The line was powered by Overhead Line Equipment (OLE). While

trains had been stopped, the power to the OLE had not been isolated or earthed by the time crews arrived at the incident.

Crews were committed to the track in order to stabilise the casualty and then bring the person to safety. The incident commander declared operational discretion, as the OLE equipment was still live at that point. All crews and equipment remained well below the height of a train carriage, so there was low risk of contact being made with the OLE equipment.

The [Transport foundation document](#) provides operational guidance on the hazards relating to OLE and the required control measures. Following this incident, it was identified that while this guidance includes reference to an OLE warning line on a train carriage, there was no minimum safe distance where a train carriage was not present. The minimum safe distance for personnel and equipment from OLE that has not been isolated is three metres. As a result of this incident, our operational guidance will be updated to include this minimum safe distance.

DOG IN WATER

During a period of cold weather in December, crews in South West London were called to rescue a dog that had fallen into a partially-frozen lake that was approximately 1-1.5m deep. On arrival, the crews found that the owner was very distressed. They believed that she may enter the water to attempt the rescue herself.

As a result, the incident commander immediately requested a Level 2 water attendance and then committed a firefighter wearing a personal flotation device on a floating safety line to the water. Operational discretion was declared, as the water was partially frozen. The firefighter took a ceiling hook to gauge the depth as they waded to the dog and brought the dog to the waterside. At that point, the incident commander withdrew all crews from the water. The crews decided to transport the dog in the fire appliance to a nearby vet for treatment.

It was identified through debriefing that the actions taken were outside of the [Rescue Foundation document](#) that states that ICs must not commit untrained personnel on mud, ice or partially-frozen water, unless the situation is so critical that to await the arrival of further resources is likely to result in the loss of human life. In such circumstances, every effort must be made to reduce the risk to firefighters. It was also identified that there is no operational guidance on transporting animals in fire appliances.

Following this incident, we will review our operational guidance around committing to partially-frozen water and also whether there are circumstances where non-human casualties should be transported in a Brigade vehicle. In addition, the pre-determined attendance for small animal rescues is being reviewed to ensure that a full water rescue attendance is mobilised whenever an animal may require rescue from water. This is to ensure specialist resources are available as soon as possible to establish full safe systems of work.

All of these incidents were valuable learning opportunities that will result in changes to our policies, procedures and training. In each case the incident commanders declared operational discretion to indicate the unusual nature of the incident they were dealing with, which assisted greatly with the learning process. All personnel should contribute through debriefing and the use of the Incident Monitoring Process (IMP) database to enable the Brigade to improve our operational response.

BUILDING CONSTRUCTION RISKS

To make sure that all personnel are made aware of operational risks in the complex and continuously changing built environment in London, learning processes in Prevention and Protection and Operations share information on potential issues on a regular basis to ensure suitable actions can be put in place and the relevant staff informed.

As part of this work, staff in Prevention and Protection and Operational Policy and Assurance will work together to revise our current operational guidance relating to building construction to ensure it reflects modern methods and materials used in construction.

Two recent building construction risks have been identified that staff should be aware of when responding to incidents.

LARGE PANEL SYSTEMS

Large Panel Systems (LPS) are prefabricated reinforced concrete slabs created in a factory before being transported to a building site and assembled, similar to modern methods of construction such as panellised timber frames. LPS was a popular method of constructing high-rise flats in the 1960s and 1970s due to the ease and speed of construction. Although the expected lifespan of the LPS blocks was approximately 40 years, many are still standing. LPS was not limited to high-rise buildings, but can also be found in some low-rise properties.

LPS is used throughout the entirety of the building; walls, floors, and stairways are all pre-cast LPS slabs and fitted together to form both the primary elements of structure and envelope of a building. In this type of structural system, each floor is supported by load bearing walls directly beneath it. The panel's weight can hold it together, but it is usually also bolted together. Nevertheless, there have been situations where some bolts have been missing.

Issues with LPS were highlighted following the [Ronan Point tragedy](#) in 1968, which resulted in significant structural collapse of a high-rise building following a gas explosion.

As well as the potential for structural collapse, the system may also not provide appropriate compartmentation to limit fire

spread. Ageing and movement caused by changes in temperature and moisture content can weaken or damage panels, increasing the collapse hazard. Identifying issues associated with this type of building is difficult, but bowed panels or edge-joint distortion may be indications of structural defects.



Ronan Point – a Large Panel System building.

Building construction risks

Continued from page 13

Following the Ronan Point incident, numerous changes were made to building regulations. However, despite these changes, recent cases have shown that remedial works may not have been completed in all cases. As such, operational personnel attending fires in tall buildings constructed during the post-war period should consider the potential for early collapse and potential breaches of compartmentation. External spotters should be put in place as soon as resources allow to monitor all faces of the building.

SUBSTANDARD ROOF BATTENS

The National Federation of Roofing Contractors (NRFC) have issued a safety

alert relating to roofing battens. NRFC have identified that a large volume of non-standard battens, falsely coloured and/or stamped with BS 5534, have entered the UK market.

The appearance of these battens is thought to be due, at least in part, to the high demand for treated timber that was compounded by the shortages created by conflict in Ukraine, Brexit and the Covid-19 pandemic. These non-standard battens may not have the same level of integrity as those produced in line with the relevant British Standard.

It will be difficult for operational personnel to identify these battens on arrival at an incident, particularly if the roof

has been completed and fully covered. As such, if a newly-constructed or partially-constructed roof is involved in a fire, all personnel should consider the potential for collapse or falling debris and ensure the minimum number of personnel necessary are committed for the minimum time required. Incident commanders should also appoint a safety officer to monitor the integrity of the roof and alert all personnel if the potential for collapse is identified.



STRUCTURED BRIEFINGS

The Operational Learning team regularly review all observations recorded on the Incident Monitoring Process (IMP) database to identify any trends in operational performance. One trend that has been identified recently relates to the quality of briefings, particularly around the lack of sharing of hazard and safety information.

Briefings are a key method of communication that incident commanders use to ensure control of deployments and resources. Clear briefings that result in shared situational awareness and understanding of the role or task to be undertaken ensure the most effective use of resources. Clear briefings help ensure that activities undertaken are in line with the incident commander's objectives.

Debriefing of personnel when they return from a deployment, or withdraw from the hazard area, is vitally important in maintaining situational awareness, as the information they may have could directly influence the incident plan. Structured debriefs should be used to gain operational intelligence and safety-related information from personnel who have withdrawn from the hazard area.

Incident commanders must ensure that the personnel they lead are briefed on the tasks, and on any hazards and risks they face. Their briefing must share all available safety critical information. The briefing may also highlight the safest way to complete the task. Commanders must communicate effectively and confirm that personnel understand the briefing, including when and what to report back.

To ensure a consistent standard of briefing and debriefing on the incident ground, they should use the structured briefing model – SHOP AC. This model can be used for task-based briefings such as committing a BA team for firefighting or search and rescue, or when delegating responsibility and authority, for example to a sector

commander. It should also be used when debriefing the result of deployments or in providing periodic updates from a sector, to ensure a consistent and concise format for communications.

The structured briefing model consists of six areas:

- S** – Situation
- H** – Hazards
- O** – Objectives
- P** – Plan and resources
- A** – Any questions
- C** – Confirmation and communications

All personnel should review the structured briefing model, which can be found in the [Foundation Document – Incident Command – Command Skills](#). It was introduced as part of our improvements following phase one of the Grenfell Tower Inquiry to ensure the purpose and outcome of deployments are fully understood by all involved.

In relation to hazard and safety information, briefings should always include any safety critical information, including the location of the hazard area and any access, egress or escape routes.

Any significant hazards should also be included. Significant hazards are those that present an increased risk, either through likelihood or severity of harm occurring that would not be mitigated by the application of expected safe systems of work for the incident type or context. There should also be communication of any control measures that should be used to reduce the risk. For example, while a briefing may not mention the risk of slips, trips or falls and safe movement techniques in a well-constructed and maintained domestic property subject to a small fire with good internal visibility, it should be highlighted if committing BA teams into a smoke-filled environment, or a structure showing signs of degradation, such as a derelict building. The briefing should also indicate why they believe the benefit to be obtained justifies the risk.

The structured briefing model should be used for all briefings across the Brigade, and all staff are encouraged to incorporate it within any regular training activities, such as BA drills or tactical decision exercises, to ensure they are familiar and comfortable using it.



ALL OPERATIONAL OFFICER TRAINING PACKAGES

Article	Training	Guidance and supporting information	STEP – Recording reference (pre-loaded into the station diary)	
Extreme heat learning	Lecture	Article	<p>Training on wildfire must be completed by 4 July 2023.</p> <p>Recording staff should look for 'Wildfire Awareness' in the LFB Diary Work Queue.</p>	
Wildfire in the rural-urban interface	Lecture	Article SOP Wildfires – fires in the open		
	CBT	Wildfire terminology Map reading Topography Weather Fuel Wildfire Prediction System (WPS) LACES Safety Protocol Suppression		
Strategic forecasting	Lecture	Article		
Rehydration	Lecture	Article Rehydration pack training note		
Flood response	Lecture	Article Foundation document – Rescue		<p>All training must be completed by 12 September 2023.</p> <p>Record the training via LFB Diary Work Queue. Look for the Mandatory Training item called Ops News 45. See below for help.</p>
Resourcing and reliefs	Lecture	Article SOP – Resources officer Reliefs at incidents		
Driving safety	Lecture	Article Foundation document – Driving		
Operational discretion incidents	Lecture	Article SOP – Operational discretion Foundation document – Command Skills		
Construction risks	Lecture	Article		
Structured briefings	Lecture	Article Foundation document – Command Skills		

Red represents training themes that are mandatory for all watches, new training material is available.

Amber represents training themes that are mandatory for all watches, existing supporting information is available.

How to use the new easy Ops News recording process: Your training is already pre-loaded into your Work Queue in the LFB Diary under **Mandatory Training**. The LFB Diary contains a 'How To' guide on Hotwire. Once all the topics have been recorded by the officer the Work Queue item will disappear, but further entries can be made using the new Mandatory Training appointment type, this is also explained in the 'How To' guide and user manual.

All training associated with this issue of Ops News is mandatory and should be completed in the next quarter's training plan. Training should be recorded using the LFB mandatory training entry titled 'Ops News 45'. All staff will be enrolled in a knowledge check on Big-Learning, which should be taken once all training has been completed.



Computer based E-Learning Training packages are available for your immediate use. They can be accessed via Big Learning on Hotwire > HR, Pay and Employment > Training and Development > Babcock Training or by clicking on the icon on the desktop. A range of practical drill options for the subjects below are recordable under drill/*use pull down list to locate the appropriate drill.