



LONDON FIRE BRIGADE

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Freedom of Information request reference number: 7037.1

Date of response: 12 December 2022

Request:

1. *Provide Statistics on wildfires attended over last 5 years.*
2. *Do you have a formal operational policy and procedures for dealing with wildfires (please provide a copy).*
3. *Do you provide specific operational equipment and PPE for dealing with wildfires.*
4. *What was the capital expenditure on wildfire resources (not including personnel) between 2017-2022.*
5. *Does your service have a set definition of a wildfire.*
6. *What specialist training is given for dealing with wildfires*
7. *Are there specialist teams for dealing with wildfires*
8. *What measures is your service taking to prepare for more frequent wildfires*

Response:

Please see my response to your queries in turn below:

Provide Statistics on wildfires attended over last 5 years.

This information is published online via the London Datastore and can be accessed using the following link:

<https://data.london.gov.uk/dataset/london-fire-brigade-incident-records>

If you download the two spreadsheets, you can filter by 'StopCodeDescription' (column G), 'PropertyCategory' (column I) and 'PropertyType' (column J) to drill down to the incidents you are interested in.

Do you have a formal operational policy and procedures for dealing with wildfires (please provide a copy).

Yes, the LFB have policy number 981 'Fires in the open' and standard operating procedure number 981a 'Wildfires – fires in the open'. I have attached a copy of both policies to this response.

Do you provide specific operational equipment and PPE for dealing with wildfires.

This information can be found in policy number 981 'Fires in the open', which is attached to this response.

What was the capital expenditure on wildfire resources (not including personnel) between 2017-2022.

The notional cost of the LFB attending an incident is also recorded on the published London Datastore [incident records](#).

If you filter to the incidents you are interested in, the notional cost (time spent multiplied by notional annual cost of a pump) is recorded in column AL, 'Notional Cost (£)'

Does your service have a set definition of a wildfire.

This information can be found in policy number 981 'Fires in the open', which is attached to this response.

What specialist training is given for dealing with wildfires

To become an operational firefighter, individuals are trained to respond to emergencies involving all types of fire, tackled by single and multiple crews.

This training is underpinned by continual professional development such as a wildfire incidents Computer Based Training (CBT) package circulated in the LFB internal 'Operational News' newsletter (Issue 37) in August 2019. I have attached the '*PREPARING FOR WILDFIRE INCIDENTS*' article from this Operational News edition to this response.

Are there specialist teams for dealing with wildfires

No

What measures is your service taking to prepare for more frequent wildfires

We have recently published a FOI response which contains the information you have requested for this question. You can access this response via the following link: <https://www.london-fire.gov.uk/media/7047/foi-response-68851.pdf>

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](#).

Fires in the open

NEW POLICY POSITION



This policy should be read with:

PN981a - wildfires - fires in the open - SOP

Official

Policy summary

This parent policy provides guidance for dealing with a range of incidents involving fires in the open (including wildfires).

-
- ▶ Responsible Head of Service is the Assistant Commissioner, Operational Policy.
 - ▶ Responsible team is Operational Policy and Assurance.

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1. Introduction

- 1.1 This parent policy provides guidance for dealing with a range of incidents involving fires in the open (including wildfires).

2. Hazards – All fires in the open

- 2.1 The hazards listed below are common hazards at all fires in the open.

2.2 **Metabolic heat stress:**

This could be the result of carrying equipment greater distances from appliance(s) and over potentially uneven and slippery surfaces. Please see Policy number 284 - Metabolic heat stress for further information.

2.3 **Exposure:**

Working for extended periods in open areas in either hot or cold weather conditions can lead to sunburn/sunstroke. UV protection cream (Factor 50) is available via POMS and should be applied when working in hot weather.

2.4 **Low visibility:**

Deteriorating light conditions through smoke or fading daylight, or dense undergrowth may conceal hazards to firefighters such as:

- (i) Unguarded open water sources.
- (ii) Barbed and electrified wire fences.
- (iii) Irrigation ditches.
- (iv) Slurry pits.
- (v) LPG powered bird scarers.

2.5 **Fire spread:**

- (i) A rapid rate of fire spread where flame can be wind driven and have open access to many fuel sources in close proximity.
- (ii) (Fire can be spread at the tops of trees very rapidly - known as crowning.
- (iii) Firefighters can become isolated and confused in smoke and a rapidly changing environment.
- (iv) Where soil is of a peaty nature fire can spread underground making it difficult to detect and extinguish.
- (v) Flying embers and airborne debris.

2.6 **Access, egress and remote working:**

- (i) Remote locations and/or difficult access may delay the arrival of reinforcing appliances when attending an escalating incident.
- (ii) Narrow and un-surfaced roadways and adverse ground conditions can cause access difficulties for appliances.
- (iii) Poor quality roadways and gravel tracks can also pose a risk of appliances becoming stranded, if care is not taken to keep them on a stable surface and on ground that is capable of taking their weight – See Driving Foundation.

2.7 Farms and farm buildings:

Farms contain buildings and outside areas used for traditional farming activities, processing, packing plant and storage. Diversification within the farming industry has resulted in many farm buildings being used for a variety of purposes i.e. light industrial workshops, holiday lets, etc.

- (i) Be poorly maintained and parts of the structure may have failed, breaching compartments, unstable roofs.
- (ii) Contain asbestos. See Policy number 519 - Incidents involving asbestos.
- (iii) Have poorly maintained electrical or gas systems.
- (iv) Contain high piled storage of materials such as tyres or bales of hay which may collapse without warning.
- (v) Contain machinery and plant used in the agricultural industry, some of which may include blades and spikes. Some machines such as combine harvesters may contain radiation sources - Policy number 602 - Incidents involving ionising radiation.
- (vi) Be used to accommodate livestock and wildlife including insects, which may present risk of crush, bite and sting injuries.
- (vii) Use overhead power supply – Domestic power supplies to rural residences carried over farm or common land by overhead line equipment can be compromised by fire, leaving live fallen power cables in undergrowth in the path of crews. See Policy number 769 - Incidents involving electricity.

2.8 Hazardous materials:

- (i) Silos containing grain, which creates a potential for entrapment, dust explosions and of dust inhalation - Policy number 979 – Rescue - NOG.
- (ii) Ammonium nitrate fertilizer.
- (iii) Poisons and pesticides.
- (iv) Liquefied Petroleum Gas (LPG) cylinders, bulk LPG tanks.
- (v) Diesel storage tanks.
- (vi) Unspent munitions - Incidents on or spreading to adjacent military training land can result in the uncontrolled discharge of unspent munitions from previous military training exercises.

3. Operational procedure – rural environments

- 3.1 Firefighting and rescue in rural environments can be highly resource intensive and may present crews with a number of unique challenges involving physically demanding conditions and the need for specialist skills or appliances.
- 3.2 Crews may be faced with incidents covering large areas creating many logistical challenges including:
 - (a) Maintaining effective communications.
 - (b) Maintaining sufficient control over personnel and equipment.
 - (c) Provision of adequate water supplies for firefighting operations.
 - (d) Sufficient welfare arrangements for personnel working for long periods in remote locations.
 - (e) Planning, requesting and implementing relief crews.
- 3.3 The time taken to deploy sufficient resources to the scene of operations and conduct suitable briefings to staff committed to the hazard zone will have a direct impact on the outcome of the incident.

Command function

- 3.4 The large and sometimes complex topography of the incident ground may cause difficulties in maintaining effective command and control of the incident.
- 3.5 Early consideration must be given to locating a suitable RVP or RVPs and a marshalling officer should be appointed. Unless planning arrangements have located a more suitable location, this should be a hard-standing area and adjacent to a water supply if available.
- 3.6 Use of aerial appliances, the LFB Drone capability or the Metropolitan Police helicopter down-link facility may be effective in observing operations and enabling the Incident Commander (IC) to predict likely fire spread and risks that may need to be protected.
- 3.7 Consider the need for breathing apparatus and the level of breathing apparatus entry control required.
- 3.8 Communication and radio reception difficulties are to be expected, in this case the IC should request the attendance of the duty radio engineer. For incidents over larger areas, consider the use of the airwave radio network (if area has coverage) to supplement normal incident ground radios and use of multi-agency talk-groups. This should be done in accordance with Policy number 987 - Incident command - Organisation at incidents – NOG.
- 3.9 All crews should establish and maintain radio communications throughout the dynamic phase of the incident.
- 3.10 When fighting forest fires, fires in standing crops or where fast fire spread can be reasonably expected, personnel must not be committed beyond the IC or Sector Commander's line of sight and communications must be established and maintained.
- 3.11 The number of personnel committed to hazardous areas must be kept to a minimum, whilst maintaining a minimum of two personnel in close proximity. Lone working must be prevented.
- 3.12 IC's should consider requesting the attendance of the Forestry Commission and Environment Agency to provide specialist advice.

Securing a Water Supply and Firefighting

- 3.13 IC's should assess the extent of the fire and potential for fire spread. Smaller fires on open land may be extinguished using beaters, water backpacks, and/or hose reels fed from tanked supplies, however, larger fires or fires involving buildings or machinery will require a sustainable water supply and suitable firefighting tactics.
- 3.14 Prior to committing crews, a suitable, sufficient and sustainable water supply must be secured. If working from open water the supply should wherever practicable, be sufficient to deal with the fire being fought e.g. a river, canal or large enclosed water source such as a lake. For further information on safety see Policy number 979 – Rescue - NOG.
- 3.15 The IC should consider the use of water relays, water shuttles and the use of specialist appliances such as hose laying units and high volume pumps (HVPs). The method of supply must be suitably resourced, and a command structure put into place to support the plan.
- 3.16 The IC should give early consideration to requesting the attendance of a Bulk Media Advisor (BMA), as their knowledge and skills relating to the movement and provision of water and other firefighting media will be useful.
- 3.17 If more limited supplies such as ponds or swimming pools are the only available water supply, these may be used to maintain firefighting operations while a more sustainable supply is being obtained. In these circumstances, the IC must ensure that the pump operator, firefighting crews and safety officers are aware of the limited nature and likely duration of the water supply.
- 3.18 When firefighting with tanked supplies, crews must be withdrawn before the supply is exhausted.

- 3.19 When securing a water supply from an open water source, the IC must consider the impact on the environment and whether there are areas or features that are particularly sensitive to pollution that may need additional consideration before a plan is implemented. These will include sites of special scientific interest (SSSI), special protection areas for birds (SPAs), and special areas of conservation (SACs). For further information see Policy number 206 - Environmental protection - incorporating the grab bag and large spill kit.
- 3.20 The movement of fire appliances over difficult terrain or when pumping water, could result in appliances becoming stranded, stuck or bogged down in wet or sandy areas.
- 3.21 Alternative methods of containing and extinguishing the fire should also be considered. This could include using beaters, cutting or digging firebreaks, or using bulk sand/earth.
- 3.22 At some fires, due to the nature of burning materials (such as pesticides), the risk to the water environment from discharging water run-off to drains or water courses may be so great that allowing a controlled burn is deemed the best practical environmental option.

In all cases where doubt exists as to the environmental impact of firefighting operations, advice must be sought from the Environment Agency. The Environment Agency must be informed if:

- There are bulk pesticides or fertiliser involved in incident.
- A 'controlled burn' is being undertaken or considered.
- There is contamination of a water course or drains either through direct pollution from incident or water runoff.

For further information see Policy number 206 - Environment agency - incorporating the grab bag and large spill kit.

Access and Egress

- 3.23 Access to farms and other rural locations is often limited. During the planning and on arrival phases, ICs should make every effort to locate all practicable and suitable access and egress routes to the incident area and identify areas and routes at risk from fire spread. These routes may need to be protected, by creating fire breaks or with jets.
- 3.24 Considerations for driving in rural environments are provided in the Driving foundation document.
- 3.25 Whenever possible appliances should remain on purpose-built roadways, tracks or hard standing. If it is considered necessary for an appliance to traverse soft or uneven ground, the utmost care is to be taken to ensure that it does not become damaged, bogged down or stranded. Crew members are to dismount the vehicle, watch the appliance wheels for signs of sinking and to ensure the ground is free from obstructions that could foul the vehicle. If the slightest doubt exists, the attendants will signal the driver to halt. The appliance is to be reversed back the entire route if necessary.
- 3.26 Personnel undertaking the role of attendant are also to exercise extreme caution in respect of their proximity to the appliance and should ensure that they remain a safe distance in the event that they slip or fall.
- 3.27 All appliances should be positioned to facilitate rapid withdrawal from a risk area should it become necessary.
- (a) The area immediately adjacent to the vehicle may need to be damped down. This will help to protect the vehicle from fire spread and prevent hot exhausts catching fire to undergrowth. However, care should be taken to avoid the possibility of causing the appliance wheels to become bogged down.
 - (b) Appliance commanders must ensure effective firefighting measures are in place to protect vehicles should the fire situation worsen, e.g. a jet should be laid out for the use of the pump operator to protect the vehicle if it cannot be withdrawn to a place of safety.

- (c) Appliances should not be left unattended within the hazard area. Drivers are to remain with their vehicles to facilitate moving the appliance as necessary, whilst ensuring no crew members are left on their own.

Additional Firefighting Considerations

- 3.28 Delays in gathering resources, locating water supplies and ensuring adequate weight of attack to safely mount operations, can increase the likelihood of fire growth and fire spread.
- 3.29 Woodland fires and fires involving standing crops, can frequently crossroads and other potential fire breaks. The use of covering jets should be considered and resourced to protect property that is located within possible fire spread routes.
- 3.30 Crew welfare must be considered as a priority by the IC, due to the exposed and remote location. Policy number 733 - Portable hygiene unit.
- 3.31 The risk of metabolic heat stress whilst firefighting in rural areas is significant, due to the demanding work load and the intensity of fire conditions that may be encountered. Incident commanders and functional officers should regularly monitor the effects of the incident upon firefighters.
- 3.32 To ensure firefighter safety, ICs should consider early reliefs and regular rotation of crews, ensuring rehydration breaks are taken.
- 3.33 Following a risk assessment, the IC may relax the level of PPE, including the removal of tunics to prevent overheating and heat exhaustion. Where there is a risk that exposure to sunlight may lead to sunburn/sunstroke, ICs should ensure suitable cover and rest periods are available in addition to UV protection from sun cream.

4. Hazards and control measures - wildfire

- 4.1 Wildfire incidents can be very resource intensive and protracted. Wildfire incidents are also often spread over large areas with command points remote from operations. Incident commanders should consider the early establishment of effective communications between the key points of the incident management structure. Early consideration should be given to the need to evacuate any residents and members of the public from areas that may potentially be threatened by fire spread. Incident commanders should liaise closely with the Police and other authorities.
- 4.2 When planning for wildfire incidents officers should be aware that these incidents can span administrative boundaries, such as Local Authority areas, police force areas, and counties. Therefore, it may be necessary to consider the involvement of a range of stakeholders, landowners and any other Fire and Rescue Services that might be affected.
- 4.3 **Access and egress** – wildfires often occur within areas that have limited vehicle and equipment access and egress. Areas of undivided combustible vegetation, such as grass, trees, crops and heather, provide the potential for fire spread that may impact on safe access and egress. Wherever possible, off-road vehicles should be utilised. Where vehicular access is restricted, it is imperative that consideration is given as to how personnel and equipment are deployed safely and effectively. Specific consideration should be given to:
- Distance to be covered.
 - Planning safe routes - which must be continually monitored, and risk assessed.
 - When carrying equipment by hand, teams should be of sufficient size to complete the task.
- 4.4 **Surface terrain** – hazards associated with the ground surface (terrain) may include:
- No direct line of sight of the fire (or parts of the fire) and/or across the landscape.

- Difficulty in estimating the size of the incident.
- Disorientation due to the topography and lack of landmarks.
- Fires travelling underground with no indication of burning, leaving voids undetectable from the surface and fires breaking out some distance from the original starting point.
- Conditions underfoot that may increase the risk of slips, trips and falls.
- The type, condition and arrangement of the vegetation.
- Walls, fences, electrified fences, barbed wire fences, uncovered manholes, irrigation ditches and gullies.
- Mine workings.

- 4.5 **Fire behaviour** - the slope of the ground may have a significant effect on fire behaviour. Fire will generally gain speed when travelling upslope and the steeper the slope the greater the effect. As a general rule for a fire burning upslope, every 10 degree increase in the angle of slope will double the rate of fire spread.
- 4.6 Vegetation can cause injuries such as: abrasions, cuts and puncture wounds; stings; skin irritation; eye injuries; poisoning and branches striking eyes, face and body.
- 4.7 Personnel should use the Wildfire Prediction System (WiPS) at all wildfire incidents to predict likely changes in fire behaviour and rate of spread as the wildfire moves across the landscape. This is discussed in more detail later in this policy. However, while the WiPS is an important tool there is always a risk that unexpected changes in weather conditions will occur on the fireground (i.e. a change in wind strength, wind direction and/or atmospheric stability). Changes in weather conditions may in turn lead to unexpected/unpredicted changes in fire behaviour and fire spread. Personnel should remain vigilant at all times to potential changes in weather that might cause a change in fire behaviour and fire spread.
- 4.8 Personnel should remain vigilant at all times to potential changes in weather that might cause a change in fire behaviour and fire spread. The speed and persistence of a wildfire can be affected by several factors. These factors include the wind, temperature, the fuel moisture content, the fuel type and size, relative humidity and whether direct sunlight is present. The speed of fire spread can vary from being quick spreading (e.g. through a tree canopy) to a slowly smouldering and deep-seated peat fire.
- 4.9 **Pylons and overhead power lines** – when a fire occurs in the vicinity of pylons or overhead power lines, there is a potential risk of contact with fire and rescue equipment or vehicles resulting in potential electrocution or burns to personnel and/or damage to equipment. Dense smoke can increase the potential for contact. Electrocution or burns from overhead power lines can also occur through arcing, where there is no direct contact with overhead powerlines. Appropriate cordons must be constructed, and safe distances need to be implemented as described in Policy number 769 - Incidents involving electricity. Where possible, requests should be made to isolate the electricity supply if overhead powerlines are involved in a Wildfire incident.

5. WiPS – Wildfire Prediction System

- 5.1 The WiPS system is based on the "alignment of forces concept", which recognises that Wildfire is influenced by three major factors:
- Wind.
 - Slope.
 - Aspect.

- 5.2 All three factors have a positive effect on fire development and are considered the main factors which can increase fire severity, rate of spread and flame length. When all three factors are in a wildfire's favour, fire behaviour is maximised within the fuel type.

Factor No.	Description	Example
Factor 0	The fire has no factors of alignment in its favour	E.g. a fire burning downhill, in a shaded valley with no wind, this will be a slow-moving fire.
Factor 1	The fire has 1 factor of alignment in its favour.	E.g. a fire burning uphill with no wind or sun.
Factor 2	The fire has 2 factors of alignment in its favour.	E.g. a fire burning uphill with the sun on it but no wind.
Factor 3	The fire has 3 factors of alignment in its favour.	E.g. a fire burning uphill, with the sun on it and the wind blowing in the same direction as the fire.

6. LACES protocol for wildfire incidents

- 6.1 The LACES protocol should be adopted and implemented by all personnel at wildfire incidents. LACES stands for:

L – Lookouts – all teams to have a dedicated lookout. Monitor fire behaviour and weather. Assess tactics and liaise with the relevant commander.

A – Awareness – all personnel to understand their role and task. Safety measures implemented and dangers and risks identified, and personnel briefed. Regular radio checks.

C – Communications – full safety briefs for all personnel. Regular situation updates.

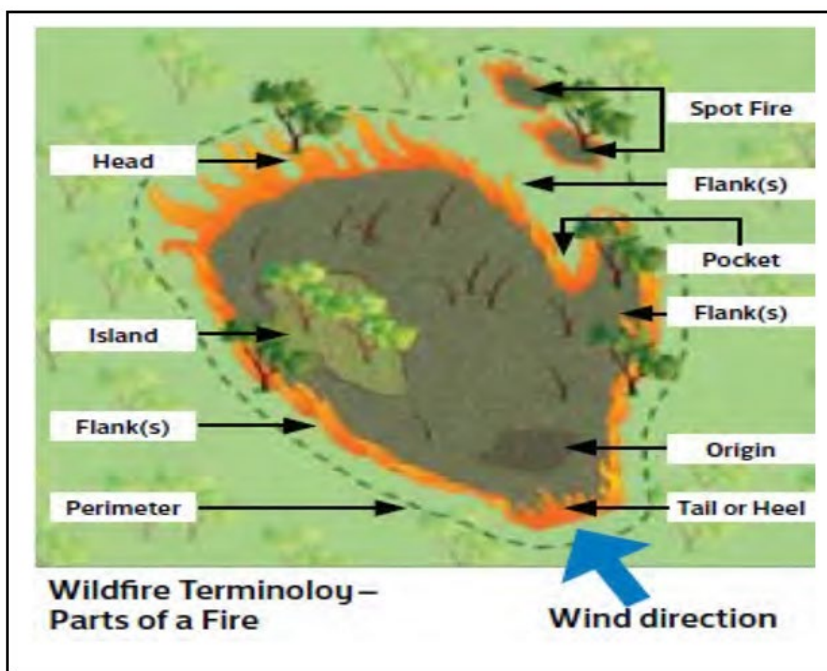
E – Escape routes – must be identified and form part of the briefing. There must be more than one and must avoid steep slopes.

S – Safety zones – clearly identified in the briefing and must be four times the size of the flame length. Avoid downwind and avoid steep slopes.

7. Suppression methods

Flame length - mtrs	Tactic	Supression methods
0-0.5	Direct	Hand tools, knapsack sprayers, pressurised systems Work in the black.
0.5-1.5	Direct	Hand tools supported by knapsack sprayers to reduce fire intensity. Apply water also using pressurised systems. Work in the black.
1.5-3.5	Indirect/direct attack	Delivery of water using pressurised systems. Mechanical means of constructing control lines. Parallel flank attack. Work in the black.
3.5 -	Indirect/direct attack	Delivery of water using pressurised systems. Mechanical means of constructing control lines. Parallel flank attack. Work in the black.

8. Definitions



Wildfire - any uncontrolled vegetation fire where a decision or action is needed about its suppression. A wildfire will meet one or more of the following criteria:

- Involves a geographical area of at least one hectare (10,000 square metres).
- Has a sustained flame length of more than 1.5 metres.
- Requires a committed resource of at least four fire and rescue service appliances/resources.

- Requires resources to be committed for at least six hours.
- Presents a serious threat to life, environment, property and infrastructure.

Perimeter - is the distance round the whole incident. This includes nearby spot fires.

Flank - is the term given to a side of a Wildfire. This would therefore be the left flank or the right flank, but a change in wind direction can lead to a Flank becoming the Head with the corresponding increase in fire intensity.

Island - this is an area of land not affected by the fire. Reasons for this could include the makeup of the island, for instance a rocky island not sustaining fuel. Large incidents have found that islands can contain wildlife and reptiles which are trying to escape the fire.

Head - this is the driving part of the fire, where it is going. You should expect the 'head' to be burning more intensely than the 'flanks' which are more intense than the 'tail' and never work in front of the 'head'.

Spot fires - fire behaviour where sparks and hot burning embers are transported by the wind or convection column to land beyond the fire perimeter resulting in spot fires. Both short and long-range spotting can be extremely dangerous. Shorter-range spotting can cause a fire to increase in intensity and accelerate fire development. Longer-range spotting can ignite fuels considerable distances away from the main fire and depending on the fuels and fire alignments these occur in, may result in fires that demonstrate very different fire behaviour to the original wildfire. Spotting can also compromise escape routes and can penetrate into fuels beyond control lines.

Pocket - these are areas where there may be water logging, marshy areas and the fire cannot get hold of the fuel.

Origin - this is where the fire originated from and working in between the head and the tail is normally referred to as "working in the black" i.e. where the fuel is burnt and provides a reasonable amount of safety to responding crews. Crews must never work in front of the head.

Tail or heel - this is a term for where the fire is moving back towards the wind.

Document information

Dates

Issue status	Date
Issued	1 March 2022
Reviewed as current	
Last amended	31 August 2022
Next review due	1 March 2025

Assessments

An equality, sustainability or health, safety and welfare impact assessment and/or a risk assessment was last completed on:

EIA		SDIA		HSWIA		RA	
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Audit trail

Listed below is a brief audit trail, detailing amendments made to this policy/procedure.

Page/Paragraph nos.	Brief description of change	Date
Page 5, para 3.8	Cross reference links updated.	31/08/2022

Related policies

Listed below are all the related policies:

Policy number	Name of policy
PN981a	Wildfires - fires in the open - SOP

Wildfires – fires in the open

Official Hazards

Crews may be faced with incidents covering large areas creating many logistical challenges (access and egress, remote working and communications difficulties).

Highly resource intensive and may present crews with a number of unique challenges involving physically demanding conditions and the need for specialist skills or appliances.

Large and sometimes complex topography.

The movement of fire appliances over difficult terrain or when pumping water, could result in appliances becoming stranded, stuck or bogged down in wet or sandy areas.

At some fires, due to the nature of burning materials (such as pesticides), consider the risk to the water environment from discharging water run-off to drains or water courses.

Woodland fires and fires involving standing crops, can frequently cross roads and other potential fire breaks.

The risk of metabolic heat stress and exposure to hot or cold conditions whilst firefighting in rural areas is significant, due to the demanding workload and the intensity of fire conditions that may be encountered.

Low visibility – deteriorating light conditions.

Control measures

Early consideration must be given to locating a suitable RVP.

Use of aerial appliances, the LFB drone capability or the Metropolitan Police helicopter down-link facility.

Consider appropriate level of RPE.

Consider use of airwave radio and requesting duty radio engineer to assist with communications.

When fighting forest fires, fires in standing crops or where fast fire spread can be reasonably expected, personnel must not be committed beyond the IC or sector commander's line of sight and communications must be established and maintained.

The number of personnel committed to hazardous areas must be kept to a minimum, whilst maintaining a minimum of two personnel in close proximity. Lone working must be prevented.

Consider requesting the attendance of the Forestry Commission and Environment Agency to provide specialist advice.

Smaller fires on open land may be extinguished using beaters, water backpacks, and/or hose reels fed from tanked supplies, however, larger fires or fires involving buildings or machinery will require a sustainable water supply such as water relay, water shuttle and high-volume pumps (HVP).

Whenever possible appliances should remain on purpose-built roadways, tracks or hard standing. If it is considered necessary for an appliance to traverse soft or uneven ground, the utmost care is to be taken to ensure that it does not become damaged, bogged down or stranded. Crew members are to dismount the

vehicle, watch the appliance wheels for signs of sinking and to ensure the ground is free from obstructions that could foul the vehicle.

All appliances should be positioned to facilitate rapid withdrawal from a risk area should it become necessary.

Consider early reliefs and regular rotation of crews, ensuring rehydration breaks are taken.

Following a risk assessment, the IC may relax the level of PPE.

LACES protocol for wildfire incidents

The LACES protocol should be adopted and implemented by all personnel at wildfire incidents. LACES stands for:

L – Lookouts – all teams to have a dedicated lookout. Monitor fire behaviour and weather. Assess tactics and liaise with the relevant commander.

A – Awareness – all personnel to understand their role and task. Safety measures implemented and dangers and risks identified and personnel briefed. Regular radio checks.

C – Communications – full safety briefs for all personnel. Regular situation updates.

E – Escape routes – must be identified and form part of the briefing. There must be more than one and must avoid steep slopes.

S – Safety zones – clearly identified in the briefing and must be four times the size of the flame length. Avoid downwind and avoid steep slopes.

Flame length - mtrs	Tactic	Supression methods
0-0.5	Direct	Hand tools, knapsack sprayers, pressurised systems Work in the black.
0.5-1.5	Direct	Hand tools supported by knapsack sprayers to reduce fire intensity. Apply water also using pressurised systems. Work in the black.
1.5-3.5	Indirect/direct attack	Delivery of water using pressurised systems. Mechanical means of constructing control lines. Parallel flank attack. Work in the black.
3.5 -	Indirect/direct attack	Delivery of water using pressurised systems. Mechanical means of constructing control lines. Parallel flank attack. Work in the black.



This Standard Operating Procedure should be read with:
PN981 - Fires in the open - NOG: Dated 1 March 2022

PREPARING FOR WILDFIRE INCIDENTS



Brigade volunteers fight wildfires on Saddleworth Moor in Lancashire, July 2018.

L	LOOKOUTS	All teams must have a dedicated lookout to monitor fire behaviour/weather, assess tactics and liaise with relevant commander.
A	AWARENESS	All personnel to understand role/task. Safety measures/dangers/risks identified and briefed. Regular radio checks.
C	COMMUNICATIONS	Full safety briefs for all personnel. Regular situation updates.
E	ESCAPE ROUTES	Make part of briefing. Must be more than one escape route. Avoid steep slopes.
S	SAFETY ZONES	Clearly identified in briefing (4x flame height). Avoid setting up downwind of fire. Avoid steep slopes.

Wildfires are increasing in the UK due to many factors including climate change and open land that is left unmanaged. The causes of wildfires include lightning strikes, arson and accidental ignition. The chances are that you have attended a wildfire at some point in your career.

A wildfire is defined by one or more of the following:

- Involves a geographical area of more than one hectare.
- Has a sustained flame length of more than 1.5 metres.
- Requires a committed resource of more than four appliances.
- Requires resources to be committed for six hours or longer.
- Presents a serious threat to life, the environment, property and infrastructure.

We attended a large number of fires in the open during 2018 and most of them

fell under the classification of wildfire. In addition, we sent assets to support wildfire operations in other parts of the UK. As a result, and to help prepare operational staff for another hot summer, a wildfire CBT for station based staff is now available.

SAFETY is the key message within the CBT. The pneumonic LACES is used throughout the world to ensure that firefighter safety is the main focus for incident commanders at such incidents.

This simple system was created following wildfires abroad and ensures that personnel are aware of the risks and are able to put measures in place to mitigate them. Each sector must appoint someone to the role of Safety Officer to ensure this system is adhered to. It is also prudent to have a dedicated 'lookout' who is located in a high vantage area, such as a high rise building or ALP/

TL who can inform the IC of any changes at the incident, such as changes in wind direction or changes in fluidity in sector boundaries.

The CBT includes Wildfire Terminology, Wildfire Behaviour/Prediction, Safety at Wildfires, Risk Assessments, Wildfire Suppression Methods, the Partnership Approach and Incident Considerations, among others. While this CBT package contains important information for the safety of firefighters at wildfire incidents, the amendments to PN 0870 'Incidents in rural environments' require full consultation through the Brigade's Joint Committee for Health, Safety and Welfare (BJCHSW). Further information on wildfires is available from the National Operational Learning website, <https://www.ukfrs.com/guidance/wildfires>.