

**Freedom of Information request reference number:** 8907.1

**Date of response:** 23/08/2024

**Request:**

*I understand that the following policies have been replaced, and that the current versions are not yet published online. I would be grateful if you could supply the current versions: Policy number 117 - Firefighting on Royal Naval ships in ports and dockyards Policy number 581 - Water rescue and safety when working near, on or in water.*

**Response:**

The policies requested above are no longer in use, our policies on water rescue have now been incorporated into **Policy number 0979- Rescue – NOG** and **Policy number 0979a – Water Rescue- SOP**. I have attached below the relevant sections.

Please note, some content has been removed/redacted from these documents as we consider them to be operationally sensitive. As a result we have exempted them from release via [Section 24](#) of the FOIA – Safeguarding National Security.

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: <https://www.london-fire.gov.uk/about-us/transparency/request-information-from-us>

## 14. Rescues from the water environment

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- 14.1 The tidal Thames is a commercial highway, with the Port of London being one of the busiest ports in the UK, handling over 50 million tonnes of cargo a year.
- 14.2 LFB have core statutory responsibilities, included in legislation, to respond to fires and other emergencies on the River Thames.
- 14.3 The River Thames presents a range of hazards for personnel attending incidents on or near it. At its lower reaches, the River Thames presents operating conditions that are in a sea environment. These stretches of the river include major shipping, container ports and heavy industry. In the middle reaches there are major commercial and passenger services, focused on tourism and commuter traffic, with the upper reaches being typically associated with residential and leisure use.
- 14.4 Water that appears still on the surface may actually be moving below the surface e.g. where a sluice gate has been opened. Additionally, within London there are numerous inland water ways whose nature and characteristics are varied. Inland water can be broadly defined under two headings:
- **Still water** – a body of water that is usually contained and has no visible movement.
  - **Moving water** – a body of water which, in either its normal state or in its heightened state, has noticeable surface movement.
- 14.5 In the context of water operations unstable surfaces include mud, ice, partially frozen water or any surface that requires specialist training and the specialist equipment carried on water capable FRUs to implement a safe system of work.
- 14.6 Water operations are divided into the following 3 levels of response:
- **Level 1 water operations** – Operations where firefighters work within 3m of an unprotected water's edge, or enter water that is both shallow enough not to compromise their PPE (i.e. over the top of their fire boots) and slow moving enough that there is no foreseeable risk that they will be swept off their feet.
  - **Level 2 water operations** – Operations where firefighters may have to commit to water (still or moving) to affect a rescue. This includes all incidents involving people in the water and any other incidents beyond the limitations of level 1.  
  
These incidents present specific hazards and will in all but exceptional circumstances only be carried out by Fire Rescue Unit (FRU) Swift Water Rescue Technicians (SRT) who have the training and equipment to implement safe systems of work.
  - **Level 3 water operations** – Operations which involve the deployment of the Flood Response Kits (FRK) where firefighters may be required to work under the guidance of FRU SRT near, on or in flood water. This equipment will normally be deployed for flooding over a wide area, but it can also be used for more localised floods where significant numbers of firefighters need to be committed to the water.
- 14.7 It is essential that responders appreciate the hazards associated with working in, on, or near water. Operating in flood environments is dangerous and the appropriate training, equipment and command are required to reduce risks as far as reasonably practicable.

## 15. Additional hazards – rescues from the water environment

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- 15.1 The hazards in a water environment are predominately down to the nature of the body of water, its surroundings, uses, weather and its dynamic nature. Personnel will experience a combination of these hazards which taken together will increase the risk to their safety, health and wellbeing.
- 15.2 When the hazards have been assessed, the appropriate control measures can then be implemented. It should also be pointed out that more than one control measure may need to be adopted to ensure that a safe system of work is implemented.
- 15.3 The hazards listed below can reasonably be expected to be encountered when attending incidents in a water environment, however the list is not exhaustive and IC's should always be aware of additional hazards when conducting their own risk assessment and formulating their objectives and plan:

### Hazards associated with water

#### Water Rescue and flooding

- **Entrapment** – Under water obstacles, such as tree roots, can cause personnel to become entrapped. This is normally as the direct result of a limb or line becoming snagged. The force of moving water is such that personnel and PPE can't physically overcome it to release themselves. Poor water clarity will make it difficult to identify sub-surface objects.
- **Underwater obstacles** – In the urban environment drain covers and other objects can become dislodged due to rising or fast flowing water. As water rises objects can become buoyant and suddenly move compromising existing safe systems of work and personnel. Vehicles can begin to float in low levels of moving water.
- **Weather** – Current and future weather can have a significant effect on the environment and conditions being faced by personnel. Rain can rapidly change the level of flood water and therefore the force of moving water. Both of these will have an adverse effect on the rescue efforts.
- **Temperature of water/air** – Wind and rain can change the temperature of the environments people are in. Rain can affect the temperature of water, and wind can lead to wind chill which can lower the temperature of people at the incident. This can have an adverse effect and lead to fatigue and hypothermia.

Cold water can cause an individual to involuntarily gasp or hyperventilate if entered suddenly. This is known as cold water shock and can cause individuals to inhale or swallow water which may result in drowning. As with wind chill, water chill (water moving over a person's body) can cause that person's temperature to drop, even if wearing PPE.

#### Hydrology

- **Moving water in a channel** – At various depths water travels at different speeds. Normally water in the middle of the channel moves quickest and decreases in speed the closer you get to the bottom or edge of the channel. At bends in rivers the water will travel quicker on the outside of the curve than on the inside.
- **Unstable riverbanks due to undercutting** – Water moving at the bend in a river will erode the riverbank. This can be unseen and under the surface of the water. This erosion can lead to undercutting. The surface of the bank will appear normal but can be unstable and can collapse when weight is applied. Eddies created in this undercut can pull objects and casualties into it beneath the surface.

- **Presence of eddies, strainers and siphons** – Eddies are an area of water that rotate in the opposite direction to the main flow. It is relatively slower moving and shallower water which can be an area of relative safety.

Strainers is anything that allows water to pass through it but will trap a solid object. If a person was drawn against a strainer, they would become trapped by the force of water passing through it. Siphons are sub surface gaps or holes in a structure that will allow water through. If the current moving through a siphon is strong enough it will pull objects, including people, under water towards the siphon.

- **Recirculation** – Where water passes over a vertical drop it accelerates and recirculates downstream of the drop. Some water moves back against the direction of flow and rises upstream. Casualties and objects can be held in this recirculation.
- **Tidal flow** – Tidal water can rise quickly, especially when tides are turning. Care should be taken to avoid being cut off or isolated from egress routes.
- **Debris in the water** – Objects may entangle or strike casualties and rescue personnel.

### Waterways incidents

- **Moving vessels** – The Thames is a busy waterway with a variety of different vessels operating on it. Moving vessels can cause collision and crush injuries.
- **River structures (bridges/pontoons/piers/weirs/locks)** – Manmade structures can disrupt the flow of water which can cause unpredictable tidal movement, can be dangerous to the personnel and resources on the river and make vessel control more difficult.
- **Unguarded edges** – An unguarded edge is an area that people can access, and where there is no solid wall or raised rail of minimum 950mm high and no intermediate guardrail to offer protection from falling.
- **On-site machinery, such as gates, weirs, sluices and pumps** – Some of these sites operate automatically and can cause entrapment issues. When operated they can change the behaviour of the surrounding water. This can be both positively and negatively and can involve water levels to change and the flow of water to increase.
- **Locks** – Lock gates can move as the water pressures change around them. The amount they move will be down to the way they have been secured if they have been maintained or if they fail. Lock gates can partially open to allow water in or out of the lock causing localised water flow.

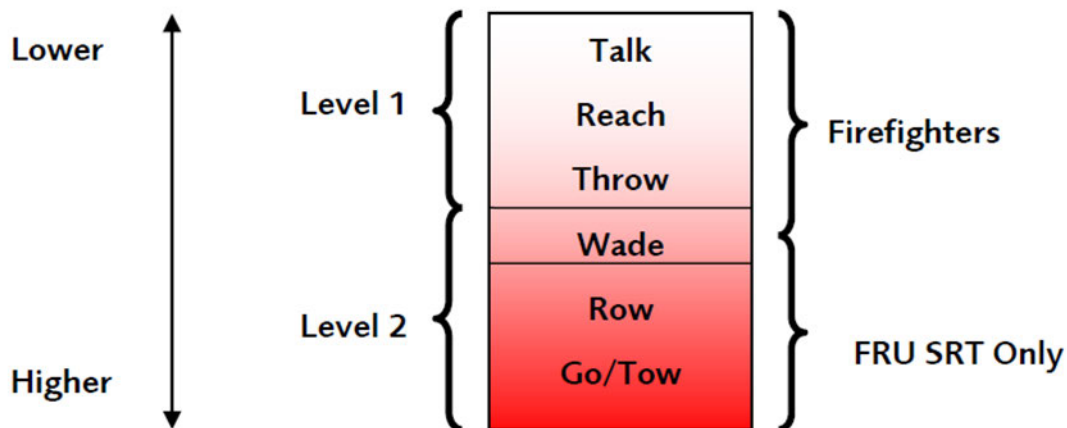
### Hazards associated with water rescues and operations near water

- **Electrical hazards (overhead power lines, live power supplies in flooded basements, quayside installations etc.)** – Water acts as an electric conductor and in the flood environment domestic electric supply or the electrical transmission and distribution network can be affected and come into contact with water.
- **Pollution/contamination/biological risks** – This can be caused by water run off or outlets to rivers from industry. Animals live in around water and often pass waterborne diseases into the environment (i.e. Weil's Disease).
- **Noise and compromised communication** – Noise will be heightened at incidents with fast turbulent water and make communication problematic.
- **Poor access, steep banks** - Slippery surfaces and trip hazards.
- **Unpredictable response (panic) causing difficulties for the rescuer/s** – Casualties in water may react in an unpredictable manner. This can be further enhanced by the temperatures of the water and the length of time they have been there.

- **Bystander pressure** – Members of the public present at these incidents may put pressure on the fire brigade personnel to carry out a rescue or try to rescue casualties themselves. This will come from a lack of understanding of the water environment and the hazards associated with it.

## 16. Additional control measures – rescues from the water environment

- 16.1 Station commanders are to make sure that programmed continuation training is undertaken. While it is recommended that continuation training for working near water be undertaken at least once a year, this can be increased if the need is identified by the Station Commander or Sub/Stn Officer.
- 16.2 It is essential to make sure systems are in place to identify and inspect locations where water operations may take place and this needs to be recorded on the ORD.
- 16.3 The following diagram shows a summary of the hierarchy of rescue.



### Level 1 water operations

- 16.4 These are operations where firefighters work within 3m of unprotected water or where firefighters enter water to conduct operations to a depth where there is no danger of them being swept off their feet and their structural firefighting PPE is not compromised.
- 16.5 The IC must:
- Establish a restricted zone at least 3m from any unprotected water's edge unless available protection is substantial.
  - The minimum PPE for any firefighter entering water to affect a rescue is:
    - (i) Full structural firefighting kit. Fire helmets should be removed unless there is risk of head injury. If worn the chin strap should be left unfastened.
    - (ii) Personal floatation device (PFD).
  - Should nominate a safety officer who should be equipped with a throw line.
  - When working near moving water the IC should nominate and position "spotters" upstream and downstream. Downstream spotters should be equipped with throw lines.

## Performing rescues at level 1 incidents

- 16.6 When conducting a rescue under level 1 conditions the following hierarchy of rescue applies:
- **Talk (self-rescue)** – Make contact with the casualty quickly. The casualty should be encouraged to 'self-rescue' as this is usually the safest option.
  - **Reach** – Use appliance equipment to reach the casualty and pull them to the bank.
  - **Throw** - Use a floating throw line to reach the casualty and pull them to the bank.
- 16.7 Firefighters not trained in swift water rescue (SRT) may only be committed to water to carry out a rescue as a last resort, when the situation is so critical that to await the arrival of further resources is likely to result in the loss of human life.
- 16.8 Before a firefighter (non SRT) enters the water to affect a rescue the incident must be escalated to level 2 water operations and the following control measures must be in place:
- A firefighter who is considered competent and capable of performing the rescue should be identified by the IC.
  - All personnel must be fully briefed.
  - A floating safety line supervisor must be in place.
  - Anyone entering the water must be rigged correctly and attached to a floating safety line.
  - Consider using inflated fire hose to provide additional buoyancy.
  - Effective communications must be established and maintained between the IC, the rescuer and all safety personnel.
  - Keep noise to a minimum around the area of operations to facilitate clear verbal communications.
  - Personnel should enter the water slowly to minimise cold water shock and reduce the chance of injury.
  - Gauge the depth of the water before entering and if necessary, take a ceiling hook or other piece of equipment to regularly gauge the water depth.
  - The floating safety line supervisor is to monitor the rescuer for signs of distress. If they appear in distress or become unresponsive, they must be withdrawn immediately.
  - Any firefighter committed to the water should be replaced by FRU SRT as soon as practicable.
- 16.9 As soon as practicable a priority message must be sent detailing what actions have been taken.

## Level 2 water operations

- 16.10 Operations where firefighters or FRU SRTs have to enter still or moving water to affect a rescue or where SRT's have to enter the water for other purposes, such as moving HVP submersible pump. Rescues from both ice and mud also constitute a level 2 water operation. This includes all incidents involving members of the public in the water.
- 16.11 **Wade** - Other than in exceptional circumstances, a wade rescue can only be carried out by FRU SRT. A wade rescue is defined as "Where circumstances dictate, it may be necessary to enter the water and then carry out a "Reach" or "Throw" rescue".
- 16.12 Row or Go/Tow can **ONLY** be carried out by FRU SRTs.
- 16.13 Row – This intervention should be considered in the following order:
- (i) A tethered and empty boat or rescue path.

- (ii) A tethered and crewed boat/path.
  - (iii) An untethered and crewed boat.
- 16.14 Go/Tow - This intervention should be considered in the following order:
- (i) Tethered
  - (ii) Non – tethered
- 16.15 Rescues from unstable surfaces using the rescue path should be considered as row rescues.
- 16.16 Rescues from swift moving water require specialist training and equipment, provided on FRUs with water rescue attribute. Therefore, **ONLY FRU SRTs** should enter swift moving water. FRU SRTs carrying out a wade, row, or go/tow rescues must wear full water rescue PPE. consisting of:
- Drysuit
  - PFD
  - Water rescue helmet
  - Gloves
  - Thermal under clothing as required
- 16.17 FRU SRTs carrying out a wade, row, or go/tow rescues must wear full water rescue PPE.
- 16.18 The IC should position downstream safety officers dressed in full PPE (minimum lifejacket) and equipped with throw lines. If practicable, they should be positioned on both sides of the watercourse.
- 16.19 Spotters should be positioned upstream and if practicable on both sides of the watercourse to give advance warning of any surface hazard heading towards the scene.
- 16.20 The IC is to ensure that an effective communications link is maintained, either visually or with radio communications and all spotters are rigged appropriately.

### Ice rescue

- 16.21 Crossing frozen water surfaces can present significant hazards that can only be controlled or eliminated by FRU SRTs, using appropriate equipment and safe systems of work.
- 16.22 If the initial call was not to an ice related incident, the initial IC must send the priority message.  
"Implement water operations procedure level-2, rescue path required".
- 16.23 When Brigade Control receives this message, they will order two FRUs with BT and Path attribute and mobilise a TAR and SC.
- 16.24 Throw lines and inflatable hose kits carried on pump ladders/pumps should be deployed in the initial stages of an incident.

### Mud rescue

- 16.25 Mud rescues can present additional hazards, particularly on the tidal Thames, and are only to be conducted by FRU SRTs or fireboat crews, wearing full water rescue PPE, using appropriate equipment and safe systems of work.
- 16.26 If the incident is on the River Thames the IC should consider the state of the tide and ensure the fireboat has been ordered if it is not already in attendance. Tidal information is available from Control, TARs, other agencies on the river and online tide tables.
- 16.27 IC's 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 loss of human life. In such circumstances every effort must be made to reduce the risk to firefighters.

### Sub surface rescue

- 16.28 The risk associated with subsurface rescue are considered to be too high because it involves hazards which go beyond the capability of LFB safe working procedures, breathing apparatus and PPE.
- 16.29 As a result, firefighters **MUST NOT** attempt rescues which involve them placing their head under the surface of the water.
- 16.30 London Fire Brigade breathing apparatus **MUST NOT** be used under water as the equipment is not designed for this task.

### Level 3 water operations

- 16.31 These operations involve the deployment of the Flood Response Kit (FRK) where firefighters may be required to work under the guidance of FRU SRT near, on or in floodwater. During Level 3 Water Operations, all personnel must work within the limitations of their training and equipment.
- 16.32 For guidance to support Incident Command at protracted wide area flood incidents, please refer to the Department for Environment Food and Rural Affairs (Defra) Flood Rescue Concept of Operations and the National Coordination and Advisory Framework (NCAF) for arrangements and Mutual Aid Protocols.
- 16.33 Level 3 water operations relates to local and widespread flooding.

### Types of Flood

- 16.34 Additional to local flooding caused by burst water mains etc. London is potentially vulnerable to flooding from several sources.
- 16.35 Fluvial (river) - This can occur as a result of:
- Freshwater flows in a tributary that exceed the capacity of the channel if undefended.
  - Overtopping the defences, or through a breach, howsoever caused, in the defences during high flows caused by prolonged or intense rainfall (summer thunderstorm).
- 16.36 Pluvial (rain) - This is usually, but not exclusively, associated with intense rainfall in a summer thunderstorm that exceeds the capacity of the installed drainage system.
- Surface water flooding, as a result of rainwater not being able to drain away at the rate at which it is accumulating, can occur throughout London.
  - In addition, localised flood events such as a burst water main, groundwater flood (a rare occurrence and restricted to only a few areas in the Capital) and contained water flood (reservoirs, private lakes and canals) may also lead to protracted incidents and require significant resources.
  - Tunnels and drainage conduits may result in floodwater being conveyed beyond the area immediately affected by flooding.
  - The Flood Forecasting Centre (FFC) based in London will provide extreme rainfall alerts and flood warnings to strategic managers.
- 16.37 Tidal - This can occur as a result of:
- Overtopping of existing defences due to a severe storm surge in the North Sea, either in combination with high freshwater flows from upstream, or a surge alone.
  - Through a breach resulting either from a malicious act, accident or structural failure in existing defences (embankments and barriers).
  - Failure of a barrier to operate, either during a normal tidal sequence or a storm surge.



## Phases of flood

- 16.38 A flooding incident typically has three sequential phases.
- 16.39 Phase 1 - This includes but is not restricted to immediate time critical life-saving rescues. In most cases this will present the most challenging and hazardous work conditions and will be carried out by specialist FRU SRTs or helicopter. However, depending on the conditions firefighters can be utilised in still or slow moving water affecting large numbers of vulnerable people over a wide area.
- 16.40 Phase 2 - This includes the rescue/recovery from places of temporary safety (inundated structures/vehicles/trees). This phase will generally be resource intensive, as there may be a need to operate over a wide area. Prevailing weather conditions and other factors may mean people already moved to a place of temporary safety may need to be removed to a more secure location within a relatively short timeframe. This will normally involve firefighters working under the guidance of FRU SRTs.
- 16.41 Phase 3 - This involves the final search of flooded structures/vehicles, body recovery and stabilisation of dangerous structures (Urban Search and Rescue (USAR)). Again, this will involve firefighters and specialist crews working under the guidance of FRU SRTs.
- 16.42 Note: the response to any flood will be most effective with proper planning, preparation and forecasting.
- 16.43 Establishing areas of operations and control at an incident:
- Pluvial or fluvial flooding may affect a large geographical area.
  - Brigade Control will often initiate "batch mobilising" and restricted attendance arrangements in these circumstances.
  - If a wide spread flood occurs, where it would be inappropriate to operate within the constraints of the National Incident Command Structure (NICS), the IC will establish areas of operation defined by suitable geographic boundaries such as grid squares, major roads or other readily identifiable boundaries.
  - Each area of operation will be allocated a call sign and a separate command team to control activities undertaken within that area. Commanders may designate functional sectors within their area of operation. See Policy number 987 - Incident command - Organisation at incidents – NOG.
  - The Incident Command Team must identify a suitable RVP for oncoming flood assets taking into account the area required for specialist vehicles and the potential for floodwater to spread or conditions to otherwise deteriorate.
  - A reliable communications network is essential for safe operation at incidents and fundamental for securing the level of command required to manage operational resources efficiently.
  - Incident/sector commanders must maintain either line of sight or radio communications with operators at all times during flood operations.

## Standard operating procedures

- 16.44 The role of firefighters (first responders) at flood related incidents can include:
- Rescues of members of the public from various premises or places of temporary safety.
  - Search operations.
  - Assessment of resource requirements.
  - Other roles designated by the IC.

- 16.45 Firefighters should wear the PPE provided as part of the FRK and work in teams of a minimum of 4 (including at least one LFF, SubO or StnO) with a designated FRU SRT acting as safety officer.
- 16.46 First responders will be clearly identifiable by their yellow water safety helmet.
- 16.47 The role of the FRU SRT safety officer is to:
- Support and advise the LFF or SubO/StnO of the crew they are working with.
  - Identify and monitor hazards.
  - Ensure the appropriate levels of PPE are regularly reviewed.
  - Recognise and stop unsafe practices.
  - Monitor for lone working situations.
  - Observe personnel hygiene and barrier protection.
  - Oversee welfare of crews.
  - Provide regular situation reports to a nominated officer – this could be the sector commander or safety officer for the sector, the operations commander or the IC.
- 16.48 Incident/sector commanders should consider the need for regular crew rotation and other welfare issues, taking into account work rate and conditions.

## **Wading**

- 16.49 The maximum wading depth for firefighters wearing L3 PPE is 60cms (2 feet): in practise, this is at knee height for most firefighters.
- 16.50 If operations are necessary in deeper water, then these must be carried out by boat or FRU SRTs. Movement through flood water should be deliberate. The weight should be kept on the back foot with the front foot/wading pole checking the ground ahead for obstacles such as displaced drain covers or other hazards. The following guidelines should apply:
- Use wading poles to assess ground conditions and obstacles.
  - Use landmarks to help establish depth of water.
  - Continually assess the surface movement of the water to identify speed of water, eddies associated with water entering drains, etc.
- 16.51 Wading poles must be used to identify holes or other underwater hazards. These may be used by individual crew members or by the lead person when wading through water.

## **Firefighter and equipment decontamination**

- 16.52 All open water supplies should be treated as potentially contaminated. Therefore personal hygiene is important where crews have been in contact with open water or mud.
- 16.53 Following an open water event PPE should be decontaminated in accordance with Policy number 707 (The control of infection and infectious diseases policy).
- 16.54 All items of workwear uniform, worn under contaminated firegear will require specialist cleaning and should be treated under the guidance for contaminated laundry, as detailed in Policy number 533 – Uniform and personal protective equipment excluding structural firefighting PPE.
- 16.55 Any equipment used in open water should be cleaned and tested on return to the station, keeping to the appropriate standard tests and the infection control manual.

- 16.56 As stated in the foundation document Hazardous Materials health hazards – Notification of contamination or possible contamination by materials that may be hazardous to health, will apply to all personnel who suffer cuts, scratches or abrasions of the skin, however trivial or insignificant.

### **Flood Rescue Boat (FRB) operations**

- 16.57 During flood operations there may be a requirement for FRU emergency rescue boats (ERBs) to work alongside FRBs to aide in mass casualty evacuation.
- 16.58 The following guidelines for the use of FRBs:
- The FRB is rated to carry up to 8 adults and it can be pulled or towed by line, paddled or powered.
  - For the majority of evacuation (or rescue) operations, firefighters wearing appropriate PPE will pull FRB's. In circumstances where a power unit is required to assist with a rescue or to improve firefighter safety, coxswains must operate at a speed sufficient to make steady progress but not so fast as to create a wash that would have an adverse effect on operations and property.
  - A minimum of two PB (powerboat handlers) and one FRU water rescue technician are required to use the FRB under power.

### **Working with helicopters**

- 16.59 During major flooding events it is likely that crews may have to operate with or near helicopters. Firefighters are not trained in such operations and must therefore act under the guidance of the helicopter crew at all times.

### **Rescues from vehicles**

- 16.60 A vehicle in water is likely to become buoyant when the water level reaches above the door cill and therefore can suddenly move in an uncontrolled fashion.
- 16.61 The IC must make contact with the occupants of the vehicle as soon as possible to reassure them and brief them on the plan. This should include safety precautions, communications methods, operation of windows as well as other incident specific actions.
- 16.62 Rescues from vehicles in water pose some specific risks and hazards to casualties and rescuers. These additional risks include:
- (a) Uncontrolled movement of the vehicle impacting or trapping casualty or rescuer.
  - (b) Hazardous fluids leaking from vehicle.
  - (c) Sharps and snagging hazards on vehicle.
  - (d) Upstream and downstream siphon and entrapment hazards.
  - (e) Unpredicted failure of ropes and lines under tension.
- 16.63 Unless an incident is so critical that to await further resources is likely to result in the loss of human life, upstream and downstream backup strategies must be in place before a rescue from a vehicle is initiated.
- 16.64 Before attempting a rescue from a vehicle in the water the vehicle must wherever practicable be stabilised using strops or lines. In the event of using a line for stabilisation every effort must be made to protect the line from sharps.
- 16.65 The normal orientation of a vehicle in flowing water will be with the engine block facing upstream. If this is not the case, then rescuers must be aware that as the water rises that the vehicle will want to rotate to orientate itself at this angle.
- 16.66 Stabilisation of the vehicle must be carried out from the low risk zone. This is normally from either side of the vehicle so as not to place a rescuer directly upstream or downstream of the vehicle.

- 16.67 Rescuers must avoid positioning themselves directly downstream of a vehicle and should avoid operating directly upstream of a vehicle wherever possible.
- 16.68 When attaching a strop or line to the vehicle the rescuers must ensure that wherever practicable they maintain access to the vehicle from low risk areas. This will generally be from the doors on either side of the vehicle.
- 16.69 Stabilisation of the vehicle should be to a strong point on the vehicle in line with stabilisation of vehicles involved in an RTC.
- 16.70 When removing people from the vehicle the IC plan must consider the change in weight acting on the vehicle and therefore the stabilisation of the vehicle.
- 16.71 The LFB has the responsibility for rescue in all other inland waterways in London however the Maritime Coastguard Agency (MCA) are the coordinating authority for Search and Rescue (SAR) on the tidal section of the River Thames.

## Additional control measures for incidents on the River Thames

- 16.72 The Maritime Coastguard Agency (MCA) are the coordinating authority for Search and Rescue (SAR) on the tidal section of the River Thames.
- 16.73 At large and complex incidents the MCA may choose to delegate the function of On Scene Coordinator (OSC) to the most appropriate agency which includes the LFB.
- 16.74 The MCA's area of responsibility stretches from Teddington Lock to Shell Haven Point on the north bank and from Egypt Bay to the Essex Coast on the south bank. Due to respective LFB and MPS capabilities, the responsibility to coordinate initial SAR is likely to be delegated to the LFB on the non-tidal reaches of the River.
- 16.75 The watch officers of the Fireboat and Fire Rescue Unit (FRU) Emergency Rescue Boat (ERB) stations should regularly access the PLA website to obtain up to date and timely information relating to the River Thames, including notice to mariners, tidal times and navigational warnings, as this information will impact on operational planning. Personnel can also register with the PLA to receive Notices to Mariners via their LFB email account.
- 16.76 All Fireboat and FRU water rescue personnel receive relevant specialist training to operate safely within the Thames marine environment. Non-Fireboat/ FRU personnel should be given a full safety brief before any operations or activity commences, by someone appropriately qualified.
- 16.77 The Environmental Agency (EA) is the navigational authority for the non-Tidal River Thames from Teddington Lock to St John's Lock, Gloucestershire but has no responsibility for the co-ordination of SAR, which sits with the Metropolitan Police Service (MPS).

### River Thames grid mobilising scheme

- 16.78 To enable the London Operations Centre – Merton (LOC) to mobilise resources to the correct location of an incident on the River Thames, individual sections of the river are identified by using the grid mobilising scheme (see supplement on River Thames grid mobilising scheme).
- 16.79 The LFB area for incidents on the River Thames extends to the following grid references:
- (a) The tidal part of the River Thames within the LFB area stretches from:
    - (i) The most westerly point; Teddington Lock Route Card 63Ka 122 H41 Kingston ground;
    - (ii) to the most Easterly point at Dayton Drive Route Card 50Md 89 E27 Erith ground.
  - (b) The non tidal part of the River Thames within the LFB area stretches from:
    - (i) The most westerly point; Fordbridge Road Route Card 68Aa 121 H43 Twickenham ground;
    - (ii) to the most easterly point; Teddington Lock Route Card 63Ka 122 H41 Kingston ground.

16.80

**PPE**

- 16.81 All personnel will wear life jackets or PFDs as well as the additional appropriate PPE in relation to their task. This includes fireboat work wear and foul weather gear, structural fire-fighting PPE or swift water rescue PPE.

**Equipment**

- 16.82 LFB operations on the River Thames should be undertaken utilising the appropriate available equipment. This includes a dedicated fireboat, and water rescue FRUs carrying specialist ancillary equipment for the marine environment. All land-based appliances also carry a range of water rescue equipment that will allow them to undertake bankside rescues. The Operational Support Unit carries a pack containing BA compatible life jackets for use in the waterborne firefighting environment.

**Access points (AP)**

- 16.83 To assist with identifying the correct location when responding to an incident and to allow safe and effective access and egress to the River Thames for personnel and equipment, 21 strategically sited primary Access Points (APs) have been identified. In addition, a further 30 access points are also available, if any of the primary APs are unavailable.
- 16.84 Each AP has a unique identifier. i.e. AP 25N, this refers to access point 25 on the north bank of the river.
- 16.85 Each AP is appropriate for both appliances and the fireboat to gain access and egress from the river. They have been also identified as suitable Casualty Landing Points (CLP) in the event of their use by the London Ambulance Service (LAS) and other agencies.

**Reconnaissance point (RP)**

- 16.86 A Reconnaissance point (RP) is the initial mobilising location where LFB land crews are able to view a section of the river to assist with rescue operations and deploy to the AP as necessary.
- 16.87 Reconnaissance points (RP) have been identified for each grid of the river, one RP on either bank. A significant stretch of the river can be surveyed from each RP, which has a unique identifier, i.e. RP218 S. This indicates the reconnaissance point on the south bank of the river at river grid reference 218. A list is shown in supplementary information.
- 16.88 Information such as LFB Premises Information Boxes are available at TfL piers or pontoons.

**Mobilisation by LOC**

- 16.89 The LOC will mobilise the fireboat after receiving a call from a member of the public or MCA. The Fireboat will book status 2 via brigade radio as well as notifying the relevant agencies via marine VHF.
- 16.90 On mobilisation by the LOC, it is the responsibility of the fireboat to inform VTS on [REDACTED] of their passage plan, giving the following information:
- (a) Name of the vessel.
  - (b) Direction of travel (upriver or downriver) and destination (if known).
  - (c) If responding at speed to an operational incident, and initiating blue lights.
  - (d) Type of call.
  - (e) Inform MCA ([REDACTED]) that the fireboat is en-route to the incident.

- 16.91 When in attendance the fireboat will book status 3 with the LOC, confirm their attendance with the MCA ( [REDACTED] ) & VTS ( [REDACTED] ).
- 16.92 The LOC should remain in contact with the MCA to ensure the effective resourcing of any incident.
- 16.93 All crews should be aware that LOC may give an updated location en-route to the incident, due to the tidal nature of the Thames.

## Fireboat

- 16.94 The watch officers of the Fireboat and Fire Rescue Unit (FRU) Emergency Rescue Boat (ERB) stations should regularly access the PLA website to obtain up to date and timely information relating to the River Thames, including Notice To Mariners, tidal times and navigational warnings, as this information will impact on operational planning. Personnel can also register with the PLA to receive Notices to Mariners via their LFB email account.
- 16.95 Prior to leaving for any incident or in transit, it is the responsibility of the coxswain to ensure that the fireboat is operationally ready:
- All openings e.g. hatches, access to engines should be closed and secured for transit.
  - The deck of the fireboat should be clear of all unnecessary obstructions allowing clear passage and movement to the crew.
  - The fireboat crew must ensure they are rigged in the appropriate PPE, including lifejackets, relevant to the atmospheric and operational environment i.e. foul weather marine PPE, structural firefighting PPE or dry suits.
  - All personnel on the fireboat will operate under the instruction of the coxswain, whilst the boat is in transit.
- 16.96 On mobilisation by Control, it is the responsibility of the fireboat to inform VTS on [REDACTED] or [REDACTED] of their passage plan. The fireboat should then inform MCA via [REDACTED] or [REDACTED] that the fireboat is en route to the incident. Once at the incident the fireboat should inform both MCA and VTS that it is in attendance.
- 16.97 MCA can mobilise the fireboat by telephone or [REDACTED] if in transit. This is in accordance with the convention for the Safety of Life at Sea (SOLAS) Regulations. In this case the fireboat will inform Control of the incident via the running call protocol.
- 16.98 Under International convention for the Safety of Life at Sea (SOLAS) regulations which apply on the tidal Thames, the MCA can mobilise the fireboat by telephone or [REDACTED] if in transit.
- 16.99 If the fireboat is witness to an incident or is requested by a member of public for assistance, they are to inform Control, using the running call protocol, and the MCA and VTS via Airwave or VHF radio.
- 16.100 Once en-route, the fireboat will inform the MCA via [REDACTED] that they are mobile and request further information. Also the fireboat will inform VTS on [REDACTED]
- 16.101 The fireboat should then continue to monitor [REDACTED], so they are aware of the mobilisation and attendance of other rescue agencies, as well as the movement of other traffic on the river.
- 16.102 Where the fireboat is the sole attendance the commander of the fireboat will be the IC of the incident. However, if there is a need for further resources including land-based pumping appliances, the LFB incident command will be passed to the most senior officer present landside.
- 16.103 The fireboat must always monitor the relevant Airwave/VHF radio frequencies they are operating on the river. This is to ensure that important navigational information can be relayed to and received from VTS, and contact can be made with other agencies and river users in the vicinity if required.
- 16.104 The international convention for the safety of life at sea (SOLAS) requires those in charge of a marine vessel to offer assistance to any other vessel which is in distress (this only relates to the tidal section of the River Thames).

- 16.105 It is therefore the responsibility of the appliance commander on the fireboat to assess if it is reasonable for them to respond to give assistance or rescue.
- 16.106 Consideration must be given to other emergency agencies who may have already been informed or made aware of the distress call prior to mobilising, and who may also be in a more practical location to assist.
- 16.107 For this reason immediate contact with MCA and VTS should be made to initiate a coordinated response, if this is necessary. If response is requested or made, the LFB LOC should be informed as attending a running call.

### **Man overboard**

- 16.108 In the event of a man-overboard incident involving the Fireboat or an ERB, VTS should be informed as soon as possible by an Airwave/ VHF if the incident involves the fireboat or in the case of ERBs an Airwave transmission to the MCA. The first task is to locate the person and maintain visual contact with them; this should be the priority for all crew on board.
- 16.109 Once the casualty is located, and the fireboat or ERB is being positioned, retrieval equipment should be prepared and deployed as appropriate.

### **Fireboat dealing with a vessel unable to manoeuvre midstream**

- 16.110 There may be instances where a request is made for the fireboat to assist a vessel who has lost the ability to manoeuvre using their own power. This could be due to a mechanical failure or an incapacitated crew.
- 16.111 On approaching the vessel contact should be made either by Marine VHF radio or verbally.
- 16.112 Once contact has been made the appliance commander and coxswain of the fireboat may consider towing the vessel to a safe location. To assist with this, contact should be made with the Port of London Authority (PLA) to identify a suitable mooring location for the towed vessel.
- 16.113 Effective communications (either verbal or by radio) should be established and maintained between the fireboat and the towed vessel.
- 16.114 Before any towing operation the appliance commander &/or Coxswain must ensure that both the crew of the fireboat and the vessel being towed understand the objective, in particular the type of tow being used and the location the vessel will be towed to.
- 16.115 Both the appliance commander and the coxswain should consider river and meteorological conditions when effecting any towing operation.
- 16.116 Consideration should be given to the hazard posed by lines under tension while performing towing operations. Serious injury can occur if not managed correctly; crews must be briefed before the tow starts and the lines monitored whilst the tow is in progress.
- 16.117 If the fireboat is attending a vessel midstream and the OIC considers it necessary for personnel to board the vessel to assist in operations, the following must be considered:
- The state of the tide, in respect of tidal depth and flow (current strength);
  - ability of the fireboat to maintain contact with the vessel (safe access/egress routes);
  - the close proximity of other river traffic;
  - obstacles in the river, including bridges, piers, buoys etc. that might interfere with operations.

### **Dealing with a vessel taking on water (midstream/alongside)**

- 16.118 Vessels taking on water midstream present a higher risk to crews and the public, especially if the vessel has had a catastrophic failure, due to a collision. The priority, due to the increased risk to life, should be the evacuation of person(s) on board the stricken vessel by either fireboat or ERB.
- 16.119 Once the vessel taking on water is secure and/or alongside, and if the appliance commander deems it safe to do so, the fireboat can assist by pumping out.
- 16.120 Before offering pumping out assistance, the appliance commander should consider the following:
- Amount of water taken on by the vessel.
  - Vessel size.
  - Cause of taking on water.
  - Options for stopping or reducing the ingress of water.
  - State of the tide.
- 16.121 To enable any evacuation or assistance, consideration should be given to securing the vessel (if drifting) by either towing alongside the fireboat or, if appropriate, by running it aground.
- 16.122 Before carrying out any evacuation from a vessel the IC should consider the following:
- The immediacy of the threat to life of the person(s) on the vessel.
  - The risks posed to vessel, crew and persons during rescue operations.
  - Ensuring adequate deck space is made available on the fireboat for evacuated persons.
  - The evacuation of any vessel in distress will involve a number of other agencies, so it is a priority that communications, via Marine VHF or Airwave (in the case of ERBs), with both the PLA and MCA, are continuously monitored, with relevant information being shared.

### **Casualty rescue from the foreshore (including mud, ice)**

- 16.123 The fireboat has a dropdown bow ramp to allow personnel to work from a place of safety and this should be used whenever practicable.
- 16.124 Whenever rescues are required from the foreshore by the fireboat or water rescue FRUs the deployment of an inflatable rescue path (IRP) and a mud lance will be utilised where required.
- 16.125 Contact will be made with MCA & VTS, to inform them of the situation and to ensure that all other water craft can be informed so that they navigate accordingly and avoid any risk collision. If necessary VTS can restrict access to that part of the river for safety and navigation purposes.

### **Persons threatening to jump from river structure (bridge/pier)**

- 16.126 MPS have primacy at incidents involving persons threatening to jump from any river structure, such as a bridge or a pier.
- 16.127 The first attending IC is to make contact with the fireboat to coordinate their assistance if it is required.
- 16.128 The fireboat will inform control, VTS and MCA that they are in attendance and an incident is in progress.

### **Persons in water (search and rescue)**

- 16.129 The following key points should be considered by the fireboat commander or personnel on an ERB;
- Time and last known position (LKP).



- Tidal speed and direction.
- Weather.
- Use of FRU ERB.

### **Body recovery**

- 16.130 On occasions the fireboat or ERBs may be requested to assist with the location and/or recovery of a body in the Thames.
- 16.131 Body recovery in this context refers to casualties known to be deceased prior to the call being made to the LFB. It does not apply to casualties who are believed to be alive prior to operations commencing.
- 16.132 Where a request to assist in the recovery of a body is received from either the MPS or LAS, it must be referred to a National Inter Agency Liaison Officer (NILO) and a TAR.
- 16.133 Once recovered the body should be placed into a body bag, to both protect it but also to prevent it being viewed by the general public.
- 16.134 16.84 In most circumstances the procedure will be the same as recovering a casualty from the water. However, if it appears that the body has been in the water for a long period of time the IC must consider the following before retrieval;
- avoidance of direct contact with blood or body fluids from the deceased
  - appropriate PPE to be worn
  - cross contamination (for both health and evidential reasons)
  - removal and decontamination of PPE once task has been performed
  - crew decontamination
  - welfare of the crew
- 16.135 It should be noted that the MPS and Coroner will need to know the circumstances in which the body was found. Contemporaneous notes should be made by the IC and all those directly involved in the recovery to assist in any subsequent investigation or enquiry.

### **Dealing with HAZMAT incidents**

- 16.136 For any HAZMAT incident, the first consideration should be to bring the vessel alongside.
- 16.137 If the vessel is unable to manoeuvre under its own power, then use of the fireboat or other suitable vessel should be considered for towing the vessel to a place of safety.
- 16.138 If so, PLA/MCA/MPS/EA, dependent on location and circumstance, should be involved in the decision and agree the location where the vessel will be moored.
- 16.139 Once the vessel has been moored alongside, normal HAZMAT procedures can commence.
- 16.140 However if the vessel is unable to be brought alongside and therefore presents as a midstream incident the following will apply;
- Land based crew will confirm and proceed to the appropriate AP and make contact with the fireboat OIC.
  - Once at the AP the land based IC will instruct the crew to don in HAZMAT PPE.
  - the fireboat will then transport the crew from landside to the affected vessel
  - the fireboat will approach the affected vessel up wind

- on arrival at the vessel crews will implement HAZMAT procedures appropriate to the incident.

### **HAZMAT decontamination**

- 16.141 Once the task has been completed HAZMAT crews can be transported back either on the affected vessel or the fireboat.
- 16.142 If returning via the fireboat, contaminated personnel and casualties will board the fireboat, and stand on a salvage sheet which has been placed on the bow deck area of the fireboat.
- 16.143 On return to a secure mooring, the vessel which the HAZMAT crew and/or casualties have been transported on, will be the designated a Hotzone and normal firefighter decontamination procedures will apply.
- 16.144 Where necessary the Coxswain and crew may need to be confined to the pilot house throughout the transportation of either contaminated personnel or casualties. They will only be able to leave the pilot house when it is deemed safe to do so by the IC, following guidance from the HMEPO.
- 16.145 Following an appropriate briefing the crews in HAZMAT PPE may have to perform the task of securing the fireboat (fore and aft) when mooring.
- 16.146 Once moored, normal firefighter decontamination will be undertaken by land based crews.

### **Environmental protection (pollution control)**

- 16.147 The administrative powers and responsibility for environmental protection on the Tidal River Thames are split between the EA and the PLA. On the non-tidal part of the river such powers lie exclusively with the Environment Agency (EA), on the tidal part of the river it is the PLA.
- 16.148 It is the responsibility of the fireboat or land based IC to inform (dependent on the river location) the PLA and/or EA of any potential environmental damage. This should be done via LOC and the PLA directly via VHF if on the fireboat, as required under local marine regulations. This will enable the agencies to mobilise their own representative to assess the scene and offer appropriate advice to prevent or mitigate the pollution.

### **Fireboat as the designated on scene co-ordinating (OSC) vessel**

- 16.149 The MCA may delegate the tactical command and control of river assets to the fireboat and crew. This will make the fireboat the OSC vessel and either the fireboat commander or the attending TAR will undertake the role of On Scene Coordinator (OSC). Alternatively, a TAR could be nominated as the OSC working on another agency's vessel.
- 16.150 It is the responsibility of the commander of the fireboat or TAR to inform control when the decision has been made to designate the OSC role to the fireboat or to an individual TAR.
- 16.151 If designated OSC, the fireboat's role in any search or rescue procedure may be suspended so they are able to be fully briefed and can execute their role and responsibilities as stipulated by the MCA.
- 16.152 The fireboat commander should consider the allocation of a dedicated radio communications officer from the crew to assist with monitoring both VHF and Brigade radio's and maintain radio contact with participating vessel and agencies involved in the SAR operation.
- 16.153 So that the fireboat can be easily identified as the OSC the blue beacons should remain on.

### **Pumping appliances**

- 16.154 When mobilised by Control, land based resources will be deployed to the designated RP and await further instructions either from control or the fireboat dependent on its location. They will either:
- Be stood down as the resource is not required.

- Be given further information on the AP to attend and resources required by the fireboat.

16.155 All other appliances attending are to be informed of any relevant details in reference to incidents on the Thames, including tidal movement, reconnaissance points (RP) and access points (AP).

### **Emergency rescue boat (on FRU) operations (ERB)**

16.156 Dependent on the location and nature of the incident, water rescue FRUs may be mobilised by LOC to respond to the incident without the attendance of the fire boat. The following points should be followed when using the ERB:

- Powered ERB must be crewed by a minimum of two PB (powerboat handlers) and one FRU water rescue technician.
- The ERB has a maximum capacity of 7 people (650kg), which includes rescuers and equipment.
- The Dacon Rescue sling is the primary means of recovering casualties from the water.
- The emergency cut out lanyard (kill cord) is always attached from the coxswain to the engine of the ERB during boat operations.
- The all-round white navigation light must be used at night or during poor visibility.

16.157 ERB crews must only operate within the limits of their training and LFB policy.

16.158 The initial land-based attendance should focus on stabilising the riverside scene, by implementing cordons and asking bystanders to keep a safe distance from the scene. When the ERB is deployed onto the River Thames the MCA will designate an on-scene co-ordinator (OSC). This will usually be the fireboat, TAR or MPS MPU. The OSC will coordinate all rescue assets on behalf of the MCA for the duration of the incident.

16.159 The Royal National Lifeboat Institution (RNLI) is the primary rescue service on the tidal River Thames.

16.160 The tidal part of the River Thames within the LFB area stretches from:

- The most westerly point; Teddington Lock Route Card 63Ka 122 H41 Kingston ground;
- to the most Easterly point at Dayton Drive Route Card 50Md 89 E27 Erith ground.

16.161 The non tidal part of the River Thames within the LFB area stretches from:

- The most westerly point; Fordbridge Road Route Card 68Aa 121 H43 Twickenham ground;
- the most easterly point; Teddington Lock Route Card 63Ka 122 H41 Kingston ground.

16.162 All category 1 and 2 responders operating on the river use a grid referencing system to identify locations along the river and use defined Access Points (AP's) for the access/egress of resources.

16.163 When in place, LFB Control will confirm the OSC and communications plan to crews attending the incident. The Maritime Coastguard Agency (MCA) has the statutory duty to coordinate search and rescue activities on the tidal Thames with the Police providing this duty on non tidal areas.

16.164 On arrival crews should establish contact with the OSC, using the designated airwave channel, to receive a full briefing.

16.165 Additional safety equipment contained within the "Thames pack" must always be fitted to the ERB prior to launch.

16.166 Where an LFB attendance is mobilised to a river incident prior to the arrival of any other assets incident commanders may commit an ERB to the tidal Thames to carry out a rescue only in circumstances when to await the arrival of further resources is likely to result in the loss of human life. In these circumstances and in the absence of an OSC the following communications protocol must be followed:

- Before launching crews must establish contact with VTS on Airwave channel ES3 confirming launch point, activity, personnel and numbers of boats.
- On launch the crew must confirm with VTS that they are on the water and carrying out the activity.
- Throughout the duration of the operation the crew must maintain communications with VTS and send regular updates confirming activity and location.
- On recovering the boat from the water crews must confirm with VTS they have left the river and training activities have ceased in that location.

16.167 The following points must be followed when launching an ERB on the tidal stretch of the River Thames:

- A priority message must be sent to Brigade Control giving details of the location between two identifiable points, the actions taken, and requesting additional resources if appropriate.
- The incident commander must ensure that contact with the MCA is established and maintained, using the designated Airwave [REDACTED], for the duration that LFB assets are on the river or foreshore.
- All crew must wear dry suits and personal flotation devices and rescue helmets.
- ERBs must be launched under power, with the paddles stowed on the ERB.
- Dependent on operational requirements the ERBs must be crewed by a minimum of two including one trained powerboat handler.
- ERBs must operate within sight of the incident commander, delegated safety officer or support craft.
- Handheld radio communications must be tested prior to deployment and maintained with the IC and fireboat (if in attendance) at all times.
- The IC should inform the MCA via airwave and LFB Control as soon as possible after deployment.

16.168 The IC should also put in place the following additional safety measures as soon as is practicable:

- Brief and deploy spotters, with their incident ground radios, throwlines and wearing PFDs, up and downstream to warn of oncoming dangers.
- Deploy, or request the attendance of a second FRU with BT attribute to act as safety crew.
- Establish and maintain communication with the other relevant agencies.
- The IC should brief the ERB crew on the objectives to be achieved and confirm understanding with the ERB crew before their deployment, and inform the MCA via airwave and LFB Control as soon as possible after deployment.
- Incident commanders must consider that incidents on the tidal River Thames are rarely static and consideration should be given to the identification of alternate landing points for ERB's.

### **Cessation of operations for ERB**

16.169 The use of the ERB at operational incidents will cease when either:

- All rescues have been achieved.
- The prevailing conditions on the tidal Thames have deteriorated to such an extent that the IC determines that further operations are unsafe.
- The area of operations has been thoroughly searched and crew(s) have not located any casualties for a minimum of 90 minutes after the casualty was seen dropping below the surface of the water.

- On the instruction of the MCA or the MPS.
- When agreed at a Silver meeting between all agencies involved.

16.170 Once the ERB has been removed from the river, it must be thoroughly washed using a hose reel before it is re stowed in the valise on the appliance.

### **Training on the River Thames for FRU ERB**

16.171 Strict guidelines have been agreed between the LFB, MCA and the Port of London Authority (PLA) to allow crews to train with ERB's on the River Thames.

16.172 The risk assessment guidance and sectorisation/Thames grid information should be followed when organising a training or familiarisation event on the river.

16.173 Following a full risk assessment, the training notification template contained in (Appendix ) must be completed and forwarded to the PLA at least 14 days prior to the event.

16.174 The PLA may restrict training if required due to other river activity.

16.175 In high traffic areas of the river the IC should consider organising the training in partnership with the fireboat , MPS MPU, and/or the RNLI, as they are able to provide an additional level of safety cover in the form of a larger vessel.

16.176 Training on the tidal Thames should always be carried out with a minimum of two ERBs.

16.177 The following communications protocol must be followed:

- Before launching crews must establish contact with VTS on Airwave channel [REDACTED] (in Airwave handset Folder MCA) confirming launch point, activity, personnel and numbers of boats.
  - On launch the crew must confirm with VTS that they are on the water and carrying out the activity.
  - Throughout the duration of the training activity the crew must maintain communications with VTS and send regular updates confirming activity and location.
  - On recovering the boat from the water crews must confirm with VTS they have left the river and training activities have ceased in that location.
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## Water operations

### Official

## Hazards and risks

The hazards listed below are specific to water operations, or are generic hazards for working in, on or near water. The list is not exhaustive, and ICs should always be aware of additional hazards when formulating their objectives and plan:

### Working in, on or near water

- At an incident, personnel may be required to conduct operational activity near to bodies of water, including lakes, reservoirs, ponds, quarries, streams and swimming pools. There is the possibility of personnel entering the water leading to risk of submersion, entanglement, cold water shock, hypothermia and ultimately drowning.
- In a moving body of water, hazardous debris and materials including large objects can affect personnel or compromise safe systems of work. Harmful substances such as sewage and industrial chemicals can be washed downstream and into the incident area. (Debris may be on the surface, suspended in the water or rolling along the bottom.)
- Hydrology – IC's must be aware of the presenting hydrology such as: - recirculation, eddies, tidal waters, obstructions – pins, strainers, siphons etc.
- Biological hazards – IC's must implement strict safety precautions such as no drinking, eating or smoking until decontamination procedures have been followed, hazards include water borne contaminants such as blue/green algae, veils disease and leptospirosis.
- Clean line principle - fixed lines can pull responders underneath the water and untreated lines may sink and snag on sub-surface objects when saturated. Any fixed line may hold a responder or casualty in a hazardous position.

### Weather

- Personnel working for extended periods in dry suits can become hypo or hyper thermic due to the material and construction of dry suits.
- Exposure to inclement weather conditions or immersion in water following may affect the judgement and dexterity of operators, onset of hypothermia or other climatic injuries.
- Forecast weather conditions should be obtained and monitored as they can have a negative effect on operations and the health and safety of personnel.

### Sub-surface rescue

- The risk associated with sub-surface rescue are too high because it involves hazards which 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 head under the surface of the water.
- London Fire Brigade breathing apparatus **MUST NOT** be used under water as the equipment is not designed for this task.

## Control measures

- All personnel must be aware of their responsibilities regarding working in, on or near water and maintain a full understanding of the water operations capability.
- Water operations level 1 and 2 are, when used appropriately, safe systems of work and are considered a control measure in both the dynamic and analytical risk assessment process.
- When working inside an area of risk, a DRA must be conducted by the water operations team leader on behalf of the incident commander. Any other hazards should be considered when conducting the DRA. Only on the agreement of the IC may personnel enter the risk area.
- Decontamination:
  - Use the Alco gel supplied on pump ladders and FRUs to disinfect hands.
  - Always wash your hands with soap and water before eating, drinking or smoking.
  - Any firefighter who suffers cuts, scratches or abrasions of the skin should wash them thoroughly as soon as possible.
  - All personnel who have entered open water must shower as soon as possible after the incident.

## SOPs

- Water operations are divided into the following 3 levels of response:
  - **Level 1 water operations** – operations where firefighters work within 3m of an unprotected water's edge or enter water that is both shallow enough not to compromise their PPE and slow moving enough that there is no foreseeable risk that they will be swept off their feet.  
**If the IC is in any doubt level 2 water operations must be implemented.**
  - **Level 2 water operations** – operations where firefighters may have to commit to water (still or moving) to affect a rescue. This includes all incidents involving people in the water and any other incidents beyond the limitations of level 1.

Before a firefighter enters the water to affect a rescue the incident must be escalated to level 2 water operations and the following control measures must be in place:

- A firefighter who is considered competent and capable of performing the rescue should be identified by the IC.
- All personnel must be fully briefed.
- A **floating safety line supervisor** must be in place.
- Anyone entering the water must be **rigged correctly**
- Consider using **inflated fire hose** to provide additional buoyancy for the casualty and the rescuer.
- **Effective communications** must be established and maintained between the IC, the rescuer and all safety personnel.

- Keep noise to a minimum around the area of operations to facilitate **clear verbal communications** e.g., switch off appliance engines if parked close by.
- Personnel to **enter the water slowly** to minimise cold water shock and reduce the chance of injury. Any immersion in cold water can compromise even good swimmers almost immediately.
- **Gauge the depth of the water** before entering and if necessary, take a ceiling hook or other piece of equipment to regularly gauge the water depth.
- The floating safety line supervisor is to **monitor the rescuer** for signs of distress and if they appear in distress or become unresponsive to withdraw rescuer immediately.
- Any firefighter committed to the water should be **replaced by FRU SRT** as soon as practicable.

### **Emergency rescue boat operations (ERB)**

The following points should be followed when using the ERB:

- Powered ERB must be crewed by a minimum of two FRU water rescue technicians, including one trained powerboat handler when carrying out a rescue.
- The ERB has a maximum capacity of 7 people (650kg), which includes rescuers and equipment.
- The emergency cut out lanyard (kill cord) is always attached from the coxswain to the engine of the ERB during boat operations.
- The all-round white navigation light must be used at night or during poor visibility.



This Standard Operating Procedure should be read with:  
PN979 – Rescue - NOG: Dated 1 March 2022