Flooding/ Incidents Involving Floodwater

To be used in conjunction with Incidents Involving Floodwater Tactical Guidance

Networked Fire Services Partnership

HAZARD/ RISK INFORMATION	CONTROL MEASURES
☐ **Working Environment** o Working near, on or in bodies of water o Falls into water/ drowning o Isolation/ trapped due to deteriorating conditions e.g. rising water levels or increased flow o Struck/ trapped by surface/ sub- surface debris or objects o Damaged structures e.g. Falling objects, structural collapse o Unstable ground/ surfaces o Falls from height o Biohazards (contaminated flood water) e.g. sewage, chemicals o Hypothermia	☐ Follow contingency plans for response to flooding ☐ Ensure all personnel adhere to their service's policies and procedures for response to floods ☐ Ensure equipment and vehicles are positioned appropriately: Monitor o Ground/ surface conditions o Water levels ☐ Establish and maintain access routes, cordons and avoidance routes ☐ Assess past, present and access future weather & tidal information e.g. FireMet ☐ Establish Safety Observers ☐ Apply hierarchy of risk Rescue formula ☐ Only deploy the minimum suitably trained personnel required to work in floodwater (min. Mod 1 trained/ Water Awareness) for still, shallow water, up to 300mm (i.e. not over fire boots) o PPE, lifejacket, helmet strap undone if within 3m of water o Throwlines o Use of wading poles/improvised wading poles if entering the water ☐ Consider specialist resources e.g. Water Rescue Teams (Mod 2,3,4), RNLI, Coastguard, Animal rescue ☐ Working at height procedures e.g. work restraint ☐ Decontamination procedures ☐ Establish welfare facilities ☐ See OP: Rescues from Geophysical Events ☐ See OP: Water Rescue
☐ **Live Utilities** o Electricity – Electrocution o Gas – Flammable atmospheres e.g. gas appliances extinguished	☐ Establish and maintain cordons to protect people from the utilities that may be affected ☐ Consider isolation/ making safe of utilities o Locally or via utility companies ☐ Consider defensive tactics if utilities cannot be isolated/ made safe

	☐ Seek specialist advice or assistance from the appropriate organisations for dealing with utilities at a flood ☐ Use gas monitoring if suspected gas leak ☐ Ventilate as appropriate ☐ See TG: Utilities and Fuels
☐ **Ineffective Communications**	☐ Establish and maintain multi-agency communications ☐ Regular command team briefings/ updates/ relevant information sharing

OPERATIONAL ACTIONS	✓
Assess information to enhance situational awareness: ☐ Identify the parameters of the incident, is it: o Dynamic e.g. Coastal flood (tidal/ storm surges) o Widespread e.g. River floods o Local e.g. Burst water main, Flash floods and surface water ☐ Assess suitability of FRS vehicles operating in flood conditions ☐ Consult available flood risk plans ☐ Monitor conditions that could result in incident deterioration o Adverse Weather o Tidal impacts o Proximity to rivers/ state of river o Thawing of an area (snow) o Waterway management systems e.g. gates/ barriers and sluice gates	
Establish safe approach to the incident: ☐ Identify, establish, maintain and indicate safe access and egress to the scene of flood operations and communicate routes to relevant personnel ☐ Designate evacuation point/ location ☐ Where possible, establish, maintain and regularly monitor inner and outer cordons	
Establish aims, objectives and priorities for incident ☐ Rescues – (Rescues from water, See OP Water rescue) ☐ Evacuations (Now, soon or later) o Warn, inform and advise people — Liaise with appropriate agency and Fire Control to ensure people at risk and vulnerable people are being provided with the appropriate flood advice/ water survival guidance — Liaise with Fire Control if the current flood advice/ water survival guidance may be inappropriate	

- Consider evacuation/ shelter arrangements for vulnerable people or people at risk
- Identify number and location of people who need assistance to evacuate
- Provide details to Fire Control of people assisted with evacuation from a flood

☐ Managing flood waters to prevent escalation and spread

- Isolation of source
- Divert the flow/ improve the drainage of floodwater, consider:
  - Unless a rapidly developing incident, this preferably should be done with the consent of the relevant responsible agency
  - Identifying and protecting Critical National Infrastructure, receptors of contamination, transport networks and built-up areas
- Pumping out floodwater, Consider:
  - The effects of pumping out structures, including temporary or unstable structures (creation of lateral pressure/ pressure differential)
  - The impact of pumping out on biosecurity and the environment, including to undamaged or unaffected areas
  - Delaying pumping out structures until the floodwater starts receding

☐ Environmental protection

Request additional/ Specialist resources/ advice

☐ Consider what is required to meet initial and developing incidents

- Mod 5 WIM (water Incident Manager), Flood Rescue/ HVP TacAd
- Water Rescue Teams e.g. Module 2/3/4, flood response
- National assets HVP/ USAR/ RNLI/ Coastguard (request using agreed National Resilience protocols)
- Additional personnel to support NR resources/ relief crews
- Police e.g. road closures and outer cordon control
- Other agencies e.g. Military, Environmental agency
- *See OP: Specialist Advice & Additional Resources*

☐ Establish appropriate (RVPs), strategic holding areas (SHAs) or multi-agency strategic holding areas (MASHAs) that will not become part of the incident should the situation deteriorate and notify Fire Control

Co-ordinate flood response with other organisations in attendance, applying JESIP principles

☐ Communicate hazards and risks, overarching plan, and incident command structure

☐ Establish capabilities of individuals from voluntary sector organisations prior to their deployment during a flood

☐ Work with other organisations to co-ordinate a search of the flooded built environment for casualties and survivors

NB. Consider subdividing areas of operations for a flood – Command structure and incident ground organisation should reflect the needs, complexity and scale of the incident

Implement Safe Systems of Work when working near, on or in floodwater

- ☐ Establish, mark, regularly assess and communicate hazard areas, exclusion zones and avoidance routes
  - Consider the use of pathfinders to indicate safe routes as the flood develops
- ☐ Only deploy the minimum suitably trained personnel required to work in floodwater (minimum Mod 1 trained/ Water Awareness) for still, shallow water, up to 300mm (i.e. not over fire boots)
  - PPE – lifejackets, helmet straps undone if within 3m of water (unless trained personnel using equipment appropriate to module 2 minimum water rescue)
  - Throwlines
  - Use of wading poles/improvised wading poles if entering the water
- ☐ Appoint a safety officer to monitor hazard/s presented by floodwater
- ☐ If using watercraft establish safe launching and bail-out sites before deploying them
  - Watercraft are to only be operated by correctly trained and equipped personnel/ emergency responders

FURTHER CONSIDERATIONS ✓

Incident considerations when working around floodwaters

- ☐ Consider the effects of flooding when establishing areas and locations for resources
  - Impact of floodwater on vehicles or vessels being used e.g. pumping appliances, rescue craft
- ☐ Consider any effects that loss of power, isolation by floodwater or loss of communications may have on the emergency response
- ☐ Consider avoiding evacuation routes to prevent potential conflict between response and public use during a flood

Responder Welfare

- ☐ Hygiene and decontamination procedures
- ☐ Health surveillance
- ☐ Post exposure reporting

High volume pumps – Consider environmental impact when utilising HVP.

Flood recovery strategy

- ☐ Consider the flood recovery strategy for employees, resources and sites affected
- ☐ Assist with the transition from flood response to recovery

ADDITIONAL INFORMATION

SERVICE SPECIFICS

No comments

Document References

	National Operational Guidance: Geophysical Hazards – Hazard: Insufficient preparation for a flood National Operational Guidance: Geophysical Hazards – Hazard: Working near, on or in floodwater National Operational Guidance: Geophysical Hazards – Hazard: People at risk: Flooding National Operational Guidance: Geophysical Hazards – Hazard: Insufficient resources: Flooding National Operational Guidance: Geophysical Hazards – Hazard: Flood damage to the built environment National Operational Guidance: Geophysical Hazards – Hazard: Utilities: Flooding

Partnership Relevant References

	NFSP TOG S7.0.0 – Flooding in the open NFSP TOG S6.0.0 – Flooding in buildings

Other Related Guidance

	

Document Audit Information

Senior Officer Accountable	Authorised By	Implementation Date	Review Date
[redacted]	[redacted]	25/05/2022	24/05/2027

Version Control

Section	Version no.	Reason for update	Date updated	Updated by
All	1.0	Approved to Publish	22/03/2022	