



NFCC
National Fire
Chiefs Council

Rescue Boat Code for the Fire and Rescue Service

November 2021

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1. Introduction

Background

In winter 2020 the National Fire Chiefs Council (NFCC) Inland Water and Technical Rescue Group (IWTRG) formed a task and finish working group to review the options for developing a Rescue Boat Code for the Fire and Rescue Service. Based on a review of existing legislation and codes, meetings with the Maritime and Coastguard Agency (MCA), which is an executive agency of the Department for Transport (DfT), and in response to the recommendations of the Marine Accident Investigation Branch (MAIB) Accident Investigation Report 17/2020, it was agreed unanimously that the best approach was to produce the 'Rescue Boat Code for the Fire and Rescue Service'.

The Rescue Boat Code for the Fire and Rescue Service was completed in 2021 under the lead of the NFCC IWTRG working group comprised of representatives from:

- NFCC IWTRG East Midlands Rep (Chair)
- NFCC IWTRG North West Rep
- NFCC IWTRG Eastern Rep and RNLI member
- NFCC IWTRG South East Rep
- NFCC IWTRG South West Rep
- NFCC IWTRG Northern Ireland Rep
- NFCC IWTRG Personal Protective Equipment (PPE) and National Boat Survey lead
- Mid and West Wales Fire and Rescue Service Rep
- Scottish Fire and Rescue Service
- NFCC – National Operational Guidance Programme member
- RNLI/Ministry of Housing Communities Local Government
- MCA – Policy Branch
- HM Coastguard
- Metropolitan Police
- UK Harbour Masters Association

Specialist advice was sought from risk experts and medical professionals, etc. and contact was made with other agencies and organisations during production of the code, including the Health and Safety Executive (HSE).

Scope of the document

This code applies to powered rescue boats from local authority fire and rescue services of less than 7m in length with a maximum survivor capacity of 20. This code applies to rescue boats from the fire and rescue services operating and training on inland waters and categorised waters as designated in the Merchant Shipping Notice 1837(M) – Categorisation of Waters (as amended).

The document serves as the minimum standard for fire and rescue services that operate rescue boats to save life, and it does not include commercial activity. The Rescue Boat Code for the Fire and Rescue Service acknowledges other codes that fire and rescue services may be required to meet or choose to utilise based on their individual organisational needs and activities.

This code is intended to provide standards for rescue boats operating from fire and rescue services for water and flood rescue activities with a focus on inland and in-service activities; it does not extend to other functions such as firefighting. For these situations, agencies should comply with the following additional relevant standards:

- For declared national assets operating for the Department for Environment, Food and Rural Affairs (Defra), additional to the Rescue Boat Code for the Fire and Rescue Service, refer to the Defra Flood Rescue Concept of Operations (FRCO) to ensure specific requirements are met
- Agencies operating and/or training beyond the limit of categorised waters or operating a vessel 7m or greater in length should comply with another boat code such as:
 - The Rescue Boat Code, or
 - The Work Boat Code

It was the intention of the NFCC IWTRG that the production of the code will:

- Develop a minimum standard, that will
- Improve firefighter safety, achieving
- MCA validation, and
- Support the Fire and Rescue Service sector during rescue boat operations

Date of commencement

The date of commencement of the Rescue Boat Code for the Fire and Rescue Service is 1 November 2021.

Implementation period

The implementation period of this code has been carefully considered to recognise the existing need for boat coding and the finding of the MAIB Fatal Accident Investigation Report 17/2020.

Fire and rescue services should look to implement the standards in order to meet this code or another appropriate MCA code within 12 months of this code being published.

Updating the code

This code has been drafted by the fire and rescue service in consultation with the MCA. The code will be subject to review by the NFCC Inland Water Technical Response Group to ensure it remains fit for purpose and proportionate. The NFCC IWTRG will maintain, update and issue amendments. Any substantive amendments will be made in collaboration with the MCA and other organisations as appropriate/applicable. Amendments will take into account changes in legislation, reference codes of practice and feedback from code users and the working group.

2. Glossary

A

ADR regulations are regulations via the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

‘Approved’ means approved by, or acceptable to, the MCA under merchant shipping legislation, unless otherwise specified in the code.

‘Annual examination’ means a general or partial examination of the rescue boat, its machinery, fittings and equipment, as far as can readily be seen, to ascertain that it has been satisfactorily maintained as required by the code and that the arrangements, fittings and equipment provided will meet the required standard. The hull, shell fittings, external steering and propulsion components of the rescue boat should be examined out of the water at intervals not exceeding 5 years. The Fire and Rescue Service should examine the boat out of the water less frequently in consideration of hull construction material or the age or type and service of the boat.

B

‘Boat fitted with a buoyant collar’ describes a rigid inflatable boat (RIB), or a boat of similar hull form, where, in place of inflatable tubes, solid or hollow buoyant sections or tubes are fitted.

C

‘Carriage of additional personnel to facilitate rescue services/training’ describes when a person is taken aboard a fire and rescue service rescue boat in addition to the usual crew to provide additional services in a rescue scenario or for training purposes.

‘Casualties’ are people who have illnesses or injuries and who require medical care; they are not passengers.

‘Categorised waters’ can include any area of water not categorised as ‘sea’ for the purpose of most merchant shipping legislation (e.g. canals, tidal and non-tidal rivers, lakes and some estuarial waters). The current list of categorised waters can be found at the following link:

<https://www.gov.uk/government/publications/msn-1837-m-amendment-2-categorisation-of-waters>

‘Code’ means this code unless another code is specified.

‘Commercial’, for the purposes of this code only, describes the use of a rescue boat on a voyage or excursion for which the fire and rescue service receives money, including operating the rescue boat or carrying any person other than during an emergency, search and rescue (SAR) operation or training activity.

‘Competent person’ is a person(s) who by reason of relevant professional qualifications, practical experience and expertise is recognised by the responsible person as competent to carry out any examinations required under the code. Competent person also describes a consultancy or survey organisation experienced in the survey of small vessels.

‘Compliance examination’ is an examination of the rescue boat, its machinery, fittings and equipment, and the operational effectiveness of the rescue boat and crew by a competent person or persons to ascertain that the rescue boat’s structure, machinery, equipment and fittings comply with the requirements of the code, and that the rescue boat, its crew and launching support arrangements meet the required operational standard. Part of the examination should be conducted when the rescue boat is out of the water.

‘Co-ordinating authority’ is the organisation or body responsible for co-ordinating SAR facilities in a specific area: e.g. HM Coastguard or police or fire and rescue service where applicable.

‘Crew (rescue boat)’ describes personnel nominated by the Fire and Rescue Service to operate in a rescue boat.

‘Corrective maintenance’ describes activities to correct a defect, problem or damage, rather than a planned activity.

D

‘Daylight’ is from 1 hour before sunrise until 1 hour after sunset.

E

‘Efficient’ – in relation to a fitting, piece of equipment or material – means that all reasonable and practicable measures have been taken to ensure that it is suitable for the purpose for which it is intended. The builder, repairer or owner of a boat, as appropriate, should take all reasonable measures to ensure that a material or appliance fitted in accordance with the requirements of this code is suitable for the purpose intended, having regard to its location in the boat, the area of operation and the weather conditions that may be encountered.

‘Existing boat’ is a fire and rescue service rescue boat already operating as a rescue boat prior to the date of publication of this code.

‘External/Outside bodies’ are organisations with which the Fire and Rescue Service will interface.

F

‘Favourable weather’, for the purposes of this code, means water conditions, wind, sea and visibility conditions that are deemed by the helm to be safe for the rescue boat to operate within the limits applied to it. In any other case, ‘favourable weather’ describes conditions existing throughout a voyage or excursion during which the effects either individually or in combination of swell height of waves, strength of wind and visibility are assessed not to cause any unacceptable risks.

In making a judgement on favourable weather the helm should have due regard to official weather forecasts for the service area of the boat or to weather information for the area which may be available from the MCA or similar coastal safety organisation, Met Office, Environment Agency, Flood Forecasting Centre or equivalent.

'Flood victim' refers to a person affected by the impacts of flooding who does not need medical intervention or onward hospital care. Flood victims are often evacuated by rescue teams.

'Freeboard' is the distance measured vertically downwards from the lowest point of the gunwale to the waterline in an open boat.

H

'Helm(s)' describes the crew member(s) in charge of the Fire and Rescue Service rescue boat.

"HM Coastguard" means Her Majesty's Coastguard, the organisation within the MCA that has responsibility for the initiation and coordination of United Kingdom civilian maritime search and rescue (SAR) which includes at sea, along coastlines, tidal waters, estuaries and some designated inland waterways.

I

'Intelligent crewing' describes the actions of crew members who have been trained to operate in the boat and appreciate their impact on the boat. They can assist the helm with trimming of the boat, have experience of paddle skills from the Water and Flood Rescue Technician course and support safety to look out for hazards and casualties.

'IP–Ingress Protection (watertight rating)' means watertight rating of electrical equipment, including electrical cable.

'IP"XY' indicates the degree of protection provided by an enclosure to electrical equipment, as indicated in the International Protection (IP) Code, where X and Y are

characteristic numerals. See the latest version of International Electrotechnical Commission (IEC) 60529 – Degree of Protection provided by enclosure (IP Code).

L

‘Launch and recovery equipment’ is appropriate equipment that allows safe launch and recovery of the boat and safe access to the boat in all required operational conditions.

‘Length’ describes the overall length from the foreside of the foremost fixed permanent structure to the aftside of the aftermost fixed permanent structure of the boat. With regard to inflatable boats or RIBs or boats fitted with a buoyant collar, length should be taken from the foremost part of tube or collar to the aftmost part of the tube or collar.

M

MAIB, which is part of the DfT, is a UK government organisation authorised to investigate all maritime accidents in all UK waters as well as accidents involving UK-registered vessels worldwide. Investigations are limited to establishing cause, promoting awareness of risks and preventing recurrence.

Marine Guidance Note (MGN) is a note described as such and issued by the MCA. Reference to a specific MGN includes reference to any MGN amending or replacing that note which is considered by the Secretary of State to be relevant from time to time.

Marine Information Note (MIN) is a note described as such and issued by the MCA. Reference to a specific Merchant Shipping Notice includes reference to any MIN amending or replacing that note which is considered by the Secretary of State to be relevant from time to time.

MARPOL is the abbreviation for the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended, published by the International Maritime Organisation.

MED refers to Council Directive 96/98/EC of 20 December 1996 on Marine Equipment, amended by 98/85EC of 11 November 1998, 2001/53/EC of 10 July 2001, 2002/75/EC of 2 September 2002, 2002/84/EC of 5 November 2002, 2008/67/EC of 30 June 2008, EC Regulation 596/2009 of 18 June 2009, 2010/68/EU of 22 October 2010 and 2011/75/EU of 2 September 2011, as amended.

Merchant Shipping Act and Merchant Shipping Regulations referred to in the code indicate the relevant documentation issued under the appropriate statutory power which either amends or replaces the specified reference.

Merchant Shipping Notice (MSN) is a notice described as such and issued by the MCA. Reference to a specific MSN includes reference to any MSN amending or replacing that notice which is considered by the Secretary of State to be relevant from time to time and is specified in an MSN.

O

'Open rescue boat' is a rescue boat without an enclosed cabin.

'Out of the water' means in or on a boat in a damaged condition, including when personnel are able to sit on the deck edge or tube with their torso out of the water. It is accepted that with the boat in a damaged or swamped condition personnel may get wet.

P

'Passenger' means any person carried on a rescue boat except:

- (a) A person employed or engaged in any capacity on the business of the boat. This includes volunteer crew and other persons carried to assist in the response to an incident (e.g. firefighters)
- (b) A person on board the boat either in pursuance of the obligation laid upon the helms to carry shipwrecked, distressed or other persons, or by reason of any circumstance that neither the master nor the owner nor the charterer (if any) could have prevented or forestalled. This includes persons on board the

boat due to the response of the crew and business of the rescue boat who can be considered as survivors

(c) A child of under 1 year of age

‘Positive stability’ means having a righting moment tending to turn the boat to the upright position.

‘Protected waters’ are waters not categorised in Merchant Shipping (Categorisation of Waters) Regulations 1992, SI 1992 No. 2356 and MSN 1827 (M), but the location of which are explicitly defined and accepted as protected by the MCA, having regard for the safety of the small vessels that operate in those waters.

R

‘Renewal examination’ is a similar examination to the compliance examination.

‘Rescue boat’ is a boat designed, constructed, maintained and operated to this code by fire and rescue services and defined as operating for the ‘public good’, staffed either on a voluntary or paid basis but not on a commercial basis.

‘Rescue boat crew member familiarisation’ is the process by which standard crew members are introduced to the rescue boat. The process includes: general boat awareness; crew member responsibilities; safety briefing; actions during emergencies, including demonstrating the ability to support during a capsize drill, ability to re-enter the boat from the water and intelligent crewing; and movement in the boat to trim the boat. Each fire and rescue service will be required to risk-assess this to ensure that minimum appropriate control measures can be provided by a water and flood rescue boat operator.

Rescue Boat Organisation (RBO) is the whole organisation involved in operating and supporting the rescue boat. The term applies to all rescue boats, including those that operate as a declared facility to HM Coastguard.

‘Responsible person’ is the member of management appointed by the Fire and Rescue Service who is responsible for the technical management of the rescue boat(s), for completing audits and risk assessments and for assigning a suitably experienced person to undertake the annual examinations. The responsible person must also ensure that a rescue boat is maintained, crewed and operated in accordance with the requirements of the code at all times. Additionally, the responsible person must ensure that the rescue boat is maintained in accordance with the manufacturer’s recommendations or best engineering practice.

RIB is the abbreviation for rigid inflatable boat – a boat with inflatable tubes, attached to a solid hull. The tubes are inflated during normal operation.

S

‘Safe haven’ describes a harbour or shelter of any kind which affords safe entry and protection from the force of the weather.

‘Service’ describes an operation to effect rescue or render assistance.

‘Self-certifying’ is the act of completing the necessary examinations and certification for the rescue boat by the fire and rescue service.

‘Shore crew’ are personnel nominated by the Fire and Rescue Service to assist in launching, recovering or maintaining the rescue boat.

‘Shore interfaces’ are the facilities, structures or equipment (e.g. pontoons, moorings, slipways, etc.) used to support a rescue boat and assist in the launch/recovery of the boat, crew, survivors or shore helpers. It is not necessarily the responsibility of the Fire and Rescue Service to maintain such interfaces. Shore interface equipment is distinct from launch and recovery equipment.

SIB soft inflatable boat – a boat with inflatable tubes and deck.

‘Single point failure’ is the failure of any one item in a system that can cause total failure of the whole system to carry out its function.

‘Standards’ refer to technical standards such as BS (British Standard), EN (European Standard accepted by the European Committee for Standardization, CEN), IEC and ISO (International Organization for Standardization). Where standards are identified in the code, they should be taken as referring to any standards which amend or replace them.

‘Survivor(s)’ are shipwrecked, distressed or other person(s) carried by the rescue boat in response to an incident and who are not considered as passengers. This is a maritime term; the Fire and Rescue Service will normally use the term ‘casualties’.

T

‘To sea’ means, for the purposes of this code, beyond UK Category D waters or Category C waters if there are no Category D waters as defined in MSN (M) 1827 (as amended by correction) ‘Categorisation of Waters’.

‘Training manager’ is the appointed senior officer with overall responsibility for ensuring that training standards are maintained and meet the requirements of this code.

‘Transport and equipment manager’ will be defined differently between fire and rescue services, and it may be a shared position. In this code, it is the person responsible for equipment, PPE and boats, including purchasing, inspection and maintenance.

U

UKCA (UK Conformity Assessed) is a certification mark that indicates conformity with the applicable requirements for new goods being placed on the market in Great Britain (England, Wales and Scotland). It covers most goods which previously required the CE marking. The UKCA marking alone cannot be used for goods placed on the Northern Ireland market, which require the CE marking or UKNI marking.

W

'Watertight' means preventing water from entering or passing through.

3. General procedures

Health and safety

Each fire and rescue service is responsible for the health and safety of anyone working on the boat and for flood victims and casualties within the boat. All relevant health and safety legislation applies. All boats, associated items of equipment and PPE as well as all training events and locations and operational activities must have suitable and up-to-date written risk assessments.

Management

A suitable and effective management structure shall be in place in all fire and rescue services to ensure that the rescue boat is operated in an appropriate and safe manner.

Each service shall have a nominated training manager responsible for ensuring that all relevant personnel meet the minimum requirements as defined in this code and that training records are maintained. This responsible person will ensure that records for each boat operator are maintained specifically for operational deployment hours and trainings hours when helming the boat (tiller time) and not simply hours as a crew member.

Each service shall have a nominated transport and equipment manager who is responsible for ensuring that all boats, associated equipment and PPE meet the minimum maintenance requirements with inspection and maintenance records being maintained.

Vehicle considerations

All vehicles that respond to water and flood incidents must be fully risk-assessed and maintained for the type of response being carried out. Risk assessments must include vehicle access, load carrying capacity, overall weight of vehicle and load, manual handling of equipment into the vehicle, etc.

No emergency exemptions exist for Emergency Response Driving with trailers under Section 19 of the 1988 Road Traffic Act or Road Traffic Order (NI) 1995. Services should ensure maximum speed of trailer tyres is observed.

If fire and rescue service vehicles carry marine pyrotechnics such as flares, ADR regulations should be complied with.

Launching procedures

Each fire and rescue service should develop and adhere to a safe launch procedure. For an operational deployment, as far as is practicable, a nominated person from the shore crew is to ensure that the route from the boat stowage to the launch site is clear and remains clear of obstructions, including the general public. Assistance from an outside body (e.g. police) may also be considered necessary as it is recognised that the Fire and Rescue Service may not possess the necessary authority to enforce such a requirement. An example is attached in Appendix 3. The document is a boat deployment aide memoire that can be used for both operational deployments and training sessions. The form relates to only one boat, the helm and crew.

Prior to launching it is advised that, where applicable, the fire and rescue service boat crew advise the agency or body responsible for the water of their boat activity. All boats are required to monitor the appropriate radio channel during deployment activities.

The following is based on the example document in Appendix 3.

Operational use

The 1st page of the example form is designed so that it can be completed en route to the incident. During situations such as flooding and evacuation, when time is available, personnel can fully complete the 1st page prior to deployment. A land-based crew member can complete the deployment details section on the 2nd page as the boat deploys.

In a highly dynamic situation, based on the principles of 'Rapid Deployment' for immediate lifesaving actions, the helm remains responsible for ensuring that all of the points on the 1st page of the deployment aide memoire are covered and a safety brief is provided for all deployments, though it is acknowledged the form may not be completed.

Training use

During training activities both sides of the example document are to be completed prior to deployment. A separate form must be completed for each boat in use.

Night operations

Operating boats outside of daylight hours adds to the challenges of safe boat operation; judgements regarding distance, debris, speed, flow, etc. are recognised to be more difficult.

In a person overboard situation, the possibility of a search and recovery taking longer should be considered as part of the risk assessment. Accordingly, all crew members are required to dress for a potentially extended period of time in the water, should a crew member be the person overboard.

Effective lighting should be provided for rescuers (with a minimum of lighting on the helmet) and for the boat not only to warn other vessels in the area of location and direction of travel but also to use as search lights.

Emergency signals

All boats will have the ability to send emergency signals during daylight hours and outside daylight hours. All boats will carry a strobe and waterproof torch. All boats will carry communication equipment, which may include emergency service radio systems or mobile phones, and all boats will carry a VHF radio. Additionally, all crew members will have a personal-issue helmet light and whistle attached to the Personal Flotation Device (PFD).

Welfare

Each fire and rescue service is required to complete a risk assessment capturing all known hazards and risks for operating in water and flood environments.

Where applicable, this should include:

- Dignity of crew member whilst donning and doffing water rescue PPE
- Exposure to weather conditions for crews changing into water rescue PPE
- Operations during both hot and cold conditions
- Impact on rescuer entering water, including accidental immersion and night operations
- Risk of contaminants in water and flood environment
- First aid response to rescuer who is taken unwell due to weather conditions, impact falls, electrocution, exposure to hazardous materials in flood water, compromised PPE, etc.
- Decontamination of crews and flood victims

Search

Whilst many fire and rescue boat deployments will be for casualties at known locations, operations will also include search deployments for missing people. The overall responsibility for missing persons search management in the United Kingdom lies with the police. This continues when land is flooded. The MCA is also responsible for the coordination of searches, which include searches conducted along coastlines, tidal waters, estuaries and some designated inland waterways.

In flooded environments, the majority of persons reported missing are located unharmed. A small number will require search operations to be conducted. The police will coordinate search operations, though they may engage with fire and rescue services and other agencies to assist in this.

Accident reporting

The MAIB remit includes accident investigations in all UK waterways including inland waterways, rivers, lakes, canals, etc. up to 12 miles offshore. The remit also includes floating vessel incidents around the world involving UK vessels.

Accidents involving vessels are required to be reported to the MAIB. The Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 provide full guidance on accident reporting.

Crewing responsibilities

It is the responsibility of the relevant supervisory manager who authorises a fire and rescue service boat training event to ensure that all training risk assessments and associated paperwork are in place prior to any training session, including learning outcomes. The contents of the risk assessment are the responsibility of the OIC and the water and flood rescue boat operator or trainer who completed them.

Helm

The helm is in command of the rescue boat at all times and has responsibility for the safety of all on board and for the boat itself. Prior to taking over the helm role, the helm must confirm that a full safety brief has been completed. The requirements of the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) are to be met. Consideration is always to be given to other water users. Handling and manoeuvring of the rescue boat should be modified to suit the water conditions, visibility and local traffic conditions.

It is the responsibility of the helm to ensure that the pre-launch procedures for training and operations are completed.

Crew

It is the responsibility of all crew members to ensure that they maintain a constant 360° lookout and immediately inform the helm of any hazards such as debris, other vessels or any other concerns that might affect the state of the craft or crew.

4. Operational deployment

Crewing

The number of crew required for a fire and rescue service rescue boat for operational deployments should be determined by risk assessment, taking full account of the following factors:

- The specific boat specifications and characteristics and associated risk assessments for that craft
- The categories of water that the craft will be deployed to
- The water hazards, volume, flow rate and debris content at likely scenes of operation
- Whether boats will be deployed and operated singly or in pairs
- The task required of the boat and crew

As a minimum, crewing for fire and rescue service rescue boats will be 3 personnel for operational deployment, broken down as follows:

- 1 x water and flood rescue boat operator (which includes the prerequisite of RYA Powerboat Level 2 certificate)
- 1 x water and flood rescue technician who has also completed rescue boat crew member familiarisation to support intelligent crewing and holds a RYA Powerboat Level 2 certificate
- 1 x water and flood rescue technician who has also completed rescue boat crew member familiarisation to support intelligent crewing

Crewing may need to be amended to account for the specific risks of each deployment.

5. Training sessions

Prior to any training session a detailed risk assessment should be completed to cover the learning points and session objectives in addition to the venue risk assessment.

Prior to commencing any boat training the following must be completed:

- A venue risk assessment
- An activity risk assessment
- Inform water regulator of training session as required
- Inform an appropriate manager, fire and rescue fire control, harbour master or HM Coastguard, etc. (as required) that the session is commencing
- Helm to ensure deployment aide memoire is completed with both a safety and activity brief to all crew members

On completion of the training event, inform manager, fire and rescue fire control, harbour master or HM Coastguard, etc. (as required) that the training is complete.

In order to maximise training opportunities during training sessions the minimum crewing number can be reduced to 2 as determined by a specific activity-based risk assessment with clear learning outcomes. This may range from RYA-only activity to skills from the Water and Flood Rescue Boat Operator syllabus. Training sessions, based on risk, may be 1 boat with 2 crew or multiple boats with crews of 2 or more.

During maintenance of competency training sessions with only 2 crew members, the helm must hold the RYA Powerboat Level 2 qualification and both members must be water and flood rescue technicians who have also completed rescue boat familiarisation to support intelligent crewing.

Both crew members must have on their person a form of communication (VHF radio, emergency services radio or mobile phone) to enable an emergency call for assistance in the event of an accident or incident occurring.

Annex A – Boat overview

UK fire and rescue services utilise many variations of powered boats ranging from, but not limited to, 3.8m to 6.5m in length. In order to best respond to local risks found within the United Kingdom, boats are deployed from large ladder gantries on appliances, from trailers or are deflated ready for deployment to local risks.



To include suitable engine



Rescue Boat Code for the Fire and Rescue Service



The image below shows an inflatable boat deployed from a large appliance.



Annex B – Construction

Each fire and rescue service should risk-assess the area of operation each boat will or may operate in during both operational incidents and training activity.

Consideration should be given to the method of transport, how the boat will be launched and interaction with launch and recovery equipment, the expected water conditions and taskings of the boat.

- The design and construction of inflatable boats and RIBs should comply (as a minimum) with parts 1–4 of ISO 6185 based on boat use and risk assessment
- The structure of an inflatable boat or RIB not in accordance with ISO 6185 may be accepted by the Fire and Rescue Service based on written advice of a competent person who has specially considered full structural information. This should include relevant calculations, drawings and details of materials and construction.

Fire and rescue services operating non-inflatable boats

The design of hull structure and construction should provide strength and service life for the safe operation of a vessel at its service draught and maximum service speed to withstand water and weather conditions likely to be encountered in the intended area of operation.

A vessel that is not fitted with a watertight weather deck shall be provided with adequate reserves of buoyancy and stability for the vessel to survive the consequences of swamping when loaded with all the vessel's equipment, fuel, cargo, rescue-related equipment and the number of persons for which it is to be certified.

A vessel will be considered to be of adequate strength after a satisfactory examination by an authorised person and if it has been built in accordance with the hull certification standards for small vessels provided in ISO 12215 parts 4 and 5.

Annex C – Machinery

Vessels with mechanical propulsion operating under this code shall be fitted with a main and an auxiliary means of propulsion, which may be in the form of one of the following:

- A twin-engine arrangement
- A single main engine, supplemented by an auxiliary engine of sufficient power for the purpose intended
- A single engine supplemented by oars or paddles

For vessels that have a twin-engine arrangement there should be a separate fuel source for each engine achieved by installing two separate fuel tanks or by division of the main tank internally, or by carrying an alternative fuel supply.

Engines

Each fire and rescue service should ensure that the engine meets the boat specifications, such as maximum engine power output and the boat's expected area of operations.

A broad range of engines are available for rescue boats, such as 2- and 4-stroke engines. It is important that each organisation risk-assesses the most appropriate engine for the area of intended operations. For example, 2-stroke engines are lighter and support manual-handling assessments, whilst 4-stroke engines are heavier but are quieter and more environmentally friendly. Currently, the benefits of using 2-stroke engines for emergency use are felt to outweigh the environmental damage they may cause.

Consideration should be given to ensure all fixtures and fittings are protected to avoid damage, and simple detachable systems should be in place for engines that are routinely removed.

Adequate attachment and securing of an outboard engine to the transom should be in place to avoid the loss of the engine should the boat capsize.

Engine stop cords

Although the use of an engine stop cord (kill cord) is strongly recommended, due to the nature of rescue boat operations their use shall be optional based on a risk assessment to determine their use. The following risks must be locally addressed in terms of probability and consequence:

- Helm is lost over the side (no engine stop cord fitted), resulting in the boat being out of control
- Engine stop cord is accidentally pulled, resulting in engine shutdown at a critical moment, such as operating upstream of a major hazard
- If engine stops and cords are **not** provided with the engine, throttles should be spring-loaded to return to idle
- If engine stop cords **are** provided with the engine, a spare engine stop cord should be carried on board

Fuel tanks

Each fire and rescue service should ensure it provides fuel tanks sized to reflect the anticipated range of the boat and fuel consumption. A service-level risk assessment should be completed to ensure the fuel tank is made of suitable material, that the level of fuel can be monitored, that the tank meets the requirements of the vessel and that it is safely located.

Prop guard/Prop deflector

The use of prop guards/deflectors is recommended for boats operating under this code. It is acknowledged that fire and rescue services operate boats in a range of environments, water conditions and locations. As such, due to the impacts when a guard/deflector is fitted, services can operate without one upon completion of a risk assessment.

Annex D – Inspection and maintenance

Authorised fire and rescue service employees or a 3rd party will carry out initial compliance inspections on new inflatable and other (e.g. single skin) new small open boats up to 7m in length.

No vessel covered by this code may operate outside of Category C waters unless it has been through full initial compliance surveys by an authorised person.

The initial compliance examination of a fire and rescue service boat will normally be conducted ashore by an authorised fire and rescue service employee with the fire and rescue service's transport and equipment manager. During the examination, the authorised fire and rescue service employee will need to be satisfied with the general construction and maintenance of the boat, its machinery and equipment. After this examination has been satisfactorily completed the boat is to be placed in the water in order that the efficiency of its machinery, steering gear, pumping equipment and essential services can be demonstrated.

Engines and other safety equipment must be inspected and maintained as per the manufacturer's instructions and recommendations.

Inspections, maintenance and defect repairs must be completed by a competent person.

All records of inspection must be documented and maintained.

Annex E – Equipment and PPE

This section sets out the required standards for equipment, which must be appropriately secured and stowed.

Boat safety kit – carried by the boat during all deployments

- Communications suitable for rescue operations
- Navigation equipment
- Fuel and fuel line
- 1 x VHF marine band radio
- 2 x throw lines
- 3 x minimum paddles
- 1 x emergency strobe
- 1 x emergency waterproof torch
- 1 x anchor
- Basic first aid kit
- Boats fitted with inflatable sponsons shall carry a suitable inflation device
- LED lights/Flares
- Spare engine pull cord where appropriate
- Spare kill cord

Additional equipment – available at launch point*

- Fuel
- Tow equipment suitable for boat
- Search lighting for low light/darkness
- Navigation lights for low light/darkness
- 4 x 20m throw lines
- 2 x paddles (additional to those carried on boat)
- 4 x adult casualty life jackets meeting the ISO 12402 Part 2
- 2 x child casualty life jackets meeting the ISO 12402 Part 2
- Advanced first aid kit – see Annex F
- Boats should have equipment available to respond to minor emergency repairs

*The minimum equipment available at launch points during training sessions may be reduced based on the risk assessment but will include:

- Tow equipment suitable for boat
- Boats should have equipment available to respond to minor emergency repairs
- Advanced first aid kit – see Annex F

Personal Protective Equipment

Drysuits	<ul style="list-style-type: none"> • Size specific to the responder • Fitted with internal braces • Ability to regulate own drysuit, i.e. front zip or alternative breather zip. A front zip improves rescuer welfare and enables the rescuer to self-regulate temperature • Drysuits constructed from a trilaminate (or similar) fabric recommended to be between 220 and 430gsm • Fabric reinforcement in high-wear areas • Latex seals are recommended at neck and wrists for ease of decontamination • Reflective strips on both arms and legs to aid visibility of rescuer
Buoyancy aid	<ul style="list-style-type: none"> • Size specific to the rescuer • Comply with BS EN 393 or ISO 12402 part 5, and all sizes must have a minimum of 70 Newton minimum flotation • Must not be fitted with hydration systems due to the potential for contamination and resultant infection • A releasable chest harness and a cow's tail is required on all buoyancy aids with a locking karabiner that meets standard EN 362 • Front access/waistcoat style to reduce contamination and aid decontamination procedures. This is also a welfare requirement enabling wearer to relax PPE during rest periods • High-visibility reflective patches <p>Buoyancy aid ancillary equipment:</p> <ul style="list-style-type: none"> • Knife • Whistle
Helmet	<ul style="list-style-type: none"> • Must comply with PAS 028:2002 • Size specific to the responder, or adjustable • Teams who deploy in boats and may work at height need to comply with EN 14292:2012 • Red light (solid/non-flashing) on all responder helmets for all water and flood rescue technicians or water and flood rescue boat operators
Eye protection	<ul style="list-style-type: none"> • All crew to have eye protection available, risk-assessed for activity and compatible with helmet
Torch	<ul style="list-style-type: none"> • A hands-free torch should be attached to the rescuer during hours of low light and darkness
Thermal protection	<ul style="list-style-type: none"> • Suitable thermal undergarments (with flexibility to layer up or down depending on the environment and tasks being completed) along with skullcaps and gloves should be available for all crew members

Annex F – First aid

Rescue boats operate in dangerous environments – often remote from immediate healthcare – during training and operational incidents injuries to crew members may occur as a result of the weather, including the impact of heat and cold and the water temperature. In addition, boat collisions with structures, other vessels or capsizes are a real hazard to crew members.

As such, individual organisations must comply with the minimum standards for such environments and the activities they are planning to undertake as detailed in the HSE first aid regulations.

As a minimum, all boats are required to deploy with a basic team first aid kit and to have access to an advanced first aid kit on land.

Competencies

All members operating in boats should be trained to a basic level with one person in each boat having advanced competencies.

The contents of this section are based on minimum standards. Fire and rescue services may wish to raise training standards and medical provision based on an organisational risk assessment.

Category	Competency	Basic	Advanced
Safety	Basic life support, including choking	✓	✓
	Automated External Defibrillators (AED)	✓	✓
	Wear correct PPE for environment	✓	✓
	Demonstrate understanding of scene and casualty safety	✓	✓
	Communicate effectively with emergency services	✓	✓
Scene management	Basic knowledge of the capabilities of different emergency service personnel	✓	✓
	Appropriate awareness of high-risk mechanisms of injury, including: <ul style="list-style-type: none"> • Spinal injuries • Pelvic injuries 	✓	✓

	<ul style="list-style-type: none"> Long bone injuries 		
	Awareness of triage	✓	✓
	Competency in triage sieve		✓
	Demonstrate forensic awareness		✓
	Awareness of simple consent and capacity issues and how to get assistance for assessment and management	✓	✓
	Survivor priority evacuation		✓
	Catastrophic bleed	Recognise life-threatening haemorrhage	✓
Understand a stepwise approach to managing a catastrophic limb bleed		✓	✓
Appropriately manage catastrophic junctional bleed			✓
Apply direct pressure		✓	✓
Competent application of tourniquet			✓
Competent in use of haemostatic agents			✓
Airway	Inspect and clear airway	✓	✓
	Head tilt/chin lift and neutral alignment	✓	✓
	Jaw thrust		✓
	Postural airway management	✓	✓
	Use of suction		✓
	Size and insert appropriate simple airway adjunct		✓
Breathing	Identify if patient is breathing normally	✓	✓
	Correctly assess breathing rate, depth and quality		✓
	Perform basic chest examination		✓
	Identify life-threatening chest conditions		✓
	Application and management of appropriate chest seals		✓
	Splint flail chest in a responsive patient		✓
	Appropriate positioning to assist ventilation		✓
	Safely configure an oxygen system for use		✓
	Oxygen delivery and correct mask choice		✓
	Understanding of limitations of pulse oximetry use if appropriate		✓
	Oxygen delivery and ventilation via bag-valve-mask (using adjuncts where appropriate)		✓

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	Use of expired air ventilation (using adjuncts where appropriate)	✓	✓
Circulation	Assess presence of circulation	✓	✓
	Measure pulse rate and rhythm		✓
	Measure capillary refill time		✓
	Assessment of blood loss		✓
	Apply direct pressure	✓	✓
	Elevation of limb where appropriate	✓	✓
	Splinting as a haemorrhage control method		✓
	Application of appropriate wound dressing	✓	✓
Disability	Assess AVPU	✓	✓
	Identify indicators of underlying head injury		✓
	Perform a FAST assessment	✓	✓
	Assess neurovascular status		✓
Exposure	Differentiate cold from hypothermia	✓	✓
	Differentiate heat exhaustion from heat stroke	✓	✓
	Recognise possibility of and prevent hypothermia	✓	✓
	Assess, treat and casualty handling of patients exposed to extremes of temperature	✓	✓
	Recognition and management of non-freezing cold injury	✓	✓
Casualty handling	Appropriate packaging of patient for evacuation		✓
	Assist with transfer of patient	✓	✓
	Manage transfer of patient to appropriate evacuation device		✓
	Ability to medically assist and manage in safe extrication of a patient in an operational environment	✓	✓
	Ability to understand and make disposition decision		✓
	Provide appropriate clinical handover to next echelon of care	✓	✓
	Casualty handling techniques	✓	✓
Paediatrics	Ability to carry out BLS protocols on a child and infant		✓
Musculoskeletal injuries	Recognition of possible fractures	✓	✓
	Recognition and appropriate initial treatment of soft tissue injury	✓	✓

	Realignment and splintage of fractures and splint dislocations where appropriate		✓
	Awareness of methods of pain control (e.g. splinting)	✓	✓
Drowning	Recognition and management of the drowned patient	✓	✓
Chemical and burn injury	Recognition and management of chemical injury (e.g. fuels, decontamination/cleaning products)	✓	✓
	Recognition and management of burns	✓	✓
	Recognition and management of toxin exposure (e.g. inhalation of fumes)	✓	✓
Medical	Generic patient assessment	✓	✓
	Ability to recognise and manage common medical emergencies	✓	✓
	Recognition and management of acute breathlessness		✓
	Recognition and management of the unconscious patient	✓	✓
	Recognition and management of the fitting patient	✓	✓
	Recognition and management of an acute allergic reaction		✓
	Recognition and management of bites, stings and envenomation		✓
	Recognition and management of electrocution		✓
	Recognition and management of diabetic hypoglycaemia		✓
	Recognition and management of a stroke/transient ischemic attack (TIA)		✓
	Recognition and management of cardiac chest pain including myocardial infarction and angina	✓	✓
	Management of patient's own medication and home equipment		✓
	Perform eye irrigation	✓	✓

Medical equipment

Table 6: Basic first aid kit – this equipment to be available on all boats

Item	Description	Minimum quantity
Dry bag	To contain the items below. Robust with an attachment point suitable for attachment to boat	1

Marker pen	Fine	1
Patient record card		1
Medical gloves	Mixed sizes	6
Tuff cut shears		1
Resuscitation aid	Pocket mask	1
Compression/Wound dressing		2
Alcohol gel		1
Tourniquet		1

Table 7: Advanced first aid kit – this equipment to be available at launch points

Item	Description	Minimum quantity
Dry bag	To contain the items below. Robust with an attachment point suitable for attachment to boat	1
Casualty care record card		12
Cohesive bandage		4
Gauze/cotton swabs	Pack of 5	3
Eye wash		5
Triangular bandage		4
Oropharyngeal airways	Sizes 2, 3, 4	1 of each size
Bag Valve Mask	Adult	1
Oxygen cylinder		1
Oxygen therapy mask		1
Suction		1
Blankets	Layered baffled foil blankets are acceptable, but not single layer foil/space blanket	6
Stretcher	Basket stretcher or similar suitable device to complete extrication and transportation in the water and flood environment	1
Automated External Defibrillator (AED)	Unit and all ancillary kit (including pads, battery, razor) to be contained in a waterproof bag	1

Equipment limitations

The limitations of many standard items of medical equipment must be acknowledged when dealing with patients in cold and wet environments, including pulse oximetry, tympanic thermometers, etc.

Annex G – Water and flood rescue training standards

It is essential that initial training courses are delivered by appropriately qualified trainers using adequately risk-assessed locations, especially with regards to access, water features of Class 2 and water quality. Training should also include categories of water the boat is intended to operate in.

The water and flood rescue training standards are the required minimum standards for responders and instructors to maintain an appropriate level of competency in the range of standards detailed.

Individual organisations are required to risk-assess and review if additional learning outcomes or equipment are needed for their organisation's requirements.

Training hours identified are minimum face-to-face contact hours and do not include travel time or rest periods. It is recognised that some agencies may choose to deliver blended learning in addition to the minimum training hours to improve responder competency and to increase success when attending the course.

Responders and instructors will be required to show evidence of CPD to ensure skills maintenance and recertification as specified.

All in-water sessions are required to commence with a non-assessable familiarisation and acclimatisation session in consideration of responder safety. This is intended to give the delegate/responder the ability to adjust physically and psychologically to the environment.

CPD and recertification must be carried out on suitable and appropriate water. For water and flood rescue training this will include training in minimum Class 2 swift water or marine equivalent with appropriate hydrological conditions for training to be carried out safely and effectively.

Instructor assessments must be completed in a training environment.

Holding an in-date ticket and having completed a non-water-related teaching qualification does not meet the requirements for an instructor wishing to teach courses highlighted in this code.

Continual Professional Development

To ensure maintenance of skills and in helping to prepare responders for the effects of entering cold water or appropriate decision-making, a minimum level of programmed and recorded training is required.

The minimum CPD hours are based upon responders having already learned associated response skills in other roles. All agencies need to risk-assess training for their team activities.

CPD is skill set specific. Responders who maintain in-water rescue and rescue boat operator skills are required to complete a minimum annual total of 24 hours CPD, i.e. 12 hours in each discipline as detailed in the standards.

Recertification

The qualifications that require recertification should be completed with a focus on the specific skill set being recertified. This training and assessment must be under the supervision of appropriately competent trainers.

NFCC Module 3 - Water and Flood Rescue Technician	
Target group	Specialist SAR personnel.
Scope	<p>This course is aimed at selected SAR personnel. The course introduces appropriate water rescue equipment, including its safe and effective use, and progressively develops an individual to be confident in, on and around moving water. As well as learning how to read the water, an individual will spend time swimming, practising self-rescue techniques and performing in- and on-water rescues as part of a rescue team.</p> <p>The syllabus also includes boat/pathway handling, basic rope rescue techniques and consideration of still water and unstable ground hazards such as mud and ice.</p>
Aim	To train responders to identify their limitations and safely and effectively use appropriate water rescue equipment whilst operating near, on or in moving water.
Minimum delivery hours	Minimum of 26 hours over a minimum of 4 days.
Lead instructor	Water and flood rescue technician instructor.
Instructor ratio	<p>Minimum of 2 water and flood rescue technician instructors to 12 delegates.</p> <p>For every additional suitably qualified instructor the ratio can be increased by a maximum of 4 delegates assessed against the suitability of the training facilities available to ensure appropriate water and instructor contact time.</p>
Pre-requisites	This course can be delivered as a stand-alone course.
Training venue	The water selected for this standard shall be appropriate to the limits of wading rescue with suitable and appropriate hydrology features, up to and including Class 2 water, for all aspects of training to be carried out safely and effectively.
Learning outcomes	<p>Demonstrate water rescue scene management and dynamic assessment of risk:</p> <p>Understand the limitations of the role; rescue team organisation; communication systems; hazard recognition and pre-planning; risk and incident zones; Incident Management Structure, including providing tactical advice; team health, safety and welfare.</p> <p>Identify and apply the role of the water and flood rescue technician within the Incident Management Structure:</p> <p>Team health, safety and welfare; team roles and responsibilities.</p> <p>Apply a working knowledge of hydrology and associated hazards:</p> <p>Recognition of water features and their impact.</p> <p>Have an understanding of search procedures in the water environment:</p> <p>When and how to search; types of search, deployment of teams; sectors, point last seen and areas of possible detection.</p> <p>Identify and use appropriate PPE:</p> <p>Types; standards; donning and doffing; care, maintenance and inspection; record-keeping.</p>

Demonstrate swimming and manoeuvring in moving water:

Ferry glide concept; negotiating obstacles; entry/egress; defensive swimming, aggressive swimming; tethered swims.

Understand and apply relevant rescue techniques:

Talk, reach, throw, row, go/tow, helicopter.

Have a working knowledge of basic boat handling by paddle and rope systems:

Types and suitability of systems, safety briefings, helming skills, tethered boat options, paddling skills, wading skills.

Demonstrate capsize drill skills in a suitable boat or raft and have awareness in powered boat operations in preparation for operating with or being transported by a powered boat team.

Demonstrate rigging and operating of rope systems:

Equipment, anchors, tensioned diagonals, tensioning lines, efficient 3:1 mechanical advantage, knots and hitches.

Have a working knowledge of specialist rescue equipment (where in use by organisation):

Inflatable adjuncts, ropes for water rescue, technical hardware, unstable ground equipment.

Demonstrate techniques for movement in shallow water:

Supported crossing (poles/tethers), 1-2-3 in teams, wedge and line astern, casualty crossing.

Awareness of flooding and associated hazards:

Pollution, location and incident-specific hazards, topography.

Demonstrate casualty management issues specific to the water environment:

Medical problems associated with water, in-water spinal care considerations, managing the non-compliant casualty.

Identify and demonstrate an understanding of the hazards and implications associated with:

Entrapment – supporting tag lines, use of cinches, mud and ice (characteristics, medical issues, extrication techniques).

Contamination

	<p>Locks and sluices – characteristics, design/hydrology, specific rescue techniques.</p> <p>Vehicles and objects in water – behaviour, hydrology, access and stabilisation techniques with flood rescue equipment and safety considerations.</p> <p>Working with helicopters – availability and access, hazards and safety protocols.</p> <p>Animals – hazards and safety protocols.</p> <p>Identify and explain the additional hazards and difficulties associated with working in darkness and reduced visibility and application of suitable control measures:</p> <p>Equipment issues, lighting, additional marking requirements, audible signals.</p> <p>Search:</p> <p>Demonstrate search techniques.</p>
<p>CPD</p>	<p>A minimum of 12 hours per calendar year with a minimum of 2 sessions per year with a maximum gap of 9 months between training sessions. Of the 12 hours, at least 6 hours must be in Class 2 water or water with equivalent features.</p> <p>Recorded activity-based training should cover the following subjects as a minimum:</p> <ul style="list-style-type: none"> • Donning, doffing and care of water rescue PPE • Water rescue incident management • Self-rescue techniques • Throw bag skills • Shallow water crossing techniques • Swift water hydrology
<p>Recertification</p>	<p>Recertification is required every 3 years.</p> <ul style="list-style-type: none"> • Responders with this qualification who have maintained competency using internal or peer-led CPD are required to complete a minimum of 18 hours over a minimum of 3 days with learning outcomes, instructor and instructor ratio and venue as detailed above. • Responders with this qualification who have completed an annual CPD event of 6 hours minimum in duration with at least 4 hours in Class 2 water delivered by suitably qualified instructors meeting the standards above are required to complete 12 hours over a minimum of 2 days with learning outcomes, instructor and instructor ratio and venue as detailed above.

NFCC Module 4 - Water and Flood Rescue Boat Operator	
Target group	Specialist SAR personnel operating rescue boats powered by engines.
Scope	This course is aimed at selected SAR personnel who are required to operate a powered craft for a range of activities as part of a crew. The course develops water and flood rescue technicians to be able to operate a powered craft in a variety of waters, including still, moving and flood. The course covers basic and advanced boat rescue operations such as casualty pickups, throw lines and evacuations and includes night SAR activities.
Aim	To train technicians to identify their limitations and safely and effectively use powered boats and associated equipment in inland waters and flooding, by day or night, in a wide range of water conditions.
Minimum delivery hours	Minimum of 28 hours over a minimum of 4 days.
Lead instructor	Water and Flood Rescue Boat Operator instructor.
Instructor ratio	Minimum of 1 Rescue Boat Operator instructor per rescue boat to maximum 3 delegates.
Pre-requisites	<ul style="list-style-type: none"> • Water and Flood Rescue Technician • RYA Level 2 Powerboat Handling
Training venue	<p>The water selected for this course shall be appropriate to the limits of a boat-based rescue with suitable and appropriate hydrology features, up to and including Class 2 or marine equivalent, for all aspects of training to be carried out safely and effectively.</p> <p>In the circumstances that only 1 training boat is available with 1 instructor to 3 delegates, a 2nd boat is required. This 2nd boat can only be operated by a competent water and flood rescue boat operator to provide both a safe system of work and a second craft to enable compliance with the learning outcomes.</p>
Learning outcomes	<p>Individuals will demonstrate their ability to perform skills completed during the RYA Level 2 National Powerboat Course, including:</p> <ul style="list-style-type: none"> • Pre-launch checks • Launching • Leaving and coming alongside • Low- and high-speed manoeuvring • Picking up a buoy • Anchoring • Towing • Person overboard • Recovery of boat • IRPCS/Rules of the Road • Basic fault-finding • Emergency procedures <p>Demonstrate boat handling in swift water:</p> <ul style="list-style-type: none"> • Identification of safe launching sites and bail-out sites • Launch and recovery into swift water • Recognition of moving water characteristics and hazards • Vessel limitations • Hull damage, watertight integrity and free surface water effect

	<ul style="list-style-type: none"> • Anchoring • Veering down/Controlled boat lower • Holding station • Stemming the flow and ferry gliding • Use of water features, including eddy currents, lees and wash-outs • Identify the hazards and operate in shallow water • Manoeuvring in swift water, including running with the flow, moving aft over ground, power turns • Closing/bearing away • Coming alongside moving vessels • Suction effects and pressure waves • Closing-down procedures – returning equipment • Reporting faults and problems <p>Paddle boat handling:</p> <ul style="list-style-type: none"> • Use of paddles to manoeuvre and control the craft, in both still and moving water • Capsize avoidance and recovery <p>SAR operations from powered craft:</p> <ul style="list-style-type: none"> • Safety equipment, communication with crew and other agencies • Search techniques and incident management • Methods of recovering personnel from water and techniques for lifting heavy casualties including extended reach rescue and throw line rescues • Swimmer operations (including recovery of rescue swimmer) • Use of loaded lines • Tandem working (e.g. two boats operating together whilst attached by a line) • Twin boat working (e.g. two boats operating together in the same sector or carrying out rescues by use of protected boat, etc.) • Towing and being towed – astern tow and alongside tow, length of tow lines, position to pass a tow, using a bridle, towing alongside, casting off a tow • Approaching, righting and dealing with entrapments from capsized vessels • Dealing with entrapments and capsizes of own vessel • Awareness of rescue from vehicles and operating a boat around a vehicle in water (achievable using suitable object providing similar hydrology) • Mass evacuation and use of lily pads • Helicopter rescue procedures • Use of navigation systems • Use of other specialist equipment <p>Boat handling and SAR during darkness and poor light conditions:</p> <ul style="list-style-type: none"> • Practical application of skills in darkness and poor light • Demonstrate ability to keep a proper lookout and identify lit and unlit marks and hazards at night • Students to conduct a SAR scenario in darkness
CPD	A minimum of 12 hours per calendar year with a minimum of 2 sessions per year with

	<p>a maximum gap of 9 months between training sessions. Of the 12 hours, at least 6 hours must be in Class 2 water or water with equivalent features.</p> <p>Recorded activity-based training should cover the following subjects as a minimum:</p> <ul style="list-style-type: none"> • Launching and recovery • Manoeuvring the boat: forwards, reverse and holding off • Coming alongside, mooring and swift off • Low- and high-speed manoeuvring • Person overboard • Shallow water operations • Use of navigation system
<p>Recertification</p>	<p>Recertification is required every 3 years.</p> <ul style="list-style-type: none"> • Responders with the Water and Flood Rescue Boat Operator qualification who have maintained competency using internal or peer-led CPD are required to complete a minimum of 18 hours over a minimum of 3 days with learning outcomes, instructor and instructor ratio and venue as detailed above. • Responders with the Water and Flood Rescue Boat Operator qualification who have completed an annual CPD event of 6 hours minimum in duration with at least 4 hours in Class 2 water delivered by suitably qualified instructors meeting the standards above, are required to complete 12 hours over a minimum of 2 days with learning outcomes, instructor and instructor ratio and venue as detailed above.

Pre-planned passenger safety training

This training course is aimed at responders who are likely to support water or flood operations in a passenger capacity and who do not make up the minimum numbers of crew.

It is acknowledged that passengers who have not completed this training will at times be required to enter the boat, and they will therefore require a pre-deployment safety brief from the helm.

Pre-planned Passenger Safety Training	
Target group	This course is aimed at responders who support the water or flood incidents in a non-rescue role, have appropriate PPE and are additional to the minimum crew numbers.
Scope	The course is designed to prepare responders who support the wider response to water and flood incidents for accidental immersion.
Aim	To train support operatives to identify their limitations and safely and effectively work near or in moving water.
Minimum delivery hours	Minimum of 7 hours over a minimum of 1 day. Consider in 2 parts to cover in-water confidence and boat familiarisation session.
Lead instructor	Water and flood rescue technician instructor for in-water training. Water and flood rescue boat operator to provide boat familiarisation.
Instructor ratio	Minimum of 1 water and flood rescue technician instructor and 1 assistant instructor to 12 delegates. For every additional suitably qualified instructor, the ratio can be increased by a maximum of 4 delegates assessed against the suitability of the training facilities available to ensure appropriate water and instructor contact time.
Pre-requisites	This course can be delivered as a stand-alone course.
Training venue	The water selected for this standard shall be appropriate to the limits of wading rescue with suitable and appropriate hydrology features, up to and including Class 2 water, for all aspects of training to be carried out safely and effectively.
Learning outcomes	<p>Demonstrate water rescue scene management and dynamic assessment of risk:</p> <p>Understand the limitations of the water rescue responder's wading capability; rescue team organisation; communication systems – hand, audible and radio; hazard recognition and pre-planning; risk and incident zones; incident management structure; crew roles and responsibilities.</p> <p>Identify and apply the role of the pre-planned passenger standard within the Incident Management Structure:</p> <p>Incident Management Structure; team health, safety and welfare.</p> <p>Apply a working knowledge of hydrology and associated hazards:</p> <p>Recognition of water features and their impact.</p>

	<p>Identify and use appropriate PPE:</p> <p>Types of PPE; donning and doffing; care, maintenance and inspection; record-keeping. This can include life jacket or use of PFD.</p> <p>Demonstrate self-rescue from water</p> <p>Understand relevant rescue techniques in the role of casualty:</p> <p>Talk, receive reach pole and throw line.</p> <p>Demonstrate techniques for movement in shallow water:</p> <p>Supported crossing (poles), 1-2-3 person teams, wedge and line astern.</p> <p>Identify and explain the additional hazards and difficulties associated with working in darkness and reduced visibility and application of suitable control measures:</p> <p>Equipment issues, lighting, additional marking requirements, audible signals.</p> <p>Flood:</p> <p>Awareness of flooding and associated hazards pollution, location- and incident-specific hazards, topography.</p>
Boat specific	<p>1 hour covering boat familiarisation, safety awareness, awareness of actions to take during an emergency (e.g. during capsized) and intelligent crewing, movement in the boat to trim the boat.</p>
CPD	<p>A minimum of 3 hours per calendar year.</p> <p>Recorded annual activity-based training should cover the following subjects as a minimum:</p> <ul style="list-style-type: none"> • Donning, doffing and care of water rescue PPE • Boat safety familiarisation
Recertification	<p>Recertification is required every 3 years.</p> <ul style="list-style-type: none"> • Responders with Pre-planned Passenger Safety Training who have maintained competency using internal or peer-led CPD are required to complete a minimum of 6 hours over a minimum of 1 day with learning outcomes, instructor and instructor ratio and venue as detailed above.

Annex H – Instructor standards

It is essential that initial training courses are delivered by appropriately qualified trainers using adequately risk-assessed locations, especially with regards to access, water features of Class 2 and water quality. Training should also include categories of water the instructor is intended to operate in.

The water and flood rescue training standards are the required minimum standards for responders and instructors to maintain an appropriate level of competency in the range of courses detailed.

Individual organisations are required to risk-assess and review if additional learning outcomes or equipment are needed for their organisation's requirements.

Training hours identified are minimum face-to-face contact hours and do not include travel time or rest periods. It is recognised that some agencies may choose to deliver blended learning in addition to the minimum training hours to improve responder competency and to increase success when attending the course.

Responders and instructors will be required to show evidence of CPD to ensure skills maintenance and recertification as specified.

All in-water sessions are required to commence with a non-assessable familiarisation and acclimatisation session in consideration of responder safety. This is intended to give the delegate/responder the ability to adjust physically and psychologically to the environment.

NFCC Module 3 - Water and Flood Rescue Technician Instructor	
Target group	This standard is aimed at selected SAR personnel who wish to undertake development to fulfil the role as a water and flood rescue technician instructor. The standard builds on standard Water and Flood Rescue Technician Instructor skills and develops the additional skills required to effectively and safely teach responders to meet the requirements of the standard.
Pre-requisites	<ul style="list-style-type: none"> • Water and Flood Rescue Technician Instructor – recognised in-date certificate • Advanced First Aid • Working knowledge of the Rescue Boat Code for the Fire and Rescue Service and Defra FRCO
Minimum training delivery hours	56 hours across a minimum of 8 days.
Assessment	Appropriate assessment to confirm knowledge and competency of all necessary skills. This should include a written assessment and practical assessment that are separate to the training course.
Learning outcomes	<p>Demonstrate skills to a high level under the Water and Flood Rescue Technician Instructor standard as required. Water rescue scene management and dynamic assessment of risk. Understand the limitations of the role, rescue team and organisation.</p> <ul style="list-style-type: none"> • Working knowledge of the Rescue Boat Code for the Fire and Rescue Service <p>Training design and delivery:</p> <ul style="list-style-type: none"> • Lesson planning • Scenario implementation • Introducing subjects, principles and procedures • Subjects in logical sequence • Coaching complex skills • Training venue assessment • Group maintenance/management • Goal setting for varying levels of ability <p>Reviews/Assessments:</p> <ul style="list-style-type: none"> • Run task reviews/question and answer sessions • Assess practical/team/command skills • Deliver feedback (group/individual) • Use of multiple methods of assessment • Maximise learning from scenarios and training sessions <p>Safety considerations:</p> <ul style="list-style-type: none"> • Establish and monitor safe systems • Dynamic risk assessment of activities and venues • Written generic risk assessment of activities and venues • Rescue students in difficulty

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	<p>Evaluate complex scenarios:</p> <ul style="list-style-type: none">• Convey logical progressions of response• Convey command and control/multi-agency issues• Convey permutations of rescue systems/resources/environments
CPD	<p>Instructors are required to:</p> <ul style="list-style-type: none">• Maintain CPD to the standard as detailed in Water and Flood Rescue Technician Instructor• Deliver 64 hours of training in a 3-year period• Maintain a CPD log of activities• Maintain a minimum of Advanced First Aid
Recertification	<p>Recertification is required every 3 years.</p> <ul style="list-style-type: none">• Water and Flood Rescue Technician instructors are required to complete a minimum of 12 hours over a minimum of 2 days' recertification, meeting the instructor and instructor ratio and learning outcomes as detailed above.

NFCC Module 4 - Water and Flood Rescue Boat Operator Instructor	
Target group	This course is aimed at selected SAR personnel who wish to undertake development to fulfil the role as a water and flood rescue boat operator instructor. The course builds on Water and Flood Rescue Boat Operator skills and develops the additional skills required to effectively and safely teach responders to meet the requirements of the Water and Flood Rescue Boat Operator Instructor standard.
Pre-requisites	<ul style="list-style-type: none"> • Water and Flood Rescue Technician Instructor – recognised in-date certificate • Water and Flood Rescue Boat Operator – recognised in-date certificate • Advanced First Aid • Working knowledge of the Rescue Boat Code for the Fire and Rescue Service and Defra FRCO • RYA Level 2 Powerboat Handling Instructor • RYA Advanced Powerboat Handling
Minimum training delivery hours	56 hours across a minimum of 8 days.
Assessment	Appropriate assessment to confirm knowledge and competency of all necessary skills. This should include a written assessment and practical assessment that is separate to the training course.
Learning outcomes	<p>Demonstrate skills to a high level under the Water and Flood Rescue Boat Operator standard as required. Water rescue scene management and dynamic assessment of risk. Understand the limitations of the role, rescue team and organisation.</p> <ul style="list-style-type: none"> • Working knowledge of the whole Rescue Boat Code for the Fire and Rescue Service and Defra Water and Flood modules <p>Training design and delivery:</p> <ul style="list-style-type: none"> • Lesson planning • Scenario implementation • Introducing subjects, principles and procedures • Subjects in logical sequence • Coaching complex skills • Training venue assessment • Group maintenance/management • Goal setting for varying levels of ability <p>Reviews/Assessments:</p> <ul style="list-style-type: none"> • Run task reviews/question and answer sessions • Assess practical/team/command skills • Deliver feedback (group/individual) • Use of multiple methods of assessment • Maximise learning from scenarios and training sessions <p>Safety considerations:</p>

Rescue Boat Code for the Fire and Rescue Service

	<ul style="list-style-type: none">• Establishing and monitoring safe systems• Dynamic risk assessment of activities and venues• Written generic risk assessment of activities and venues• Rescue students in difficulty <p>Evaluate complex scenarios:</p> <ul style="list-style-type: none">• Convey logical progressions of response• Convey command and control/multi-agency issues• Convey permutations of rescue systems/resources/environments
CPD	<p>Instructors are required to:</p> <ul style="list-style-type: none">• Deliver 70 hours of training in a 3-year period• Maintain a CPD log of activities• Maintain a minimum of Advanced First Aid
Recertification	<p>Recertification is required every 3 years.</p> <ul style="list-style-type: none">• Water and Flood Rescue Boat Operator instructors are required to complete a minimum of 12 hours over a minimum of 2 days' recertification, meeting the instructor and instructor ratio and learning outcomes as detailed above.

Appendix 1 – List of abbreviations

AED: Automated External Defibrillators

AoO: Area(s) of Operation

ARCC: Aeronautical Rescue Coordination Centre

BS: British Standard

CPD: Continual Professional Development

CTAC: Combined Tactical Air Cell

DAM: Deployment Aide Memoire

Defra: Department for Environment, Food and Rural Affairs

DfT: Department for Transport

EA: Environment Agency

EN: European Standard accepted by the European Committee for Standardization

FFC: Flood Forecasting Centre

FGS: Flood Guidance Statement

FRCO: Flood Rescue Concept of Operations

HLS: Helicopter Landing Site

HO: Home Office

HSE: Health and Safety Executive

IEC: International Electrotechnical Commission

IP: International Protection Code

ISO: International Organization for Standardization

IVC: Initial Visual Check

IWTRG: Inland Water and Technical Response Group

JDM: Joint Decision-making

JESIP: Joint Emergency Services Interoperability Principles

JOL: Joint Organisational Learning

LKP: Last Known Point

LRF: Local Resilience Forum

MAIB: Marine Accident Investigation Branch

MCA: Maritime and Coastguard Agency

MERIT: Medical Emergency Response Incident Team

MoU: Memorandum of Understanding

NFCC: National Fire Chiefs Council

NGO: Non-governmental Organisation

NPAS: National Police Air Service

NMOC: National Maritime Operations Centre
NSWWS: National Severe Weather Warning Service
OIC: Officer in Charge
PFD: Personal Flotation Device
PLS: Place Last Seen
POLKA: Police Online Knowledge Area
PoISA: Police Search Adviser
PPE: Personal Protective Equipment
RVP: Rendezvous Point
RIB: Rigid Inflatable Boat
SAR: Search and Rescue
ToR: Terms of Reference
TIA: Transient Ischemic Attack
UKCA: UK Conformity Assessed

Appendix 2 – Useful reference documents

MAIB Accident Investigation Report 17/2020

<https://assets.publishing.service.gov.uk/media/5f9fec24e90e07041f94efdb/2020-17-FRSRIBs.pdf>

Rescue Boat Code

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888526/Rescue_boat_code_-_Tagged.pdf

Workboat Code

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/441389/Workboat_Code_IWG_Tech_Std_14-06-09-sgs.pdf

Introduction to the proposed Workboat Code

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/767822/Workboat_Code_IA_Final_Dec_2018_-_RPC_Approved.docx

Final Draft Workboat Code 2nd edition

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/767824/Workboat_Code_2_FINAL_12.18_002_002_.pdf

Defra Flood Rescue Concept of Operations

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934130/frco-november-2019a.pdf

Police Boat Code

- Police Boat – Common Code
- Police Boat – Code A
- Police Boat – Code B
- Police Boat – Code C
- PBC3 – ANNEXES1 – Amended

Appendix 3 – Example Boat Deployment Aide Memoire (DAM)

DEPLOYMENT AIDE MEMOIRE

Part 1

Helm confirms prior to launch	Appropriate for deployment Y / N	Comments
Minimum crew requirements available		
Water, Weather & Tide conditions		
Authorisation & permissions & permissions of passage if required		
Navigation plan		
Communications available & working - Channel confirmed		
Inspection of boat		
Pre-launch engine procedure & - Forward, reverse & neutral - Engine secure & fit for use - Fuel levels - Kill cord works & spare		
Boat equipment required is available		
Emergency procedures confirmed: - Mayday plan - Capsize procedures		
Compliant as required for night / low light operations		
Incident Command System established		
Safety brief provided by Helm to inc: Emergency procedures, 360 lookouts		

Comms Channel	Tide Time		Is the deployment life risk?
	High	Low	Yes / No

Operational Deployment Outcome	Go / No Go
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Deployment Details – Complete as soon as the boat has been dynamically launched

Boat Helm:	Crew:
Boat deployment time:	Date:
Location:	
What 3 Words:	6 Figure Grid Ref:

MINIMUM Boat Equipment - Operational	Additional Considerations
<input type="checkbox"/> Communications suitable for rescue operations <input type="checkbox"/> Navigation equipment <input type="checkbox"/> Fuel & fuel line <input type="checkbox"/> 1 x VHF Marine band radio <input type="checkbox"/> 2 x Throw lines <input type="checkbox"/> 3 x minimum paddle (unless boat has a twin engine) <input type="checkbox"/> 1 x Emergency strobe <input type="checkbox"/> 1 x Emergency waterproof torch <input type="checkbox"/> 1 x Anchor <input type="checkbox"/> Basic First Aid kit <input type="checkbox"/> Boats fitted with inflatable sponsons shall carry a means by which the sponsons can be inflated. <input type="checkbox"/> LED lights / Flares <input type="checkbox"/> Spare pull cord <input type="checkbox"/> Additional equipment required for tasking	<input type="checkbox"/> Are additional boats required / confirm requirements with control - <i>Consider travel times; these can always be turned back</i> <input type="checkbox"/> Confine Area of Operation – close the box <input type="checkbox"/> Consider ES1 for multi-agency situational awareness <input type="checkbox"/> Confirm actions with relevant Harbour Master / Port Authority etc <input type="checkbox"/> Establish ICS, including regular messages i.e., ops normal <input type="checkbox"/> As soon as resources permit complete ARA <input type="checkbox"/> Welfare for return of crews (Medical & Decontamination) <input type="checkbox"/> Monitor weather conditions Consider: <input type="checkbox"/> Air Assets (MCA, Police, Air Amb) <input type="checkbox"/> Coastguard <input type="checkbox"/> PolSA <input type="checkbox"/> RNLI <input type="checkbox"/> Drones <input type="checkbox"/> Police <input type="checkbox"/> LandSAR (MR/ALSAR) <input type="checkbox"/> Ambulance / HART

Additional action for training sessions

Part 2

Helm confirms prior to launch	Appropriate for deployment Y / N	Comments
Risk assessment of training venue completed & reviewed on arrival		
Risk assessment of training session & learning outcomes available		
Full safety brief of crew completed covering part 1 & 2 & risk assessments		
Confirm Helm & crew with C&C, OIC etc		

Training Session Outcome	Go / No Go
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