Northern Ireland
Fire & Rescue Service

STANDARD OPERATING PROCEDURE No 23

Tasking and Operational use of Helicopters

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Prepared by: Operations Policy Unit

Protecting Our Community

INDEX

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VERSION CONTROL

Version No	Page No	Issued (Date)	Amendment	Initiated By	Reason for Change
1	All	01/11/02	Initial Issue of Standard Operating Procedure (SOP)	Group Commander (Operations Policy)	New SOP
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NORTHERN IRELAND FIRE & RESCUE SERVICE

STANDARD OPERATING PROCEDURE NO 23

TASKING AND OPERATIONAL USE OF HELICOPTERS

INTRODUCTION

The purpose of this Standard Operating Procedure (SOP) is to set out safe systems of work for the tasking and operational use of helicopters in support of Northern Ireland Fire & Rescue Service (NIFRS) operations.

The Maritime and Coastguard Agency (MCA) is the single point of contact for the mobilisation of helicopters in support of NIFRS operations. The assets will be mobilised from the following organisations:

- Coastguard;
- Royal Navy (RN);
- Royal Air Force (RAF);

} Search and Rescue helicopters

- Police Service of Northern Ireland (PSNI) (Air Support Unit (ASU)).

The capabilities of the various agencies and individual air frames are set out in Appendix "1". In particular, it must be noted that not all helicopters have a winching capability and commanders on the ground should bear this in mind when requesting helicopter mobilisation.

Any request for helicopter support will be routed through NIFRS Regional Control Centre (RCC) to the MCA at Bregenz House, Bangor. The MCA has the statutory responsibility for the initiation and co-ordination of Search and Rescue (SAR) operations within the United Kingdom (UK) SAR Region.

SOP No 23 – *"Tasking and Operational use of Helicopters"*, has been produced in the following format:

SECTION A

Safety-Critical Information

All personnel ***must*** have complete knowledge and understanding of this section to ensure maximum safety at incidents. Section A is designed to reflect the content in the relevant section of the Operational Aide-Mémoire.

SECTION B

Provides More Detailed Information on the Topics Covered in Section A

Personnel ***should*** have a good knowledge of information contained within this section. This includes:

- hazard awareness;
- incident risk management;
- NIFRS resource attendance;
- procedural guidance;
- inter-agency working.

SECTION C

Background and Reference Material

This section includes information which personnel ***could*** use for reference material.

It provides details of relevant legislation and reference material used during SOP development.

1 – SECTION A

1.1 SCENE ASSESSMENT

- The Incident Commander (IC) will carry out a Dynamic Risk Assessment.

- The IC will determine the level of resources required to conclude the incident safely and effectively.

- If a helicopter is required, the IC must determine the specific nature of the request, ie:

  - rescue/Casualty Evacuation (CasEvac)/winching;
  - evacuation;
  - movement of personnel/equipment;
  - aerial command/surveillance.

1.2 MOBILISATION

- The IC will send an "assistance" message to the RCC confirming that a helicopter is required to attend, the specific nature of the request and confirmation of winching capability.

- The RCC will inform the IC, when it is possible to do so, of the agency mobilised, type of helicopter, call sign and the estimated time of arrival (ETA).

1.3 SAFETY OFFICER

- The IC will appoint one or more Safety Officers once a request for a helicopter is made.

- The IC will confirm that the Safety Officer understands:

  - their role and area of responsibility;
  - allocated tasks;
  - lines of communication.

- The Safety Officer will liaise closely with the Helicopter Liaison Officer (HLO) to ensure that:

  - the Helicopter Landing Site is secure;
  - emplaning personnel approach the helicopter from a safe angle;
  - personnel are wearing appropriate personal protective equipment, including eye protection.

1.4 HELICOPTER LIAISON OFFICER (HLO)

- The IC must appoint an HLO as soon as the request for a helicopter is made to the RCC.

- The HLO must be role-specific and must not undertake any other duties.

- The IC will inform the RCC as to the identity of the HLO.

- Where possible, the HLO will be of Station Commander role or above and should have experience of inter-agency working.

1.5 LANDING SITE(S)

- Where one is required, the following must be considered by the HLO when determining an appropriate landing site:

SLOPE	-	even ground must be used where possible;
SURROUND	-	check for the possibility of materials becoming entangled in the rotors – trees, cables, loose debris, etc;
SIZE	-	as large as practically possible;
SURFACE	-	ground of hard standing is preferred;
INCIDENT CONSIDERATIONS	-	downwash, noise, re-ignition of fire, casualty handling.

- Prior to landing, the Pilot shall confirm with the HLO the suitability of the proposed landing site.

- Coastguard Rescue Teams may be requested through Bregenz House to assist in the setting up and manning of Helicopter Landing Sites.

1.6 COMMUNICATIONS

- Upon nomination the HLO will open a communications channel with the Pilot.

- Communication channels available are:

  - PSNI - Interoperability channel via TETRA (INTEROP 1);
  - MCA - Mobile phone via the RCC landline or Marine Band radio.

1.7 HLO "INFORMATIVE" MESSAGE

The HLO must pass the following information (where necessary) to the RCC, via the NIFRS Control Point, as soon as reasonably practicable:

- Confirmation of available communications, via TETRA, Marine Band radio or mobile phone (if mobile phone, the RCC must be informed of the call sign it is allocated to).

- If available, Marine Band radio may be used to communicate with SAR helicopters.

- The RCC can ascertain grid reference from software on TETRA radio. If the HLO stands on a landing site with TETRA radio activated, the RCC will be able to establish a grid reference from the actual handset. Alternatively, the actual name of the landing site may be given (ie, Warren Park, Newry).

- Weather conditions at the scene of operations.
- The terrain of the proposed landing site.
- Has the landing site been secured (where appropriate)?

1.8 APPROACH

- Do not approach the helicopter unless the Pilot has confirmed it is safe to do so.
- The Pilot shall confirm with the HLO how and where to approach the helicopter. This information will be passed to the Safety Officer.
- Only safety-critical personnel are to approach the helicopter.
- The HLO/Safety Officer shall ensure effective command and control of all personnel that require access to the helicopter.
- Never approach a helicopter from the rear.
- Approach from downhill, where possible.
- Never approach from uphill.

1.9 HAZARD AWARENESS

1.9.1 DOWNDRAFT

- Landing sites must be clear of debris.
- Downdraft may affect operational activity.

1.9.2 ROTORS

- Never approach from the rear.
- Rotor blades will droop as the engine revs decrease.

1.9.3 WATER ACTUATED FLOATION GEAR

Water actuated flotation gear is:

- found in wheel hubs or on sponsons (flotation devices to give stability on water);
- usually marked with a "warning" sign.

1.9.4 AUTOMATICALLY DEPLOYABLE EMERGENCY LOCATOR (ADELT)

The ADELT is attached to the fuselage on the opposite side of the tail cone from the tail rotor and may constitute a projectile hazard.

2 – SECTION B

2.1 LOCATION OF HELICOPTER ASSETS

The MCA may task helicopters from the following locations:

- Coastguard - Dublin and Sligo;
- PSNI - ASU, based at Aldergrove;
- RAF - RAF Valley, Anglesey, North Wales;
- Royal Navy - Prestwick, South Ayrshire.

In addition, there are a limited number of air frames available at Joint Helicopter Command, Aldergrove (formally RAF Aldergrove). These helicopters are not declared SAR assets but may be tasked to assist NIFRS operations subject to operational availability.

2.2 ROLES AND RESPONSIBILITIES OF OTHER AGENCIES

2.2.1 MARITIME AND COASTGUARD AGENCY

- The MCA is responsible for the initiation and co-ordination of civil maritime SAR within the UK SAR Region. This includes the mobilisation, organisation and tasking of appropriate resources to respond to requests for assistance where persons are in distress at sea or on cliffs/shoreline of the UK SAR Region.

- In addition, the MCA co-ordinate the SAR response to both Lough Neagh and Lough Erne and other inland waterways. It is therefore appropriate that for all SAR operations, the MCA is the co-ordinating agency responsible for tasking SAR helicopter assets.

- The MCA, through the Maritime Rescue Co-ordination Centre (MRCC) at Bregenz House, Bangor, shall co-ordinate requests for non life-threatening tasks such as aerial reconnaissance and equipment deployment. This will result in a single point of contact for all requests for helicopter assistance and shall result in the most suitable and accessible asset being tasked while facilitating pre-planning arrangements for standards of SAR cover.

- Coastguard Teams may, on request, be deployed to assist with the establishment and manning of Helicopter Landing Sites.

- The MCA will ascertain if winching capability is required.

Helicopters

The capabilities of the Sikorsky helicopters and RAF/RN Sea King helicopters are set out at Appendix "1".

2.2.2 POLICE SERVICE OF NORTHERN IRELAND

- The PSNI will normally have primacy in respect of the command, control and co-ordination of SAR operations on land. The MCA however shall mobilise SAR helicopter assets on behalf of the PSNI to non-maritime incidents.

- The normal roles and responsibilities of PSNI encompass the protection of life and property under Section 32 of the Police (Northern Ireland) Act 2000.

- It shall be the general duty of Police Officers to:

  - protect life and property;
  - preserve order;
  - prevent disorder;
  - prevent the commission of offences;
  - control access/egress at the scene of operations and the protection/preservation of the scene.

- It is a basic requirement of PSNI to be involved in the saving of life and the protection of property.

- PSNI (ASU) currently operates 2 Eurocopters based at Aldergrove. The unit supports PSNI operations and, on occasions, will task to assist other agencies, including NIFRS.

  The capabilities of the PSNI Eurocopters are set out at Appendix "1".

2.3 PROCEDURE FOR TASKING HELICOPTER SUPPORT

All requests for helicopter support will be routed through the RCC to MCA at Bregenz House. It is imperative that the reason for the request is clearly stated and, in particular, it must be specified if an SAR helicopter with winching capability is required. It must be stressed that there are no helicopters in Northern Ireland with a winching capability, therefore an early call for an SAR helicopter must be made by the requesting officer at the incident.

2.4 INFORMATION REQUIRED BY NIFRS RCC FROM INCIDENT COMMANDERS

Where an IC believes that helicopter support is required, an **"ASSISTANCE"** message should be transmitted to the RCC, prefixed as follows:

Fire Control from ____ (call sign) - Assistance Message - request helicopter for _____ (reason) at incident _____ _____ (give address/grid reference of incident).

REASONS FOR HELICOPTER SUPPORT

Examples of reasons for helicopter support may be:

- persons in distress in or near water, mud, soft ground, ice;
- persons in distress on cliffs, sheer faces, steep angles, cranes;
- immediate evacuation of members of the public and/or NIFRS personnel in danger of entrapment by water, flood, fire or hazardous substances;
- delay in transport/removal of casualties may result in a delay which could potentially result in loss of life or exacerbate the injuries of casualties;
- use of thermal imaging equipment;
- scene overview, survey, reconnaissance or command platform;
- transportation of personnel and/or equipment.

Once the RCC acknowledge the request for a helicopter, they will seek the following information to pass on to the MCA:

- name, role and call sign of the officer making the request;
- name, call sign and telephone contact of the HLO;
- grid reference (ordnance survey) – note that this may be lifted by the RCC from the TETRA radio at the scene;
- weather conditions at the scene of operations;
- establish if an SAR helicopter with full winching capability is required;
- location of suitable landing site to include:

SLOPE	-	even ground must be used where possible;
SURROUND	-	check for the possibility of materials becoming entangled in the rotors – trees, cables, loose debris, etc;
SIZE	-	as large as practically possible;
SURFACE	-	ground of hard standing is preferred;
INCIDENT CONSIDERATIONS	-	downwash, noise, re-ignition of fire, casualty handling;

- call sign of the Incident Control Point.

- Are NIAS paramedics required at the landing site? (**Note**: winch operatives in SAR helicopters are qualified paramedics.)

In addition to the above information, the RCC will also pass on to the MCA the name and contact details of the person co-ordinating the request.

If a Liaison Officer is to be dispatched to Bregenz House, the MCA will be given details of the officer's name, role and contact telephone number.

On receiving a request for helicopter assistance, the MCA will confirm:

- if a helicopter is to be mobilised;
- if it is SAR with winching capability;
- location from which the helicopter has been mobilised;
- helicopter's ETA at the scene;
- radio channel and call sign of helicopter.

This information will then be relayed by the RCC to the IC and Duty Headquarters' Officer.

2.5 COMMUNICATIONS WITH HELICOPTERS

As soon as a request has been made to mobilise a helicopter, the IC will ensure that effective communications are opened and maintained between relevant NIFRS personnel and the helicopter crew. This is to ensure that the incident shall be resolved safely and effectively.

2.5.1 HELICOPTER LIAISON OFFICER (HLO)

- At any incident where a helicopter is deployed in support of NIFRS operations the IC will nominate an HLO. The nominated officer will only perform this functional role and **their sole remit is to communicate with the helicopter crew.** They alone will communicate with the aircraft and all incident ground messages that involve the helicopter will be routed through them. To avoid crowding the airwaves during an incident involving helicopters, other functional officers may monitor the communications from a safety perspective but will not transmit unless an emergency situation arises.

- The HLO will ensure a TETRA radio is set on Interoperability Channel 1 (INTEROP 1) for PSNI air frames or has access to a mobile phone or Marine Band radio to communicate with other SAR helicopters from the Coastguard, RN or RAF.

If for operational reasons the helicopter has to land, the HLO will liaise closely with the nominated Safety Officer to communicate landing site details to the crew of the helicopter and to ensure that all personnel on the ground are aware of the landing site. If personnel are to board the helicopter, the HLO will be in direct contact with both the Safety Officer and the air crew to ensure that personnel boarding the aircraft do so from a safe angle of approach.

Communications with helicopters fall into 2 distinct groups:

2.5.2 SAR HELICOPTERS

There are 2 communication options with SAR helicopters:

- The RCC will pass the mobile telephone number of the HLO to the MRCC at Bregenz House, who will arrange talk-through of the HLO through directly to the air crew.

- SAR helicopters may also be contacted directly by Marine Band radio. The Marine Band channel will be designated by the MCA and, on request, the channel will be passed on to the RCC and the HLO.

It must be noted that only the SRT, Marine Response Team, the 4 Command Support Units and some NIFRS fire appliances have connection to the Marine Band via the Inland Waterways Scheme.

2.5.3 PSNI (ASU) HELICOPTERS

- The ASU has mainframe TETRA radios fitted to their helicopters. Once mobilised in support of NIFRS operation they will enable Interoperability Channel No 1 and attempt to contact NIFRS HLO.

- The HLO will open communications with the ASU air assets by stating their:

  - name;
  - call sign;
  - location.

2.6 HAZARD AWARENESS

2.6.1 MOVING ROTOR BLADES

- Consideration should be given to the hazards presented by moving rotor blades. Stationary helicopters may have rotor blades still in motion (this may not be evident), creating hazards to personnel who are required to perform any or all of the following:

  - approaching the helicopter;
  - boarding the helicopter;

- disembarking from the helicopter;
- working in or around the helicopter;
- transporting equipment to or from the helicopter;
- transporting casualties to or from the helicopter.

- Most helicopters have one large overhead rotor, coupled with a smaller stabilising rotor at the tail. The number of individual blades in each rotor varies from one design to another, but typically is between 2 and 5.

- On some helicopters, as the rotors slow, the rotor blades will droop, causing the tips to become significantly lower than the height of the helicopter.

- Some helicopters utilise a fenestron or ducted tail rotor where the tail rotor has smaller rotor blades housed in a duct.

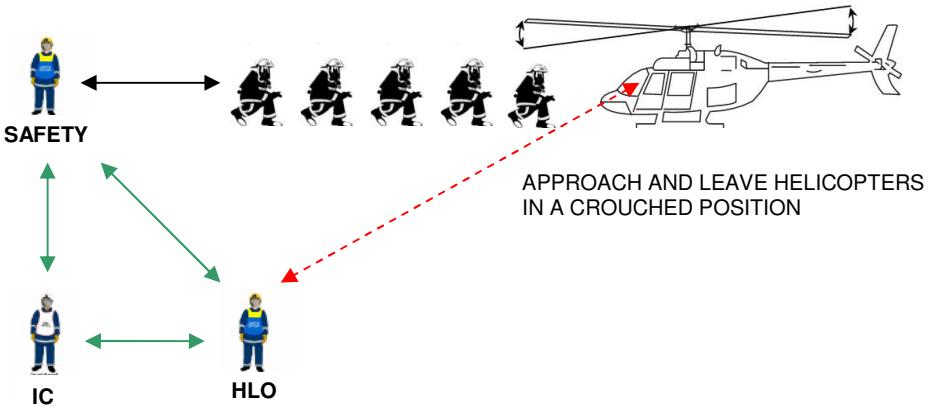


Diagram 1

2.6.2 SUSPENDED LOADS

- When working with a helicopter operating a suspended load (including water carriers), there are additional hazards to consider. Helicopters may use either slings or nets to transport equipment, or alternatively water "buckets" or containers when "water bombing" is required. The hazards of personnel receiving impact injuries from these suspended loads may be more likely when personnel and helicopters are required to work in close proximity.

- A further potential hazard associated with suspended loads is that of static electrical shock. In cases where a helicopter ground crew is not available, personnel may be required to load or unload equipment from under-slung slings or nets.

  Helicopters that carry loads will normally have an earthing line to discharge the static build-up. NIFRS personnel therefore need to be aware that any load carried under a helicopter has the potential to cause harm through the build-up of static electricity and the resultant potential difference.

- Any load jettisoned by the Pilot will become hazardous to those working below.

2.6.3 DOWNWASH

- Helicopters fly because the rotors accelerate a mass of air downward that is at least equal to the mass of the aircraft. The vertical velocity of this column of air (or downwash) varies, dependent upon a number of factors, which include:

  - surface wind speed;
  - main rotor radius;
  - "disc loading" (the weight of the helicopter divided by the "swept" area of the rotor blades).

- Whenever helicopters take off, land or hover close to the surface, the downwash is deflected horizontally. Rotor downwash is invisible unless in conditions of smoke, dust, mist or foliage. However, deflection across the ground may be hazardous for up to 70 metres from the aircraft.

- Rotor downwash will create considerable ground disturbance, turning any items not secured into possible projectile hazards. Some other hazards created by rotor downwash include:

  - contaminants blown into eyes, open wounds, sterile dressings, etc;
  - dust/sand getting into the air intakes;
  - possible re-ignition of dying fires or intensifying an established fire situation;
  - spreading contaminants at chemical, radiological, biological and terrorist incidents;
  - stirring up water, reducing sub-surface visibility;
  - equipment or personnel being displaced or blown over;
  - noise created by the turbulent movement of air;
  - loose articles may be blown into rotors and possibly engine intakes, affecting flight capability.

2.6.4 COMMAND AND CONTROL

- The IC should adhere to the principles of the current Incident Command System. Prior to committing personnel to any hazard area the IC must take account of the actual information about the incident that is available, to make operational decisions in what are recognised as sometimes dangerous, fast moving and emotionally charged environments.

- A Hazard Zone should be designated and personnel should be thoroughly briefed prior to deployment within the Hazard Zone.

- There are numerous safety issues to be borne in mind whenever NIFRS personnel are required to work with helicopters. ICs will need to ensure strict control of the incident ground and ensure that all personnel are continually supervised and briefed of the dangers.

- **It is highlighted that the primary responsibility for the helicopter and its crew will rest with the Pilot and service providing the facility.** NIFRS may not be in full control of operations or have the primary responsibility particularly where NIFRS is playing a minor role.

- Co-ordinated command and control between NIFRS and other organisations should be established at an early stage. This will always include the helicopter crew, but may also include PSNI, Northern Ireland Ambulance Service and Health Services. Training and familiarisation with protocols will also need to be conducted and maintained.

- The IC will be responsible for the safety of NIFRS personnel who are operating within the vicinity of helicopter operations and the Pilot will be responsible for the safety of the helicopter and those on board.

2.6.5 SAFETY OFFICERS

- The early appointment of one or more Safety Officers will help ensure that risks are either eliminated or reduced to an acceptable level.

- A safety decision-making model should be used to brief Safety Officers regarding the nature of the incident, the allocated task and prevailing hazards and risks.

- The IC should confirm that the Safety Officer understands:

  - their role and area of responsibility;
  - allocated tasks;
  - lines of communication.

- Those undertaking the Safety Officer role should:
  - be competent to perform the role;
  - ensure personnel are wearing appropriate personal protective equipment;
  - monitor the physical condition of personnel and/or general or specific safety conditions at the incident, in accordance with their brief;
  - take any corrective action required to ensure safety of personnel;
  - update the IC or senior Safety Officer regarding any change in circumstances;
  - not be engaged in any other aspect of operations, unless this is required to deal with a risk-critical situation.
- The function of a Safety Officer can be carried out by any of NIFRS roles, but the complexity of the task, size of the incident and scope of responsibility should be considered when determining the supervisory level required.
- The Safety Officer will liaise closely with the HLO to ensure the landing site is secured and that if emplaning (boarding the aircraft), personnel approach the helicopter from a safe angle.
- Safety Officers should wear nationally recognised identification to indicate they are undertaking the Safety Officer role.
- NIFRS should ensure that training and other measures (such as aide-mémoires) are in place and available to support those staff liable to undertake this role.

2.6.6 APPROACH/BOARDING/DISEMBARKING

- Personnel must adhere to the instructions of the helicopter crew at all times.
- Personnel must not approach from the side or rear of the helicopter where they cannot be observed by the Pilot.
- Personnel must not approach the danger area immediately adjacent to the tail rotor.
- Personnel must approach the helicopter adopting a crouched or bent posture.
- Personnel must not approach or disembark on the uphill side of a helicopter on sloping ground (see Diagram 2).

- The air crew will secure any doors and hatches, as they are fragile, and damaging them could mean the helicopter is unable to fly.

- Whenever personnel are required to ride in a helicopter, seat belts and/or harnesses must be worn at all times.

- Smoking in, on or near helicopters is prohibited at all times.

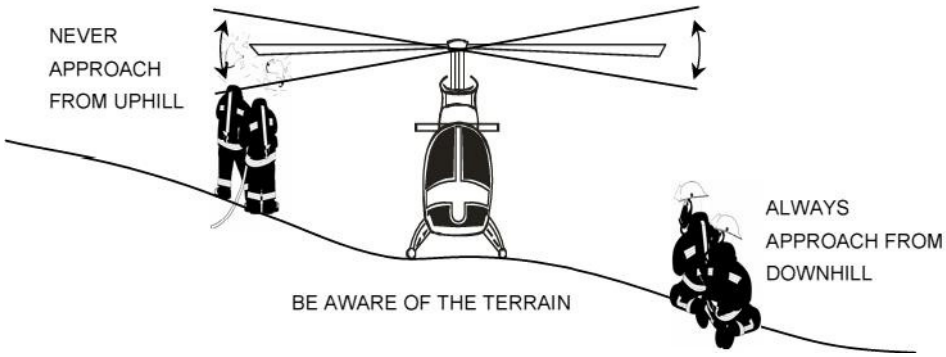


Diagram 2

2.6.7 NOISE

- All passengers, including patients, should, where possible, wear appropriate hearing protection at all times when in proximity to the helicopter.

- Ensure tasks are understood in advance, to reduce the need to discuss issues in close proximity to the helicopter.

- Personnel must be aware of the effect noise can have on animals. If possible, forewarn animal owners and have the animals moved further away by those responsible for them.

2.6.8 HELICOPTERS WITH NO TAIL ROTOR

Consideration should also be given to helicopters with no tail rotor. Personnel should treat these as they would a helicopter with a tail rotor, because of hot gases from the exhaust and the associated risk of injury.

2.7 TERMINOLOGY

Whilst NIFRS personnel are not expected to be fully conversant with all of the terminology associated with helicopters, it will greatly assist inter-agency working if NIFRS personnel are familiar with the standard terminology and jargon.

EMPLANING AND DEPLANING

- The safety of all personnel whilst emplaning (boarding the aircraft) and deplaning (leaving the aircraft) is of utmost importance, therefore, it is essential that personnel adopt standard operational practices.

- A group of personnel travelling on board an aircraft is termed a "Chalk". The senior member of the group is known as the "Chalk Commander".

2.8 DUTIES OF A CHALK COMMANDER

Before arrival of the aircraft, ensure that:

- personnel have their helmets securely fastened;

- personnel crouch on one knee at either the 2 o'clock or 10 o'clock positions in relation to the helicopter and at least 30 m from the rotor disc; (The 12 o'clock position is taken from the Pilot's seating position and facing forward in the direction of travel of the aircraft.)

- personnel have all equipment held firmly and at the ready;

- personnel have helmet visors down before the aircraft begins to land;

- personnel keep clear of the tail rotor;

- the landing site is safe and that the terrain will not expose personnel to possible rotor contact.

2.8.1 EMPLANING

- Ensure that:

  - the Chalk emplanes quickly and in the correct order;

  - the Chalk members keep clear of the tail rotor and exhausts;

  - aircraft antennae are not touched;

  - the Pilot is informed of the destination and grid reference or written details are given to a crew member;

  - Chalk members fasten seat belts and keep them fastened during flight.

- If a headset is provided for communication with the Pilot, utilise this but keep messages to a minimum.

- Supervise a strict *"No Smoking"* policy inside the aircraft for NIFRS personnel.

2.8.2 DEPLANING

Ensure that:

- the Chalk deplanes quickly;
- no NIFRS equipment is left on the aircraft;
- Chalk members move clear of the rotor blades and crouch on one knee.

2.9 FORMING UP AS A CHALK

- The Chalk should form up in a line, 30 m from the edge of the rotor blades at either the 10 o'clock or 2 o'clock positions, depending on the port or starboard access.
- The 12 o'clock position is taken from the Pilot's seating position and facing forward in the direction of travel of the aircraft.
- The Chalk Commander will be at the head of the line with numbers 2, 3, etc, directly behind. The crew will crouch on one knee with all equipment at the ready but firmly clasped to prevent disturbance in the downdraught.
- The Chalk will only approach the aircraft when directed to do so by the Pilot or crew member.

2.10 EMPLANING

- The Pilot or a crew member will give the "thumbs up" sign to the Chalk Commander, who will repeat the signal and then lead the Chalk to the door of the aircraft.
- The Chalk Commander will remain aft of the door, assist and ensure safe boarding of their Chalk.
- The air crew will normally direct the Chalk as to seating positions. If no directions are forthcoming, Chalk members will move away from the door, filling the seats - furthest away seats first.
- When all of the Chalks are safely aboard the aircraft and all equipment secured, the Chalk Commander will board and take up the seat just inside the door (unless directed otherwise by the air crew).
- Each Chalk member will fasten their seat belt, and raise their right hand to signal the air crew that the seat belt is secure.

2.11 DEPLANING

- The air crew will direct the Chalk when it is safe to undo their seat belts and exit the aircraft.

- The Chalk Commander will deplane first and take up a position just to the side of the access door.

- The Chalk will deplane in reverse order of emplaning, ie, those nearest the door to exit the aircraft first.

- Chalk members should exercise caution when deplaning and the Chalk Commander shall assess the risk of injury from slips on the step or jumping from the aircraft.

- Chalk members will move out to the 10 o'clock or 2 o'clock position, 30 m from the rotor blades, taking their equipment and crouching on one knee.

- The Chalk Commander will check the inside of the aircraft for NIFRS equipment before joining the Chalk and giving the "affirmative" signal to the air crew.

- If the Chalk Commander assesses the risk of injury from the rotor disc due to uneven ground, they will instruct the Chalk to crouch adjacent to the aircraft until the aircraft has flown clear. This procedure must be agreed with the air crew prior to the Chalk deplaning.

2.12 WINCHING

- In order to be winched, a person will be placed in a strop. The strop will be positioned over the head, under the arms and around the small of the back. If a security band is fitted, this will be tightened slightly. During winching the arms are to be kept down by the sides.

- When winching down, the person in the strop will slightly bend the knees and keep the feet horizontal, as this will absorb the impact of landing.

- When winching up, persons should not attempt to pull themselves into the aircraft. The winch operator will pull personnel on board.

- On occasions, it may be necessary to use a highline to assist with winching; this essentially acts as a guy line. The highline is attached to the winch line and dropped on board the helicopter. Personnel are reminded that this highline must be allowed to touch the ground first in order to discharge any residual static electricity. On no account must the highline be fixed to any object as this could cause the aircraft to crash.

WINCHING TECHNIQUES

Double Lift

This is where the winch person (helicopter crew) and the other person (casualty, etc) are on the winch together (ie, one person in a strop and the winch person in their harness).

Single Lift

This is where there is one person in the strop on the rope.

Double Single Lift

- This is where there are 2 persons, each in a strop on the winch.
- During this operation each person should place one arm around the small of the back of their colleague. This will reduce collisions and assist stability.

2.13 EMERGENCY DRILLS

Should an aircraft malfunction occur, it may be necessary for the Pilot to force-land or, if over water, to ditch the aircraft. The following procedures should be followed by all on-board personnel:

2.13.1 FORCED LANDING

When ordered by the Pilot/crew member all personnel will:

- jettison emergency escape windows and secure door(s) in the open position;
- brace yourself when so directed;
- remain in seats until ordered to leave the aircraft or until the rotors and aircraft have stopped.

2.13.2 DITCHING

Before entering the water all personnel will:

- if ordered by a crew member, jettison loose equipment;
- when directed by the Pilot/crew member, jettison emergency escape windows and secure door(s) in the open position;
- note which exit is nearest;
- brace themselves, when so directed;

- be prepared for directions from the Pilot to jump from low level prior to ditching of the aircraft. The Pilot will make the decision whether the Chalk and crew should leave the aircraft before or after the ditching.

After entering the water, all personnel should:

- take a normal breath before the head is submerged;
- keep eyes open.
- When all movement including rotors have stopped, release seat belt and swim clear.
- ***When clear***, inflate the life jacket.

2.14 FIREFIGHTING OPERATIONS

Helicopters may have an adverse effect on firefighting operations in the following ways:

- the downdraught from the rotors can cause positive or negative pressure areas which can effect fire and smoke spread;
- noise may drown out communications;
- the static discharge when touching down or winching could ignite a flammable atmosphere;
- landing points and winching areas should be sited to minimise the adverse effects of noise and rotor downdraught;
- dense updraughts of smoke can be drawn into the engine intakes leading to oxygen displacement and engine failure.

The IC must consider these effects and ensure that all personnel are aware of the danger.

3 – SECTION C

This section shall provide personnel with reference material and background information that was utilised in the development of this SOP.

3.1 LEGISLATION

The Fire and Rescue Services (Northern Ireland) Order 2006;

Police (Northern Ireland) Act 2000.

3.2 REFERENCE MATERIAL

Generic Risk Assessment 4.5 – *Working With Helicopters*, December 2010;

NIFRS SOP No 1 – *Incident Command* – May 2010;

NIFRS SOP No 23 – *Tasking and Operational Use of Helicopters,* November 2002;

NIFRS SOP No 29 – *Operational Use of TETRA Radio System*, May 2007;

A Guide to Operational Risk Management – Fire Service Guide, Volume 3;

MoU – PSNI ASU & NIFRS – *Inter-Agency Response to Fire and Rescue Incidents*, October 2010;

MoU – NIFRS & MCA – *Incidents at Coastal and Specified Inland Waterways*, December 2010.

3.3 INTER-AGENCY LIAISON

NIFRS Operations Policy Unit has liaised with the MCA, PSNI and Ministry of Defence (MoD) to ensure that methods of best practice were incorporated within this SOP during the development process.

CONCLUSION

The primary aim of this SOP is to provide operational guidance when a request has been made by NIFRS personnel to mobilise a helicopter. After an initial assessment by the IC, the request for the helicopter must be task-specific so as to ensure that the correct helicopter resource is mobilised. It is then the duty of the IC to ensure that an HLO is appointed (and Safety Officer(s) where appropriate) so that communications can be opened with the helicopter crew. Communications between the IC (and/or nominated person(s)) is vital to ensure a safe and effective resolution to the incident. This shall ensure an appropriate span of control is maintained by the IC for the duration of the incident.

This SOP has been developed through a process of consultation that has utilised the experience of NIFRS personnel and methods of best practice from the MCA, PSNI and MoD.

This SOP now constitutes NIFRS Training Note.

The SOP is supported by:

- NIFRS SOP No 23 Validation Exercise. This shall assess the level of knowledge and understanding amongst operational personnel against the safety-critical information contained within Section A;

- NIFRS Operational Aide-Mémoire, which shall readily provide details of Section A at operational incidents.

Kevin Synnott
Group Commander
Operations Policy Unit

Ref: MJ/RS

Date: 6 May 2011

APPENDIX "1"

TYPES OF HELICOPTERS

Type:

Sikorsky S61N -
Coastguard

Location:

Dublin, Sligo

Capabilities:

Winching
Paramedic on board
Nightsun for illumination
Thermal imaging
Casualty evacuation

Passengers:

4
6 if pre-arranged

Type:

Sea King, Mark 5 -
Royal Navy

Location:

Prestwick, Scotland

Capabilities:

Winching;
Paramedic on board
Nightsun for illumination
Casualty evacuation

Passengers:

10

Type:

Sea King, Mark 5 -
Royal Air Force

Location:

RAF Valley

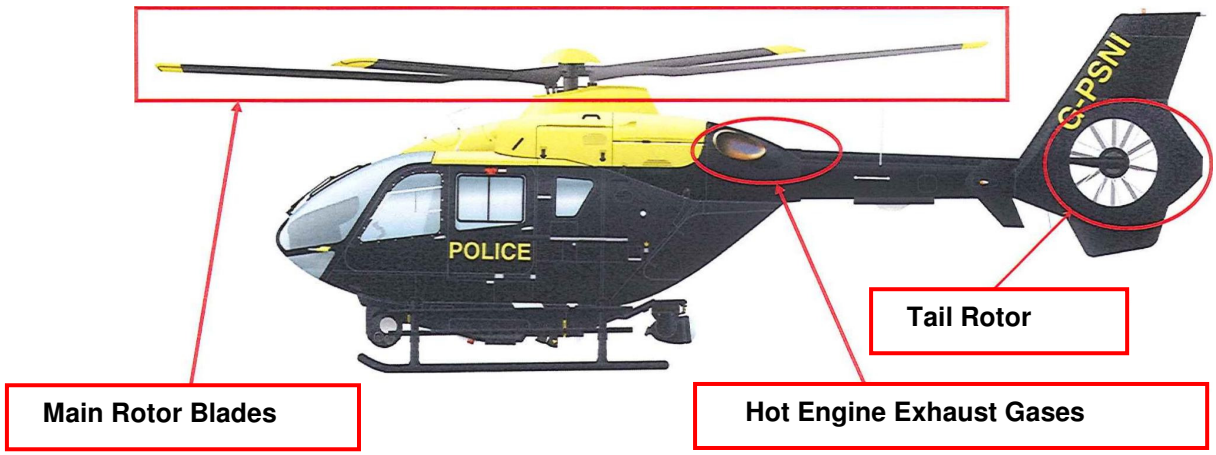
Capabilities:

Winching
Paramedic on board
Nightsun for illumination
Thermal imaging
Casualty evacuation

Passengers:

10

DANGER AREAS



Type:

EC 135 T2 -
PSNI ASU

Location:

Aldergrove

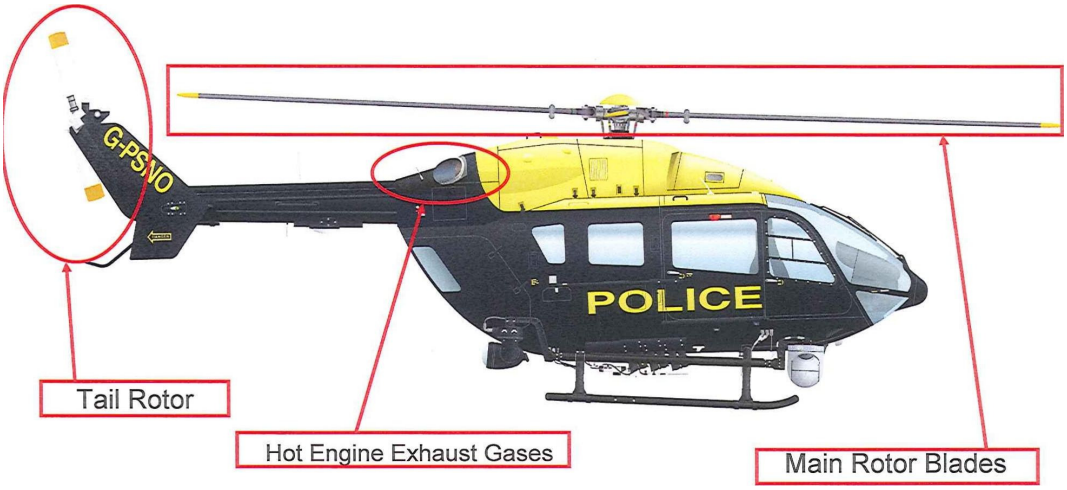
Capabilities:

No winching capability
Nightsun for illumination
Thermal imaging
Public address system (Helishout)

Passengers:

Nil

DANGER AREAS



Type:

EC 145 C2 -
PSNI ASU

Location:

Aldergrove

Capabilities:

No winching capability;
Nightsun for illumination;
Thermal imaging;
Public address system (Helishout);
Casualty evacuation.

Passengers:

3 if pre-arranged