

Serial No.	Major Contract Requirement	Related Requirement or Information	Authorising Authority	Customer's Estimated Quantity	Performance Standard
C2	<b>Support to Sea Survival Training</b>	<p>a. Sea survival training is undertaken in up to 2m significant wave height, sea state 4 conditions, and all vessels allocated to the task must be capable of safely deploying and recovering both personnel and liferafts in such conditions. Liferafts will vary in size from small single seat types to those having a capacity of 33 persons (diameter 4.5 metres, dry weight up to 80 kg).</p> <p>b. All sea survival drills will involve the attendance of military directing and assisting staff, in addition to the aircrew undertaking the drill. Up to 6 additional military supervisory and support staff should be allowed for on each station drill (a minimum of 1 x Unit SERE Instructor (Maritime) (USI(M)), 1 x Unit SERE Assistant (Maritime) (USA(M)) and 2 x Safety Equipment (SE) Fitters, with capacity for 2 x observers) ) and up to 10 on Sea Survival Drills run by the Defence Survival, Evasion, Resistance and Extraction Training Organisation (DSTO) (2 x USI(M), 2 x USA(M), 3 x SE Fitts, up to 3 observers).</p> <p>c. There are 3 main types of sea drill; parachute drag, helicopter jumping and multi-engine painter line drills:</p> <p>i. Fast-jet aircrew (those aircraft fitted with ejection seats) will simulate being dragged by a parachute across the water before inflating and boarding their liferaft. This requires that the aircrew be dragged safely through the water at a speed of between 1 and 4 knots.</p> <p>ii. Helicopter jumping drills will despatch the trainees into the water from the back of the vessel moving at between 1 and 12 knots, before they inflate and board their liferaft.</p> <p>iii. Multi-engine aircraft trainees use a large liferaft attached to the vessel with a painter line. The liferaft is inflated before the students enter the water, once in the water the students conduct a righting drill and board the liferaft.</p> <p>d. Except in the case of the Defence SERE Training Organisation's Survival, Evasion, Resistance and Extraction (SERE) Training Centre , where no preferred day of the week is identified it can be taken that any working day (Mon to Fri), except bank holidays, will be acceptable.</p> <p>e. All sea survival drills require the support of one 'major' vessel as the main ferrying and dispatch craft, together with a second safety vessel (typically a RHIB).</p>		<p>a. All hours referred to are 'on task time' and do not include any element of time required for transiting to and from the tasks.</p> <p>b. Further details relating to the timings and programming of sea survival drills are contained in the Programming Section.</p>	<p><u>Availability.</u></p> <p>a. The Contractor must be available to be tasked, on location, as required during the defined programmed periods, (where location, is the point of service delivery, as requested by the Customer, within the locality defined in this Section.</p> <p><u>Performance.</u></p> <p>a. The Contractor is to be on task, on time - <b>100%</b></p> <p>b. Delivery of the task must meet the Customer's requirement on the day and be in accordance with any operating guidelines and procedures provided by the Authority – <b>100%</b>.</p>

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f. A more detailed description of the task requirement can be found in the <b>MoD Tasking Guidelines</b> .					
<b>C2.1</b>	<b>Support to Sea Survival Training</b> Defence SERE Training Organisation (DSTO), RAF St Mawgan	<p>a. The service required is to ferry aircrew out from Fowey harbour to a position in exercise area D007 (see Admiralty Practice and Exercise Area chart Q6402) and assist with their sea survival drills.</p> <p>b. For reasons of safety, one 'major' vessel and two safety vessels will be required on each drill. The drill is undertaken from the major vessel whilst the other two vessels provide safety boat support.</p> <p>c. The majority of drills are undertaken during daylight hours though a few specialist drills will be undertaken during the hours of darkness.</p> <p>d. When weather conditions make it impossible to undertake a drill from Fowey, then the drill may be undertaken in either; Falmouth Bay – embark Falmouth (See Admiralty chart No 154), or Cawsand Bay – embark Plymouth (see Admiralty chart No 30). Suitable changing and showering facilities for both sexes must be identified or provided at the alternative sites or provided on board (a total of 6 shower cubicles will suffice).</p> <p><u>Programming</u></p> <p>a. Sea Survival Drills will be required for the following <b>DSTO</b> courses, these will be programmed throughout the year:</p> <p>i) Up to <b>35</b> basic Aircrew Survival Courses, one per day, <b>on predominantly Tuesdays or Fridays</b>. However, up to <b>10</b> of these drills may take place on a <b>Wednesday</b>;</p> <p>ii) in addition, up to <b>10</b> specialist advanced drills (<b>5 x USI(M) and 5 x USA(M)</b>) will be undertaken each year, <b>one per day</b>, on a Thursday.</p> <p>iii) in addition, allowance should be made for up to <b>7</b> 'equipment trials' per year. These will last for up to 8 hours per trial in any one day.</p> <p>b. <u>Timings</u>. Drills are normally programmed for the period <b>1000LT</b> to 1600LT. However the <b>USI(M)</b> courses are programmed to take place for an extended period from 1100LT to 2200LT.</p> <p>c. <u>Programmes</u>. A programme detailing <b>DSTO's</b> requirement for <b>Sea Drill</b> support will be issued for 3 months ahead <b>every 6 weeks</b>.</p> <p>d. <u>Periods of Notice</u>. A minimum 6 weeks notice will be provided of a requirement. Changes notified less than 14 days in advance will need to be met by the Contractor <b>except</b> where this will conflict <b>with prior bookings made by</b> other <b>Service</b> customers.</p> <p>e. <u>Block Leave</u>. The <b>DSTO</b> will be closed for a <b>3</b> week period during August and a <b>2.5</b> week period around Christmas.</p>	Air Cmnd 22 Trg Grp DGT	<p>a. Up to <b>6 drills</b> will be programmed each month to meet an annual requirement of up to <b>45 drills per year</b>.</p> <p>b. The majority of drills will last up to 4 hours. However, some specialist drills may last up to 9 hours.</p> <p>c. <b>For the majority of drills the maximum provision would be for no more than 30 students.</b></p>	See C2.

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C2.2	<b>Support to Sea Survival Training RAF Operational Flying Stations</b> (see list below)	<p>a. All operational 'Fast Jet' (FJ) aircrew are required to undergo biennial revalidation sea survival training which takes the form of a 'Wet Winching Sea Drill'.</p> <p>b. To ensure the safety of those personnel deployed in the water, each drill requires the support of one 'major' vessel as the main ferrying and dispatch craft with a second safety vessel (typically a RHIB).</p> <p>c. A maximum of 12 single seat liferafts or 2 multi-seat liferafts may be deployed at any one time, this may be increased to up to 24 single seat liferafts if a second major craft is made available.</p> <p><u>Programming</u></p> <p>a. All East Coast sea survival drills will be planned within the East Coast programme referred to in the programming information at the head of Section C.</p> <p>b. The task is to be met within the programmed periods and it is intended that the User Units will provide at least two weeks notice of a requirement. The task should still be met if less notice is given where this allows sufficient time for the Contractor to mobilise suitable available assets to the required training area and where it will not conflict with other MoD or commercial customers.</p>		<p>a. Each drill listed below may last up to 2½ hours.</p> <p>b. Drills will be undertaken throughout the year.</p> <p>c. Each RAF flying station has a total number of aircrew requiring refresher training on a biennial basis. For convenience the total number is divided by two to establish an annual figure for aircrew requiring sea drills. An indication of a likely average number of aircrew undertaking the drills is also provided. Owing to the vagaries of operational requirements these figures are subject to variation but should be used to determine the resource required to meet this tasking.</p>	See C2

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C2.2.1	Support to Sea Survival Training RAF Operational Flying Stations RAF Lossiemouth	<p>a. Area of operations: vicinity of Ullapool (embark Ullapool). See Admiralty chart No 223.</p> <p>b. The primary liferaft type in use will be the single seat, though a 10 man multi - seat dinghy may be used in addition on occasion.</p> <p>c. There is no preferred day of the week.</p>	Air Cmd 1 Grp	<p>a. Up to 70 aircrew will require a drill every 2 years. An average of 7 aircrew per drill would meet the requirement in about <b>5 sea drills per year.</b></p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2
C2.2.2	Support to Sea Survival Training RAF Operational Flying Stations RAF Coningsby	<p>a. Area of operations: vicinity of Withernsea (embark Grimsby). See Admiralty chart No 109.</p> <p>b. The primary liferaft type in use will be the single seat, though a 10 man multi - seat dinghy may be used in addition on occasion.</p> <p>c. There is no preferred day of the week.</p>	Air Cmd 1 Grp	<p>a. Up to 130 aircrew will require a drill every 2 years. An average of 7 aircrew per drill would meet the requirement in about <b>12 sea drills per year.</b></p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2
C2.2.3	Support to Sea Survival Training RAF Operational Flying Stations RAF Marham	<p>a. Area of operations: vicinity of Withernsea or Hornsea (embark Grimsby or Bridlington). See Admiralty chart No 109 or vicinity of Gorleston (embark Gt Yarmouth or Lowestoft). See Admiralty Chart No 1536.</p> <p>b. The primary liferaft type in use will be the single seat, though a 10 man multi - seat dinghy may be used in addition on occasion.</p> <p>c. There is no preferred day of the week.</p>	Air Cmd 1 Grp	<p>a. Up to 60 aircrew will require a drill every two years. An average of 7 aircrew per drill would meet the requirement in about <b>4 sea drills per year.</b></p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2
C2.2.4	Support to Sea Survival Training RAF Operational Flying Stations RAF Leeming	<p>a. Area of operations: vicinity of Withernsea or Hornsea (embark Grimsby or Bridlington). See Admiralty chart No 109.</p> <p>b. The primary liferaft type in use will be the single seat, though a 10 man multi - seat dinghy may be used in addition on occasion.</p> <p>c. There is no preferred day of the week.</p>	Air Cmd 1 Grp	<p>a. Up to 74 aircrew will require a drill every 2 years. An average of 8 aircrew per drill would meet the requirement in about <b>4 sea drills per year.</b></p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2

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C2.3	Support to Sea Survival Training RAF Flying Training Stations	<p>a. Aircrew undergoing initial flying training, together with the flying instructors at each station, will require to undertake sea survival training in the form of wet dinghy drills (WDD). To ensure the safety of those personnel deployed in the water, each sea survival drill requires the support of one 'major' vessel as the main ferrying and dispatch craft with a second safety vessel (typically a RHIB).</p> <p>b. A maximum of 12 single seat liferafts may be deployed, this may be increased to 24 if a second major craft is available.</p> <p><u>Programming</u></p> <p>a. Sea drills for RAF Shawbury and RAF Valley will be undertaken at Holyhead and programming for these drills will be agreed with 202 (R) Sqn.</p> <p>b. It is intended that the User Units will provide two weeks notice of a requirement. The task should still be met if less notice is given where this allows sufficient time for the Contractor to mobilise suitable available assets to the required training area and where it will not conflict with other MOD or commercial customers.</p>		<p>a. Each Drill listed below may last up to 2½ hours.</p> <p>b. Drills will be undertaken throughout the year.</p> <p>c. Each Station has a total number of aircrew requiring refresher training on a biennial basis. For convenience the total number is divided in two to establish an annual figure for aircrew requiring sea drills. An indication of a likely average number of aircrew undertaking the drills is also provided. Owing to the vagaries of operational requirements these figures are subject to variation but should be used to determine the resource required to meet this tasking.</p>	See C2
C2.3.1	Support to Sea Survival Training RAF Flying Training Stations RAF Valley (FJ)	<p>a. Area of Operations: Holyhead Bay (embark Holyhead). See Admiralty chart No 1413.</p> <p>b. The primary liferaft type in use will be a single seat.</p> <p>c. There is no preferred day of the week.</p>	Air Cmd 22 Trg Grp DFT	<p>a. Between 180 and 220 aircrew will require a drill each year. A maximum of 12 aircrew per drill would meet the requirement in between <b>15 and 20 sea drills per year</b>.</p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2
C2.3.2	Support to Sea Survival Training Flying Training Stations RAF Shawbury (inc 202(R) Sqn)	<p>a. Area of Operations: Holyhead Bay (embark Holyhead). See Admiralty chart No 1413.</p> <p>b. The primary liferaft types in use will be the 10 man multi-seat &amp; the single seat.</p> <p>c. There is no preferred day of the week.</p> <p>d. Drills will be co-ordinated through 202(R) Sqn.</p>	Air Cmd 22 Trg Grp DFT	<p>a. Up to 15 aircrew will require a drill each year. A maximum of 5 aircrew per drill would meet the requirement in about <b>3 sea drills per year</b>.</p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2

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C2.4	<b>Support to Sea Survival Training Sea Survival Drills for Joint Helicopter Command (JHC)</b>	<p>a. All operational aircrew undertake periodical refresher sea survival training in accordance with JHC Flying Order Book, Annex A to Order J2130. To ensure the safety of those personnel deployed in the water, each drill requires the support of one 'major' vessel as the main ferrying and dispatch craft with a second safety vessel (typically a RHIB).</p> <p>b. A maximum of 12 single seat liferafts may be deployed, this may be increased to 24 if a second major craft is available.</p> <p><u>Programming</u></p> <p>a. Sea Survival drills for AAC Wattisham are to be met within the East Coast Programme identified in the programming information provided at the head of Section C.</p> <p>b. It is intended that the User Units will provide two weeks notice of a requirement. The task should still be met if less notice is given where this allows sufficient time for the Contractor to mobilise suitable available assets to the required training area and where it will not conflict with other MOD or commercial customers</p>		<p>a. Each drill listed below may last up to 2½ hours.</p> <p>b. Drills will be undertaken throughout the year.</p> <p>c. Each Station has a total number of aircrew requiring refresher training on a biennial basis. For convenience the total number is divided in two to establish an annual figure for aircrew requiring sea drills. An indication of a likely average number of aircrew undertaking the drills is also provided. Owing to the vagaries of operational requirements these figures are subject to variation but should be used to determine the resource required to meet this tasking.</p>	See C2

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<b>C2.4.1</b>	<b>Support to Sea Survival Training</b> <b>AAC Operational Flying Stations</b> 3 & 4 Regt AAC, Wattisham	<p>a. Area of operations: vicinity of <b>Lowestoft</b> (embark <b>Lowestoft</b>). See Admiralty Chart No <b>1504</b>.</p> <p>b. The primary liferaft types in use will be the 10 man multi-seat &amp; the single seat.</p> <p>c. There is no preferred day of the week.</p>	Land Cmd Joint Helicopter Command	<p>a. Up to 36 aircrew will require a drill each year. An average of 12 aircrew per drill would meet the requirement in about <b>3 drills sea drills per year</b>.</p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2
<b>C2.4.2</b>	<b>Support to Sea Survival Training</b> <b>Operational Flying Stations</b> RAF Odiham	<p>a. Area of operations: vicinity of <b>Poole or</b> Portland (embark <b>Poole or</b> Portland). See Admiralty Chart No <b>2615</b></p> <p>b. The primary liferaft type in use will be the 10 man multi-seat.</p> <p>c. There is no preferred day of the week.</p>	Land Cmd Joint Helicopter Command	<p>a. Up to <b>6 drills per year may be required</b>.</p> <p>b. A maximum of 12 aircrew will undertake the drill.</p>	See C2
<b>C2.4.3</b>	<b>Support to Sea Survival Training</b> <b>Operational Flying Stations</b> <b>Commando Helicopter Force (CHF)</b>	<p>a. Area of operations: vicinity of Portland (embark Portland). See Admiralty Chart No 2255.</p> <p>b. The primary liferaft types in use will be the 10 man multi-seat &amp; the single seat.</p> <p>c. The preferred day of the week is Thursday.</p>	Land Cmd Joint Helicopter Command	<p>a. These drills will be undertaken as part of the RNAS Yeovilton station drills.</p>	See C2

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C2.5	<b>Support to Sea Survival Training</b> <b>Sea Survival Drills for RN Flying Corps (RNFC)</b> <b>Operational and Flying Training Stations</b>	<p>a. All operational aircrew undertake periodical refresher sea survival training, this may take the form of a wet winching drill at sea. To ensure the safety of those personnel deployed in the water, each drill requires the support of one 'major' vessel as the main ferrying and dispatch craft with a second safety vessel (typically a RHIB).</p> <p>b. A maximum of 12 single seat liferafts may be deployed, this may be increased to 24 if a second major craft is available.</p> <p><u>Programming</u></p> <p>a. A programme of drill dates will be provided by RNAS Yeovilton.</p> <p>b. It is intended that the User Units will provide two weeks' notice of a requirement. The task should still be met if less notice is given where this allows sufficient time for the Contractor to mobilise suitable available assets to the required training area and where it will not conflict with other MoD or commercial customers.</p>		<p>a. Each Drill listed below may last up to 2½ hours.</p> <p>d. Drills will be undertaken throughout the year.</p> <p>e. Each Station has a total number of aircrew requiring refresher training on a biennial basis. For convenience the total number is divided in two to establish an annual figure for aircrew requiring sea drills. An indication of a likely average number of aircrew undertaking the drills is also provided. Owing to the vagaries of operational requirements these figures are subject to variation but should be used to determine the resource required to meet this tasking.</p>	See C3
C2.5.1	<b>Support to Sea Survival Training</b> <b>Operational and Flying Training Stations</b> <b>RNAS Yeovilton</b>	<p>a. Area of operations: vicinity of Portland (embark Portland Marina). See Admiralty Practice and Exercise Area chart Q6402.</p> <p>b. The primary liferaft types in use will be the 10 man multi-seat &amp; the single seat.</p> <p>c. The required day of the week is Thursday.</p>	Navy Cmd	<p>a. Up to 100 aircrew will require a drill each year. An average of 8 aircrew per drill would meet the requirement in up to <b>46 drills per year</b>.</p> <p>b. A drill is required to be undertaken every Thursday with the exception of 2 weeks over Christmas, 2 weeks over Easter and the month of August.</p> <p>c. A maximum of 12 aircrew will undertake the drill.</p>	See C3

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### Support to Sea Survival Training – Vessel Requirements

Due to the specific safety and training requirements of sea survival training eg winching with helicopters and recovery of personnel from the water, any vessel(s) engaged to meet such training must have the following specific attributes:

#### DSTO SERE TC

##### 'Major' / Dispatch Vessel

- a. Of sufficient length to ensure sufficient elements of the vessel remain visible during a manual hover whilst completing a winch transfer to the bow and stern. The helicopter is required to maintain a minimum vertical clearance of 3 metres between the rotor blades and the highest obstruction on the vessel or a lateral clearance of 5 metres when the blades are in a horizontal plane below the highest obstruction on the vessel. In addition, as a training guideline (particularly relevant at night) the helicopter would look to hover above the sea at a minimum height of 13 metres. The angle of visibility for a **MERLIN** pilot looking forward is about **55°** to the vertical. The horizontal distance between the pilot seat and the winch wire is about **4.6** metres. The following relationship can be used as a guide for establishing an acceptable length of vessel in relation to its air draught:
  - i)  $LOA = WP + 4.6 + (AD + 3) \tan 55^\circ$  (metres). Where LOA = minimum length overall of the vessel in metres; AD = the Air Draught of the vessel in metres and WP = the lateral distance of the Winching Point ford of the stern or aft of the bow. The relationship allows for a 3 metre vertical clearance of the rotors above the highest obstruction.
  - ii) With a minimum hover height of 13 metres,  $LOA = 2.4 + 4.6 + (13) \tan 55^\circ$ , therefore  $LOA = 2.4 + 4.6 + 18.6$  or = approx **25.6** metres.
- b. A minimum speed of 12 knots in Sea State 4 and capable of transiting to and from the exercise area with the students within a period of 30 minutes. If the transit period is to be longer then showering and changing facilities must be provided on board;
- c. An ability to maintain a stable heading (within 2° either side of the required heading) at a constant speed over the ground of 5 knots;
- d. Well lit areas of 3 metres by 2 metres at the aft end of the vessel to allow for the safe transfer of students to the vessel; these areas to be clear of significant dangerous obstruction which could cause injury to the student or crewman;
- e. Well lit areas of at least 2 metres square (or circle of radius 1.2 metres) at the forward end and on each quarter of the vessel to allow for the safe transfer of a crewman and simulated casualty vertically and by hi-line transfer; these areas to be clear of significant dangerous obstruction which could cause injury to the survivor or crewman;
- f. A full 360 degree searchlight facility able to illuminate a figure in the water at a distance of 150 metres;
- g. The capability of recovering liferafts up to 4.5 metres in diameter and weighing up to 80 kg (dry weight) to the deck prior to deflation. Such capability will need to be borne in mind in the event of a failure of any mechanical means of recovery;
- h. The capability of recovering aircrew safely to the deck from the safety boats in use. This capability must take into account the possibility that some aircrew will be severely impaired in their ability to move due to the deleterious effects of motion sickness;
- i. Good sea keeping qualities in providing a relatively stable platform throughout the required range of sea conditions in order to provide a safe and relatively comfortable base from which the students can undertake their drills;
- j. Capable of safely undertaking a parachute dragging exercise. This requires the ability to drag a man safely astern at a speed of between 1 and 4 knots and to stop within half the vessel's length without endangering the towed person;
- k. No exhausts in the vicinity of the stern;
- l. Access to a flat clear deck space or platform at the stern, visible from the bridge and at a height of between 0.7 and 1.5 metres (optimum 1.0 metres) above the water from which aircrew can safely jump into the sea;

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- m. An electronic position fixing system capable of storing and retrieving an MOB position, to an accuracy of 10 metres, with a single button operation;
- n. A UHF am communications system capable of transmitting and receiving in the frequency 225 MHz - 399 MHz (in 25kHz steps) to allow the master to maintain constant two way communication with the helicopter throughout an exercise;
- o. A DSC capability on both MF and VHF marine bands;
- p. A voice communication system which must guarantee direct communications with the SAR flight operations room during the programmed tasking period, regardless of the whereabouts of the vessel within the normal SAR area of operations;
- q. AIS Class B is to be fitted and maintained in a fully operational state on all Contractor owned or operated craft supporting these specific sea survival drills; and on any sub-contracted craft operating in support of more than 5 of these serials per year;
- r. An 'Aldis' lamp with red and green filters;
- s. Any deck lighting required for use during winching exercises must be shielded so that it only shines downward to avoid dazzling crew when they are using night vision goggles.

#### Additional 'Safety' Boat

Able to recover aircrew from the water and large enough to safely carry up to 6 aircrew. Have of a minimum speed of 12 knots fully loaded. Capable of operating in up to 2m significant wave height, sea state 4 conditions.

#### **DHFS Shawbury / 202(R) Sqn**

Due to the specific safety and training requirements of sea survival training eg winching with helicopters and recovery of personnel from the water, any vessel(s) engaged to meet such training must have the following specific attributes:

#### 'Major' / Dispatch Vessel

- a. Of sufficient length to ensure sufficient elements of the vessel remain visible during a manual hover by a recovery helicopter whilst completing a winch transfer to the stern. A minimum of **20 metres**.
- b. A minimum speed of 12 knots in Sea State 4 and capable of transiting to and from the exercise area with the students within a period of 30 minutes.
- c. An ability to maintain a stable heading (within 2° either side of the required heading) at a constant speed over the ground of 5 knots;
- d. Well lit areas at the aft end of the vessel to allow for the safe transfer of students to the vessel; these areas to be clear of significant dangerous obstruction which could cause injury to the student or crewman;
- e. Well lit areas of at least 2 metres square (or circle of radius 1.2 metres) at the aft end of the vessel to allow for the safe transfer of a crewman and simulated casualty vertically and by hi-line transfer; these areas to be clear of significant dangerous obstruction which could cause injury to the survivor or crewman;
- f. A full 360 degree searchlight facility able to illuminate a figure in the water at a distance of 150 metres;
- g. The capability of recovering aircrew safely to the deck from the safety boats in use. This capability must take into account the possibility that some aircrew will be severely impaired in their ability to move due to the deleterious effects of motion sickness;

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- h. Good sea keeping qualities in providing a relatively stable platform throughout the required range of sea conditions in order to provide a safe and relatively comfortable base from which the students can undertake their drills;
- i. Capable of safely undertaking a parachute dragging exercise. This requires the ability to drag a man safely astern at a speed of between 1 and 4 knots and to stop within half the vessel's length without endangering the towed person;
- j. No exhausts in the vicinity of the stern;
- k. Access to a flat clear deck space or platform at the stern, visible from the bridge and at a height of between 0.7 and 1.5 metres (optimum 1.0 metres) above the water from which aircrew can safely jump into the sea;
- l. An electronic position fixing system capable of storing and retrieving an MOB position, to an accuracy of 10 metres, with a single button operation;
- m. A UHF am communications system capable of transmitting and receiving in the frequency 225 MHz - 399 MHz (in 25kHz steps) to allow the master to maintain constant two way communication with the helicopter throughout an exercise;
- n. A DSC capability on both MF and VHF marine bands;
- o. A voice communication system which must guarantee direct communications with the SAR flight operations room during the programmed tasking period, regardless of the whereabouts of the vessel within the normal SAR area of operations;
- p. An 'Aldis' lamp with red and green filters;
- q. Any deck lighting required for use during winching exercises must be shielded so that it only shines downward to avoid dazzling crew when they are using night vision goggles.

#### Additional 'Safety' Boat

Of sufficient size to safely carry up to 6 aircrew. Have a minimum speed of 12 knots fully loaded. **Capable of operating in up to 2m significant wave height.**

#### **RAF Valley – Station Drills**

**Due to the specific safety and training requirements of sea survival training eg winching with helicopters and recovery of personnel from the water, any vessel(s) engaged to meet such training must have the following specific attributes:**

#### 'Major' / Dispatch Vessel

- a. A minimum speed of 12 knots in Sea State 4 and capable of transiting to and from the exercise area with the students within a period of 30 minutes.
- b. An ability to maintain a stable heading (within 2° either side of the required heading) at a constant speed over the ground of 5 knots;
- c. Well lit areas at the aft end of the vessel to allow for the safe transfer of students to the vessel; these areas to be clear of significant dangerous obstruction which could cause injury to the student or crewman;
- d. Well lit areas of at least 2 metres square (or circle of radius 1.2 metres) at the aft end of the vessel to allow for the safe transfer of a crewman and simulated casualty vertically and by hi-line transfer; these areas to be clear of significant dangerous obstruction which could cause injury to the survivor or crewman;
- e. A full 360 degree searchlight facility able to illuminate a figure in the water at a distance of 150 metres;

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- f. The capability of recovering aircrew safely to the deck from the safety boats in use. This capability must take into account the possibility that some aircrew will be severely impaired in their ability to move due to the deleterious effects of motion sickness;
- g. Good sea keeping qualities in providing a relatively stable platform throughout the required range of sea conditions in order to provide a safe and relatively comfortable base from which the students can undertake their drills;
- h. Capable of safely undertaking a parachute dragging exercise. This requires the ability to drag a man safely astern at a speed of between 1 and 4 knots and to stop within half the vessel's length without endangering the towed person;
- i. No exhausts in the vicinity of the stern;
- j. Access to a flat clear deck space or platform at the stern, visible from the bridge and at a height of between 0.7 and 1.5 metres (optimum 1.0 metres) above the water from which aircrew can safely jump into the sea;
- k. An electronic position fixing system capable of storing and retrieving an MOB position, to an accuracy of 10 metres, with a single button operation;
- l. A UHF am communications system capable of transmitting and receiving in the frequency 225 MHz - 399 MHz (in 25kHz steps) to allow the master to maintain constant two way communication with the helicopter throughout an exercise;
- m. A DSC capability on both MF and VHF marine bands;
- n. A voice communication system which must guarantee direct communications with the SAR flight operations room during the programmed tasking period, regardless of the whereabouts of the vessel within the normal SAR area of operations;
- o. An 'Aldis' lamp with red and green filters;
- p. Any deck lighting required for use during winching exercises must be shielded so that it only shines downward to avoid dazzling crew when they are using night vision goggles.

#### Additional 'Safety' Boat

Of sufficient size to safely carry up to 6 aircrew. Have a minimum speed of 12 knots fully loaded. Capable of operating in up to 2m significant wave height.

### **RAF/JHC Operational Station Drills**

Due to the specific safety and training requirements of sea survival training eg winching with helicopters and recovery of personnel from the water, any vessel(s) engaged to meet such training must have the following specific attributes:

#### 'Major' / Dispatch Vessel

- a. If winching recovery of the students to the vessel is anticipated, the vessel will need to be of sufficient length to ensure parts of the vessel remain visible during a manual hover whilst completing a winch transfer to the bow and stern. The helicopter is required to maintain a minimum vertical clearance of 3 metres between the rotor blades and the highest obstruction on the vessel or a lateral clearance of 5 metres when the blades are in a horizontal plane below the highest obstruction on the vessel. In addition, as a training guideline (particularly relevant at night) the helicopter would look to hover above the sea at a minimum height of 13 metres. The angle of visibility for a **MERLIN** pilot looking forward is about 55° to the vertical. The horizontal distance between the pilot seat and the winch wire is about 4.6 metres. The following relationship can be used as a guide for establishing an acceptable length of vessel in relation to its air draught:

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Serial No.	Major Contract Requirement	Related Requirement or Information	Authorising Authority	Customer's Estimated Quantity	Performance Standard
		<p>i) <math>LOA = WP + 4.6 + (AD + 3) \tan 55^\circ</math> (metres). Where LOA = minimum length overall of the vessel in metres; AD = the Air Draught of the vessel in metres and WP = the lateral distance of the Winching Point ford of the stern or aft of the bow. The relationship allows for a 3 metre vertical clearance of the rotors above the highest obstruction.</p> <p>ii) With a minimum hover height of 13 metres, <math>LOA = 2.4 + 4.6 + (13) \tan 55^\circ</math>, therefore <math>LOA = 2.4 + 4.6 + 18.6</math> or = approx 25.6 metres.</p> <p>b. A minimum speed of 12 knots in Sea State 4 and capable of transiting to and from the exercise area with the students within a period of 30 minutes. If the transit period is to be longer then showering and changing facilities must be provided on board;</p> <p>c. An ability to maintain a stable heading (within 2° either side of the required heading) at a constant speed over the ground of 5 knots;</p> <p>d. Well lit areas of 3 metres by 2 metres at the aft end of the vessel to allow for the safe transfer of students to the vessel; these areas to be clear of significant dangerous obstruction which could cause injury to the student or crewman;</p> <p>e. Well lit areas of at least 2 metres square (or circle of radius 1.2 metres) at the forward end and on each quarter of the vessel to allow for the safe transfer of a crewman and simulated casualty vertically and by hi-line transfer; these areas to be clear of significant dangerous obstruction which could cause injury to the survivor or crewman;</p> <p>f. A full 360 degree searchlight facility able to illuminate a figure in the water at a distance of 150 metres;</p> <p>g. The capability of recovering liferafts up to 4.5 metres in diameter and weighing up to 80 kg (dry weight) to the deck prior to deflation. Such capability will need to be borne in mind in the event of a failure of any mechanical means of recovery;</p> <p>h. The capability of recovering aircrew safely to the deck from the safety boats in use. This capability must take into account the possibility that some aircrew will be severely impaired in their ability to move due to the deleterious effects of motion sickness;</p> <p>i. Good sea keeping qualities in providing a relatively stable platform throughout the required range of sea conditions in order to provide a safe and relatively comfortable base from which the students can undertake their drills;</p> <p>j. Capable of safely undertaking a parachute dragging exercise. This requires the ability to drag a man safely astern at a speed of between 1 and 4 knots and to stop within half the vessel's length without endangering the towed person;</p> <p>k. No exhausts in the vicinity of the stern;</p> <p>l. Access to a flat clear deck space or platform at the stern, visible from the bridge and at a height of between 0.7 and 1.5 metres (optimum 1.0 metres) above the water from which aircrew can safely jump into the sea;</p> <p>m. An electronic position fixing system capable of storing and retrieving an MOB position, to an accuracy of 10 metres, with a single button operation;</p> <p>n. A UHF am communications system capable of transmitting and receiving in the frequency 225 MHz - 399 MHz (in 25kHz steps) to allow the master to maintain constant two way communication with the helicopter throughout an exercise;</p> <p>o. A DSC capability on both MF and VHF marine bands;</p> <p>p. AIS Class B is to be fitted and maintained in a fully operational state on all Contractor owned or operated craft supporting these specific sea survival drills; and on any sub-contracted craft operating in support of more than 5 of these serials per year;</p> <p>q. A voice communication system which must guarantee direct communications with the SAR flight operations room during the programmed tasking period, regardless of the whereabouts of the vessel within the normal SAR area of operations;</p> <p>r. An 'Aldis' lamp with red and green filters;</p> <p>s. Any deck lighting required for use during winching exercises must be shielded so that it only shines downward to avoid dazzling crew when they are using night vision goggles.</p>			

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Serial No.	Major Contract Requirement	Related Requirement or Information	Authorising Authority	Customer's Estimated Quantity	Performance Standard
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#### Additional 'Safety' Boat

Of sufficient size to safely carry up to 6 aircrew. Have a minimum speed of 12 knots fully loaded. Capable of operating in up to 2m significant wave height, Sea State 4 conditions.

#### **RNAS Yeovilton**

Due to the specific safety and training requirements of Sea Survival Training eg winching with helicopters and recovery of personnel from the water, any vessel(s) engaged to meet such training must have the following specific attributes:

#### 'Major' / Dispatch Vessel

- a. Of sufficient length to ensure sufficient elements of the vessel remain visible during a manual hover by a recovery helicopter whilst completing a winch transfer to the stern. A minimum of **20 metres**.
- b. A minimum speed of 12 knots in sea state 4 and capable of transiting to and from the exercise area with the students within a period of 30 minutes.
- c. An ability to maintain a stable heading (within 2° either side of the required heading) at a constant speed over the ground of 5 knots;
- d. Well lit areas at the aft end of the vessel to allow for the safe transfer of students to the vessel; these areas to be clear of significant dangerous obstruction which could cause injury to the student or crewman;
- e. Well lit areas of at least 2 metres square (or circle of radius 1.2 metres) at the aft end of the vessel to allow for the safe transfer of a crewman and simulated casualty vertically and by hi-line transfer; these areas to be clear of significant dangerous obstruction which could cause injury to the survivor or crewman;
- f. A full 360 degree searchlight facility able to illuminate a figure in the water at a distance of 150 metres;
- g. The capability of recovering aircrew safely to the deck from the safety boats in use. This capability must take into account the possibility that some aircrew will be severely impaired in their ability to move due to the deleterious effects of motion sickness;
- h. Good sea keeping qualities in providing a relatively stable platform throughout the required range of sea conditions in order to provide a safe and relatively comfortable base from which the students can undertake their drills;
- i. Capable of safely undertaking a parachute dragging exercise. This requires the ability to drag a man safely astern at a speed of between 1 and 4 knots and to stop within half the vessel's length without endangering the towed person;
- j. No exhausts in the vicinity of the stern;
- k. Access to a flat clear deck space or platform at the stern, visible from the bridge and at a height of between 0.7 and 1.5 metres (optimum 1.0 metres) above the water from which aircrew can safely jump into the sea;
- l. An electronic position fixing system capable of storing and retrieving an MOB position, to an accuracy of 10 metres, with a single button operation;
- m. A UHF am communications system capable of transmitting and receiving in the frequency 225 MHz - 399 MHz (in 25kHz steps) to allow the master to maintain constant two way communication with the helicopter throughout an exercise;
- n. A DSC capability on both MF and VHF marine bands;
- o. A voice communication system which must guarantee direct communications with the SAR flight operations room during the programmed tasking period, regardless of the whereabouts of the vessel within the normal SAR area of operations;

### **2C-23**

Serial No.	Major Contract Requirement	Related Requirement or Information	Authorising Authority	Customer’s Estimated Quantity	Performance Standard
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p. An ‘Aldis’ lamp with red and green filters;

q. Any deck lighting required for use during winching exercises must be shielded so that it only shines downward to avoid dazzling crew when they are using night vision goggles.

Additional ‘Safety’ Boat

Of sufficient size to safely carry up to 6 aircrew. Have a minimum speed of 12 knots fully loaded. Capable of operating in up to 2m significant wave height, Sea State 4 conditions.