

Night Time SAR Operations in the RNLI



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Lifeboats

High Speed Incidents at Night

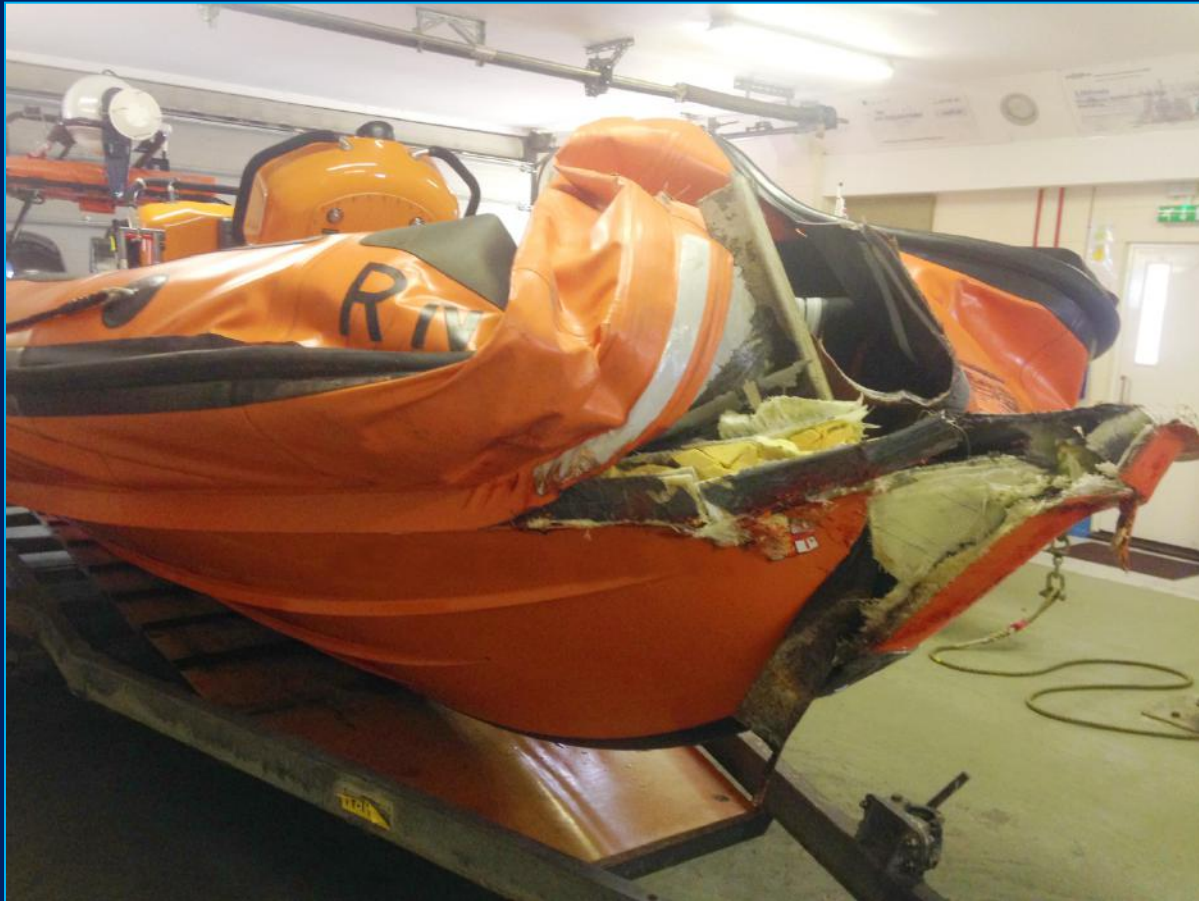












Helm– cut above left eye and surrounding bruising
Crew– cracked/broken ribs and bruising
Crew– bruised upper legs
Crew– bruised back





Helm– Bruising to chin & groin

Crew– Dislocated shoulder, Broken arm severe bruising.

Crew– Concussion, bruising to chest & knees, cut fingers

Crew– Broken nose, severe bruising to shoulders, ribs & legs

What did we learn?

Increased Risk to our crew during Night time operations

Actions:

- Standardise navigation practices
- Increase awareness of “Night Vision”
- Fit stations with red lights for night operations

Key Learning outcome:

- A need to change the culture of speed

Regulations



Navigation Safety Policy & SOP

RNLI NAVIGATION SAFETY POLICY

The RNLI provides a variety of afloat craft (meaning boats, rescue water craft and hovercraft) to facilitate delivery of its lifesaving services. The over-riding and absolute responsibility of those in charge of any RNLI craft (whether on service, passage, trials or exercise) is the safety of crew and those we are endeavouring to rescue, followed by the protection of the environment and the preservation of RNLI property.

This policy sets out the principles of operating RNLI craft. Specific details will be found in RNLI guidance, operating procedures and relevant risk assessments.

In accordance with SOLAS V Regulation 34.1 the RNLI shall not prevent or restrict the person in command (coxswain, helm or commander) from taking or executing any decision which, in the person in command's professional judgement, is necessary for safety of life and protection of the marine environment.





RNLI craft must always be operated in accordance with appropriate legislation and the policies, processes and procedures of the RNLI. Nothing relieves the person in command or crew from the exercising of sound judgement when facing a situation not specifically addressed by policy, process and procedure, but where possible they should adhere to the intent of such procedures and their training.

Whilst a craft is underway its progress and the well-being of those aboard will be monitored by appropriate shore-side authorities/individuals.

RNLI craft are highly visible and recognisable as belonging to the RNLI. It is expected that the conduct and navigation of RNLI craft will be of the highest standard and in accordance with best practice, especially:

- In complying with the International Regulations for the Prevention of Collisions at Sea, specifically speed, lookout, situational awareness and response to developing situations such as risk of collision.
- Taking into account the effects of operating our craft in close proximity to other craft, water users and the shoreline (eg effect of wake).
- When operating in heavy weather.
- When operating in restricted visibility.
- When operating in areas of high traffic density.
- When operating close to the coast, in shoal or pilotage waters, or other hazards (including uncharted or poorly charted areas such as Solway Firth and Morecambe Bay).
- When operating at night.
- In complying with local bye-laws and regulations.

2 July 2015

| RNLI STANDARD OPERATING PROCEDURE | | | | | |
|--|---|---|--|--|--|
|  | Safe Navigation | | | | |
| Validation | | | | | |
| Prepared by | O. Mallinson – Operations Manager (Lifeboats) | | | | |
| Validated by | P. Dawes – Lifesaving Services Manager | | | | |
| ID Number | LB-SOP-7.2-01 | | | | |
| Last updated | June 2016 | | | | |
| Review date | Annually | | | | |
| Pages | 4 | | | | |
| Objective | | | | | |
| To ensure the safe navigation of RNLI vessels. | | | | | |
| Reference Documentation | | | | | |
| CoBT 1 | SOP communicated and understood by all? | | | | |
| Crew Members Handbook | | | | | |
| RNLI Briefing and De-briefing guidance | | | | | |
| RNLI Navigation Policy | | | | | |
| International Regulations for the Prevention of Collision at Sea as amended 1972 (IRPCS) | | | | | |
| SOLAS Chapter V Regulation 34 | | | | | |
| STCW 'Basic principles to be observed in keeping a navigational watch' | | | | | |
| IMO 'Guidance on voyage planning' Resolution A.893(21) | | | | | |
| MCA 'The Human Element' | | | | | |
| Hazards | | | | | |
| Fatigue | Weather and sea conditions | | | | |
| Collision | Ingress of water | | | | |
| Grounding / Stranding | Fire | | | | |
| Pollution | | | | | |
| Safety, Health and Environment | | | | | |
|  |  |  | | | |

Safe Crewing Numbers

Minimum numbers required

| Lifeboat and Rescue Craft Designation | Minimum crewing Level on Service/Exercise | Minimum crewing Level on Passage |
|---------------------------------------|---|----------------------------------|
| ALB (all) | 5 | 4 |
| B class | 3 | 2 (3 at night) |
| D class | 2 (3 at night) | 2 (3 at night) |
| E class | 3 | 2 (3 at night) |
| A class | 2 | 2 |
| RWC | 1 | 1 |
| Hovercraft | 3 | 3* |

Training and Development





Kinghorn Lifeboat station Lifeboats



Lifeboats



Kinghorn Lifeboat station

Lifeboats



Lifeboats

Competency Framework



RNLI OPERATIONAL TRAINING STANDARDS

Lifeboat Stations

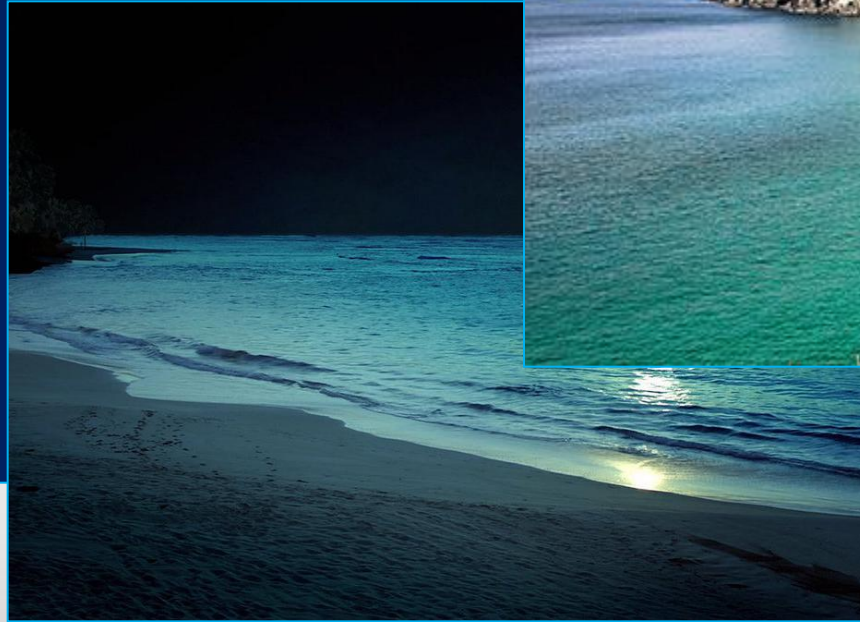
TP-COBT1-02

Section 4: Lifeboat - Development Plans

| ALB Crew Development Plan | | | ACTIVITY 5 Search and Rescue | | |
|--|-------------------------------------|--------------|---|--------------------------------------|--|
| | sub-units | Intervals | sub-units | Intervals | |
| ACTIVITY 1 Safety, Health and Environment | | | Unit 5.1 | Locate and Assist Casualty -1 3 yr | |
| Unit 1.1 | Personal Protective Equipment (PPE) | -1 3 yr | ACTIVITY 6 Operational Communications | | |
| Unit 1.2 | Manual Handling | -1 3 yr | Unit 6.3 | Operate SAR Unit Radio -1-2 Current | |
| Unit 1.3 | Hazardous Substances | -1 3 yr | ACTIVITY 7 Navigation | | |
| Unit 1.5 | Personal Safety and Wellbeing | -1-2 Current | Unit 7.1 | Navigation -1,-2* 3 yr | |
| Unit 1.6 | Incident Reporting | -1 Current | Unit 7.2* | Electronic Navigation -1 3 yr | |
| Unit 1.7 | Risk Assessment | -1 Current | Unit 7.3* | RADAR -1 3 yr | |
| Unit 1.8 | Noise & Vibration | -1 3 yr | Unit 7.5 | Local Knowledge -1-2 3 yr | |
| Unit 1.10 | Fire Safety | -1 3 yr | ACTIVITY 13 Fitness Standards | | |
| ACTIVITY 2 Personal Competencies | | | Unit 13.1 | Lifeboat Aerobic test -1 5 yr | |
| Unit 2.1 | Roles and Responsibilities | -1 3 yr | Unit 13.2 | Lifeboat Strength test -1 5 yr | |
| Unit 2.2 | SAR Unit Fire Fighting | -1 3 yr | ACTIVITY 14 Behaviour, Commitment & Currency | | |
| Unit 2.3 | Emergency and Survival Procedures | -1 3 yr | Unit 14.1 | Behaviour & Commitment -1 Current | |
| Unit 2.4 | Pyrotechnics | -1 3 yr | Unit 14.2 | Lifeboat Competence Currency -2 5 yr | |
| Unit 2.5 | SAR Unit Layout and Equipment | -1-2 3 yr | ACTIVITY 15 The Media | | |
| ACTIVITY 3 Launch and Recovery | | | Unit 15.1 | Media Awareness -1 3 yr | |
| Unit 3.1 | Launch | -1-2 3 yr | Unit 15.2 | Camera Operations -1 3 yr | |
| Unit 3.2 | Recovery | -1-2 3 yr | | | |
| ACTIVITY 4 SAR Unit Handling & Seamanship | | | | | |
| Unit 4.1 | Watchkeeping | -1 3 yr | | | |
| Unit 4.2 | Rope Handling | -1 3 yr | | | |
| Unit 4.3 | Anchoring | -1 3 yr | | | |
| Unit 4.5 | Towing | -1 3 yr | | | |
| Unit 4.7 | Mooring and Berthing | -1 3 yr | | | |
| Unit 4.8 | Helming the SAR Unit | -1 3 yr | | | |
| Unit 4.10 | Breeches Buoy | -1 3 yr | | | |
| Unit 4.11 | Daughter Craft | -1 3 yr | | | |
| Unit 4.12 | Helicopter Operations | -1 3 yr | | | |
| Unit 4.13 | SAR Unit Drogue | -1 3 yr | | | |

*Non-essential criteria. These units are attached to certain development plans and do not count towards overall competence and SOC. They are added skill sets that the RNLI wishes to record or may be required by the location. Either the whole unit or specific sub-unit will be identified.

Manage Navigation assessment




Lifeboats

RNLI ALB
Check Card

Use a chinagraph pencil

CARD 3

OPERATING IN RESTRICTED VISIBILITY

Operating in Restricted

Note: The person in command must consider the importance of the passage and the need to anchor or divert to a safe anchorage.

Maintain a radar watch at all times.

Maintain a list of all vessels in the vicinity.

Switch on and ensure that all lights are working.

Ensure that all navigation lights are working.

Fix position and course by radar or parallel to the coast.

Ensure that all navigation lights are working.

Ensure that all navigation lights are working.

Ensure that all navigation lights are working.

JANUARY 2017

JANUARY

OPERATING IN RESTRICTED VISIBILITY

CARD 2

OPERATING IN DARKNESS

Operating in Darkness

Consider safe speed requirements (Rule 6) and minimise exposure to white light with navigators curtain.

Set brilliance of electronics to a minimum level required for viewing.

Ensure electronic navigation aids are correctly working.

Switch on and ensure navigation lights are operational.

Assign lookout(s) and ensure that passage plans are complete and saved in plotter.

JANUARY

OPERATING IN DARKNESS

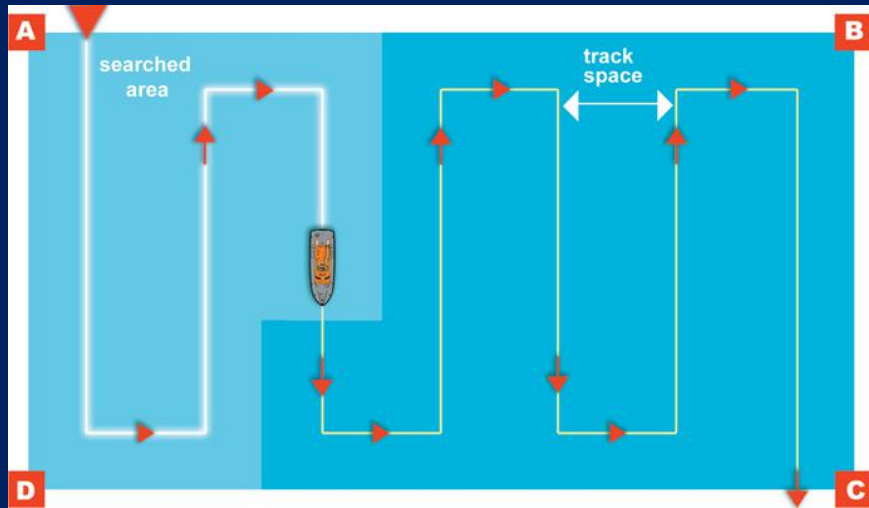
CARD 2

Night Time SAR Ops – The Challenge

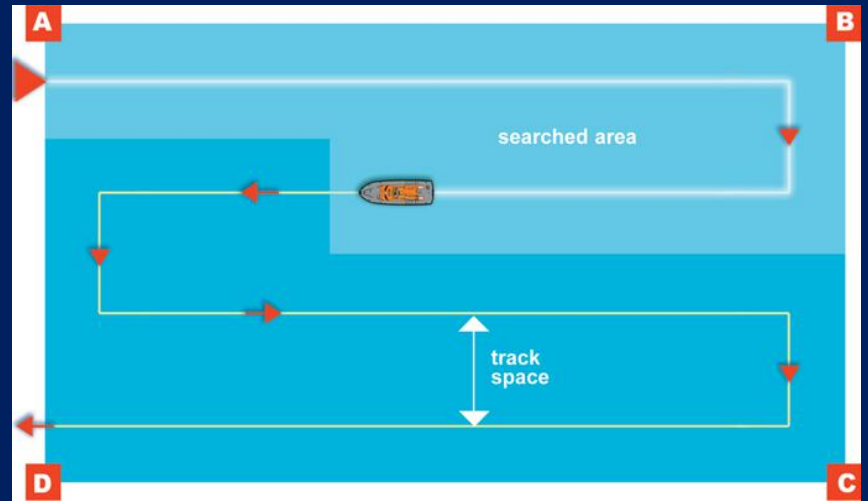


LIFEBOATS

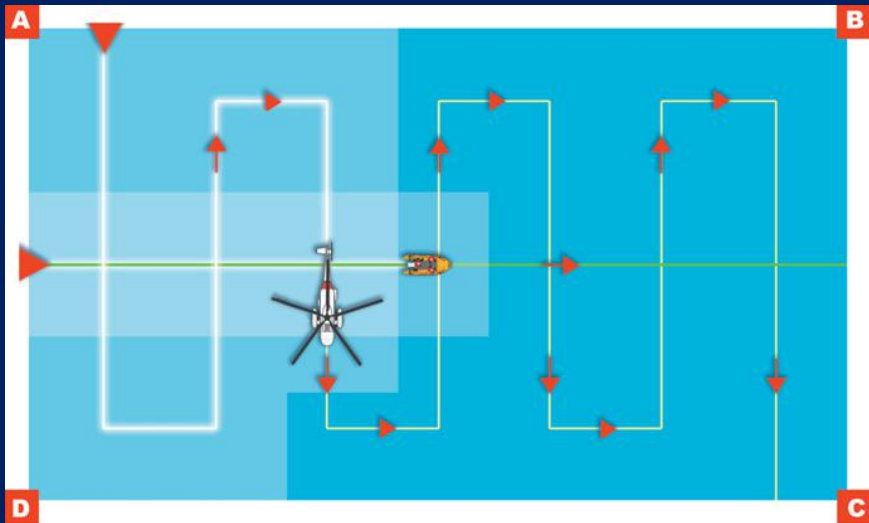
Creeping Line ahead



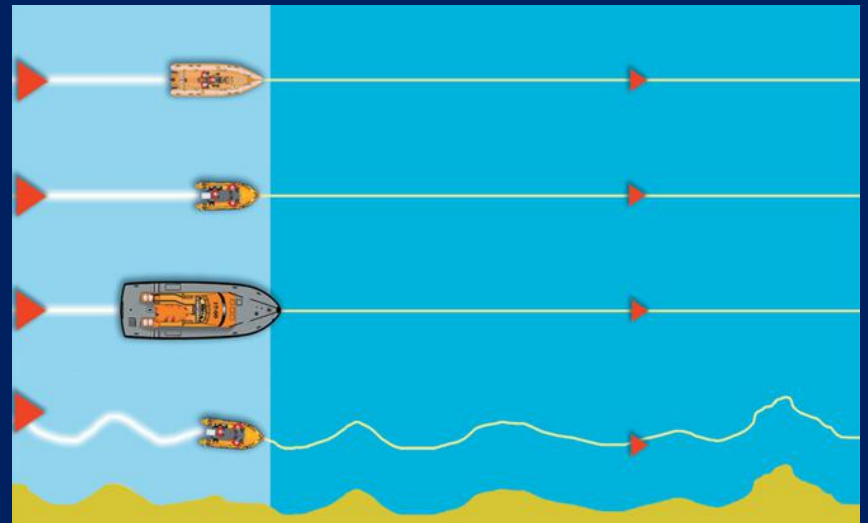
Parallel Track



Ship / Aircraft



Multi Vessel



ALB - Uncorrected Sweep Widths

| TABLE: UNCORRECTED VISUAL SWEEP WIDTHS (in nautical miles) | | | | | | | |
|--|-----------------|----------------------|-----|-----|-----|------|------|
| | | SRU - SURFACE VESSEL | | | | | |
| Search Target | SRU Size (ft) | Small Vessel (40 ft) | | | | | |
| | Visibility (NM) | 1 | 3 | 5 | 10 | 15 | 20 |
| PIW | Person In Water | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| Liferafts | 1 Person | 0.7 | 1.3 | 1.7 | 2.3 | 2.6 | 2.7 |
| | 4 Person | 0.7 | 1.7 | 2.2 | 3.1 | 3.5 | 3.9 |
| | 6 Person | 0.8 | 1.9 | 2.6 | 3.6 | 4.3 | 4.7 |
| | 8 Person | 0.8 | 2.0 | 2.7 | 3.8 | 4.4 | 4.9 |
| | 10 Person | 0.8 | 2.0 | 2.8 | 4.0 | 4.8 | 5.3 |
| | 15 Person | 0.9 | 2.2 | 3.0 | 4.3 | 5.1 | 5.7 |
| | 20 Person | 0.9 | 2.3 | 3.3 | 4.9 | 5.8 | 6.5 |
| | 25 Person | 0.9 | 2.4 | 3.5 | 5.2 | 6.3 | 7.0 |
| Powerboats and MFV's | Up to 15 ft | 0.4 | 0.8 | 1.1 | 1.5 | 1.6 | 1.8 |
| | 16 to 25 ft | 0.8 | 1.5 | 2.2 | 3.3 | 4.0 | 4.5 |
| | 26 to 40 ft | 0.8 | 1.9 | 2.9 | 4.7 | 5.9 | 6.8 |
| | 41 to 65 ft | 0.9 | 2.4 | 3.9 | 7.0 | 9.3 | 11.1 |
| | 66 to 90 ft | 0.9 | 2.5 | 4.3 | 8.3 | 11.4 | 14.0 |
| | Up to 15 ft | 0.8 | 1.5 | 2.1 | 3.0 | 3.6 | 4.0 |
| | 16 to 20 ft | 0.8 | 1.7 | 2.5 | 3.7 | 4.6 | 5.1 |
| | 21 to 25 ft | 0.9 | 1.9 | 2.8 | 4.4 | 5.4 | 6.3 |

Track Spacing



If track spacing is the same as sweep width
then the Probability of Detection is 79%

Case Study - Rhyl



Casualty reported search light over his face and hearing helicopter directly over head.

Stop and listen in complete silence

Then shout

Careful use of searchlights
Careful use of night vision

FLARE





Any Questions?