On Scene Command

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Constructive feedback and suggestions for improvements to the SAR Training Matrix is appreciated. Please email feedback / suggestions to sartrainingfeedback@coastguard.co.nz providing as much detail as possible. Thank you.
Overview

During a multi vessel operation there will be somebody appointed by the IMT as On Scene Command (OSC). The person appointed as On Scene Command will normally be on board the most appropriately equipped vessel from which to execute operations at the scene. This appointment should be clearly communicated to all personnel including the crews of all vessels involved.

1. What is On Scene Command?

- The person appointed On Scene Command is the link between the IMT and operations at the scene. Their responsibilities include:
  - Carrying out instructions given by the IMT.
  - Managing and co-ordinating the on-scene response to the incident until stood down.
  - Establishing communications with, and providing detailed briefing to, all resources.
  - Appraising the local conditions and incident status to provide a sit-rep to the IMT.
  - Assessing resources i.e. vessel type, status, fuel duration, equipment available (RADAR, spotlights, night sights, first aid) and number/ specialist skills of crew.
  - Providing details to operations of available resources.
  - Tasking resources provided by IMT.
  - When appropriate, appointing a Line Command to co-ordinate multi-vessel search patterns.
  - Providing sit-reps to the IMT as requested, or at least at regular intervals, detailing weather conditions, incident progress, resource status (fuel state, mechanical problems and crew welfare) and prognosis.
  - Ensuring all debris is retrieved and recorded, noting time, location and type. The IMT should be advised immediately whenever significant debris is found.

A Line Command is a person on a vessel tasked to organise and control the search pattern. This involves: co-ordinating speed and vessel spacing, regular appraisal of vessel status and providing regular sit-reps to On-Scene Command.
• Ensuring that stand down instructions are communicated to all on scene crews and to oversee their safe return from the scene.

2. Multi Vessel Searches

The most common type of operation in which an On Scene Command is appointed is in search operations. For the purposes of this module we will look at the role of the On Scene Command in a multi vessel search.

The skipper of every vessel in a multi-vessel search remains legally responsible under New Zealand Maritime Law for the safety of the vessel they are commanding and the safety and welfare of all people on board. The skipper of each vessel is also responsible for complying with all relevant rules and regulations.

As On Scene Command you may have overall responsibility for the management of other resources. However, this overall responsibility does not relieve the Skipper of any other vessel from their responsibility to their vessel and crew. Any vessel involved in an operation is responsible for its own navigation and personal safety. It must be emphasised to other resources that any safety concerns should be reported to the On Scene Command.

3. Initial Assessment

3.1 Overview

Assessing the capability of another vessel in terms of its general size, speed, equipment carried and number and capability of crew is usually fairly straightforward (in daylight at least). Having done this, the On Scene Command must then decide if or how, they are best utilised in a search.

3.2 Factors to consider

A checklist such as the one found in the Search and Rescue Boat Book will help the On Scene Command to gather, and most importantly, retain the relevant information for future reference.

Activity:

Determining initial assessment factors

• Create a brainstorm or mind map of all the various factors that could be considered as part of the initial assessment.
• This will allow tutor to work on crew current understanding.
• Have a discussion around the components of each factor.

Refer to the Search Techniques Module.

“The master of every vessel is responsible for safety and for complying with all maritime rules and regulations applicable.”

Maritime Transport Act Section 19 Duties of Master
A number of different factors are considered below.

**Vessel’s General Suitability**
Factors to consider here would include, size, speed, draught, and communications. The vessel’s overall suitability for the prevailing conditions should be assessed, as should its possible use for different tasks, i.e. as a vessel to carry out a shore line search or act as ferry boat to bring out fresh crew and equipment.

Any vessel tasked to go at a speed that will be uncomfortable for its crew is unlikely to be an effective resource in a search.

![Vessel Image]

**Crew**
The number of crew will have a direct bearing on the effectiveness of the vessel in a search, and the search pattern may need to be adapted to accommodate this. Alternatively crew can be transferred between vessels to enhance the capability of any given vessel.

Any Coastguard trained crew will be familiar with search operations, whilst other crew may not. On Scene Command must be especially careful to ensure briefings and instructions are clear and comprehensive to everybody involved.

**Height of Eye**
The effective Beam Sighting Distance (BSD) for each vessel must be factored in to the Sweep Width (W) calculations for the search.

**Endurance of Resource**
It is important to establish how much fuel each resource has and therefore how much time the vessel can conceivably spend on the water participating in the search.
The assessment of vessels endurance should also include how much food, water and shelter there is on board. Does the crew have adequate clothing for an extended search at night or in deteriorating conditions?

**Communications**

VHF radio is often the preferred means of communication between resources during a search. If the vessel only has a handheld, you will have to bear in mind its limited range and battery power.

Sensitive or private information should be communicated using a less public means such as UHF or mobile telephone. Private vessels assisting in the operation may only have a mobile phone.

**Navigation Instruments**

- **Compass** – many small vessels do not have a compass. Even if equipped with one, the Skipper / crew may not be used to steering to a compass course. Instructing vessels of opportunity to turn to starboard or port (consider using the terms right and left), and maintain their position in the search by reference to another vessel may be far more effective than giving compass courses to steer.
- **Echo Sounder** - A reliable echo / depth sounder or fish finder must be considered one of the most basic and essential of navigation aids.
- **GPS / Chart Plotter** - In the case of a vessel equipped with a chart plotter rather than just a basic GPS receiver (or no GPS at all) they may be better tasked on the ‘outside edge’ of a search pattern near any hazards.
- **RADAR** - If a search is to use RADAR then an assessment of each vessel’s RADAR capabilities must be made. The abilities of different RADAR sets and the skill of their operators vary hugely. You may only be able to ask the Skipper of the vessel their opinion as to the effective range they would (not possibly could) detect an object of that size and type in the prevailing conditions. The vessel spacing should be set up accordingly.

**Searchlights / Torches**

Does the vessel have a searchlight(s) or suitable torches?

**Recovery Equipment**

Does the vessel have a boarding ladder / swimming platform? Is its free board suitable for recovery of persons in the water? Does it have any specialised recovery equipment?

**First Aid Equipment / Training**
Does the vessel carry any first aid equipment, and are any of its crew trained in first aid or have medical training?

4. Briefing

Once the information has been gathered, a plan of how to best utilise resources can be made, and the IMT kept informed. The IMT may not need or want every detail (such as which vessels have RADAR and which don’t). It is the job of the On Scene Command to organise and manage the resources effectively. To do this they will need to brief the skippers and/or the crew of the on scene resources.

4.1 Overview

A key element of the NZ CIMS model is common terminology. A briefing as to how the search is to be conducted must cover all the relevant information and use an appropriate format such as the GSMEAC format that has been adopted by the multiple agencies involved in NZ SAR.

Unless conditions and time preclude, going alongside the other vessels to conduct your assessment and briefing will be preferable to just communicating on the radio. This will ensure that all the crew of the other vessels hear your briefing and the On Scene Command has the opportunity to view the vessel and crew.

4.2 Briefing Checklist

A checklist of the information to be covered in any briefings will ensure that no important information is left out. Such a checklist can be found in the Search and Rescue Boat Book. Vessels may join the search at different times and use of a check list will ensure that every vessel receives the same information. The following points summarise those aspects that are covered in a checklist.

Description of Target
All the relevant information concerning the object of the search should be relayed to the other vessels. Any updates on information should also be passed on.

**Type of Search**
The general pattern of the search, and each vessel's position within the search should be explained. A copy of a search template (to show the general pattern) given to each vessel could be a useful aid.

**On Scene Command**
The role of On Scene Command should be explained.

**Line Command**
If a Line Command is appointed, their role should be explained. A Line Command is a person on a vessel tasked to organise and control the search pattern. This involves: co-ordinating speed and vessel spacing, regular appraisal of vessel status and providing regular sit-reps to On-Scene Command.

**Individual Skipper's Responsibility**
It should be made clear that while the On Scene Command has responsibility for the operation as a whole; the Skipper of every vessel is still responsible for the safety of their vessel. It should be stressed that if the Skipper of another vessel has at any time doubts as to the safety or welfare of their crew during the operation, they should make this immediately clear to the On Scene Command.

**Communication**
VHF channels for communication and procedures are to be established. Appropriate simplex channels should be selected for on-scene use; duplex for longer range and IMT communications.

It may be, for example, that a regular inter ship channel such a Channel 6 or 8 could be used for any communication within the search pattern, leaving the dedicated Coastguard frequency free for communications between CRVs and the IMT. Any vessels involved should be instructed to keep communications brief and to the point.

**Observation**
The other vessels must be briefed on how to carry out their observation, i.e. designated sectors, try to scan with the head not the eyes.

**Rotation of Observers and Crew**
The need for rotation of observers should be explained. A set time for all vessels could be used, every ... minutes or at the end of each second leg of the search – whatever is appropriate.

**Actions on Sighting Objects**
If an object of interest is spotted by another vessel, then their initial actions must be made clear.

- The crew member should alert the rest of the vessel, maintain eye contact with the object and have arm outstretched pointing at the object.
- The vessel that spots the object of interest is to immediately contact the OSC or Line Command and await further instructions.
- At this point the remaining vessels will slow down (enough to maintain steerage) and continue to hold their relative stations until told otherwise.
- Any vessel of opportunity that has sighted an object, is not to attempt recovery of debris or persons from the water, but must await instruction from the On Scene Command or Line Command vessel.

Searchlights and Torches
In the case of a multi vessel search operation, care must be taken to ensure that everyone involved is fully aware of operational procedures at night, and that observers’ night vision is not spoilt by inappropriate use of torches or searchlights.

Stopping and Listening
Cries for help or the blowing of a lifejacket whistle are likely to be hidden by your own vessel’s engine noise. If appropriate to the target and conditions, and especially at night, searches should be stopped periodically to listen.

Use of RADAR
Depending on the RADAR set, and also the operator’s preference, the display may be in a different mode (Head up, North up etc) to the RADAR on the On Scene Command vessel. If any vessel reports a target of interest by range and bearing, then to avoid confusion you will have to know if the bearings are true, magnetic or relative.

RADAR is a very effective tool for maintaining the correct spacing in a multi vessel search pattern. Using the RADAR VRM (Variable Range Marker), one vessel either side can be tracked.
In the example above, with two VRMs available, a total of four vessels can be monitored on the one RADAR. For those vessels with RADAR your briefing should include distances to set on their VRM, i.e. 200m is 0.108nm (practically the VRM would probably be set to 0.1nm).

Approximate Speed of Search
The approximate speed of the search should be established and communicated to the skippers of all vessels involved. It must be made clear that it is the On Scene Command or the Line Command vessel that sets the speed.

Maintaining Station
Every vessel’s compass course will vary, and it is the On Scene Command or Line Command who sets the course. The spacing between each vessel and who to keep station on as reference is very important for the search to be effective.

In a multi vessel search, vessels may join the operation at different times. It is essential that every vessel receive the same briefing as to the plan and procedures of the search. Using a briefing checklist (contained in the SAR Boat Book) will ensure that no important information is left out during the briefing.

5. Turning the Search Pattern
How to turn the search pattern at the end of each search leg needs to be considered. There are two common methods in use.

One is simply to instruct all the vessels to turn together 90° and line up on the stern of the vessel ahead.

The column of vessels then runs the required distance (the total sweep width of 650m) which in this example at 8kts would be timed at 2 minutes and 40 seconds. All vessels then again turn 90° to starboard and resume their search stations.

The vessels can be instructed to either maintain speed, or to slow down just before making the turn, and then accelerate again afterwards. Different vessels have different rates of turn, and if in close proximity and especially at night it may be more prudent to slow down to execute the turn.

The advantage of this method is its simplicity; the disadvantage is that each vessel’s position in the line is now reversed. The vessel that was on your starboard side is now on your port side. This can lead to confusion identifying other vessels in the search pattern, especially at night. A record of each vessel’s position in the line should be kept throughout to avoid such confusion.

The Admiralty Turn method sometimes used to turn a search pattern. It has only one advantage over the previous method – every vessel returns to its original position in the line. Its disadvantage comes from it being a more complex manoeuvre to carry out, and judging when to start the turn when in proximity to hazards can be difficult.
For sake of clarity only three vessels are shown in the diagram above.

- All vessels maintain speed (1), and at the On Scene Command or Line Command instruction the outer vessel turns 90°. In this case the outer vessel is on the port side of the line for a turn to starboard.
- As the outer vessel crosses the wake of the middle vessel in the line, it turns 90° to starboard (2).
- As the first and second vessels cross the wake of the third vessel, the last vessel then turns to starboard (3).
- The last vessel to turn runs for a distance equivalent to its individual sweep width, then turns 90° to starboard again (4). As it crosses the wake of the middle vessel, that vessel also turns to starboard, and the pattern is repeated until the line is restored.

### 6. Key Responsibilities

The IMT will need to be kept informed of details relevant to the overall effectiveness of the search; in effect the tactical details i.e. Speed, Course, Total Sweep Width / Total Track Spacing etc.
The IMT must also be kept informed as to any subsequent changes to the tactical details, and any change in conditions – sea state, visibility etc. Vessels may leave or new vessels may join the search at different times. The role of On Scene Command can also change as fresh crews are assigned, or as new On Scene Command are tasked.

Every operation will be different, and the On Scene Command must remain flexible in the planning and execution of their duties and adapt their on scene strategy to the prevailing circumstances and conditions throughout the search.

On a CRV the Skipper’s job is to manage the vessel and crew, and that often requires stepping back from a ‘hands on’ position. As On Scene Command this requirement to be able to see the ‘big picture’ is even more important. Effective and appropriate delegation plus good communication are essential.

As On Scene Command you may decide the most effective position to take is behind the line of searching vessels to concentrate purely on the command and co-ordination of the search. As On Scene Command you are the eyes and ears of the IMT.

Any change in circumstances or organisation of the resources under your command must be communicated to the IMT.