Westerly Owners' Association

South West Group

Maritime Rescue Coordination Centre (MRCC) Falmouth

Visit Report Dated 12 July 2023

By

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and

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1. Executive Summary

The visit to the Maritime Rescue Coordination Centre (MRCC) located within the Falmouth Coastguard Centre at Pendennis was organised by Bob Walker as a function of the Westerly Owners Association (WOA) South West Group Meet Afloat 7-12 July 2023.

The purpose of the visit was to understand the Maritime Coastguard Agency (MCA) expectations of we the yacht owners and visa-versa so that expectations can be managed going forward and especially the MCA and MRCC use of emerging technology.

The visit format started with a presentation by the MCA predominantly focussed on the operations centre at Pendennis followed by a visit inside the control room of the operation centre.

The presentation facilitated the opportunity for the 8 members of WOA attending the visit, to ask many searching questions and then to witness first hand in the control room how the MCA pull all the data together to deliver the primary role as MRCC.

This report details the information gained during the visit and having obtained the verbal approval of the MCA Team Leader Tom Furse, it was agreed that this report should be widely distributed to the leisure craft community. It therefore follows that this report will be distributed to WOA members and the Royal Naval Sailing Association (RNSA), also represented by Bob Walker and the Royal Yachting Association (RYA) also represented by Bill Shepherd. Further distribution beyond the three associations named above is encouraged but with the discretion and approval of the author.

Contents

2. General Information

Eddy Robinson Maritime Operations Officer provided a general brief using PowerPoint which included an overview of the MCA nationally and then a more detailed discussion about the role and responsibilities of the Falmouth Centre at Pendennis. Here follows a summary of the presentation and topics discussed;

2.1 Operational Areas

A chart showing the British Isles, the island of Ireland and the North European coast was displayed. In general, the MCA is responsible for the sea areas midway between continents e.g. midway between the Republic of Ireland, Scandinavia and the Northern European coast line such as France for example. In all the coastguard is made up of 1 Joint Rescue Coordination Centre (JRCC), 9 MRCC's and 1 Maritime Rescue Support Centre (MRSC) stretching from the Shetland Islands to the Channel Islands and including Northern Ireland. Exceptionally the MCA (Falmouth) also cover areas well into the Atlantic Ocean.

The MCA operational area also includes land around the coastline, inlets and waterways. It was explained that MCA responsibility on land normally covers the short distance from the seashore to private land boundaries. There can be grey areas involving boundaries and responsibility, but it was emphasised that the MCA will not question responsibility, they will act as first responder every time.

2.2 MCA Primary Roles

Primary roles are:

- Search and rescue
- Vessel Traffic Monitoring
- Maritime Safety
- Maritime Security
- Counter pollution and salvage operations
- Accident & Disaster Response

2.3 Technology

2.3.1 Automatic Identification System (AIS)

Digital switching of antennae around the British Isles allows each of the MRCCs to take control of one or more or all stations in the British Isles as and when there is a need. The antennae unsurprisingly occupy high ground and unobstructed lines of sight across the sea. All antennae provide Very High Frequency (VHF) 30MHz – 300MHz capability and a number can also provide Medium Frequency (MF) 0.3MHz – 3MHz. The latter provides much longer ranges circa 300 Nm subject to environmental conditions, whereas the VHF range is generally referred to as a Line of Sight (LoS) radio which for leisure craft can be around 12-14 Nm, again subject to the weather and environment. However, due to the height and high gain of the MCA antennae, they can typically send and receive VHF transmission out to a distance of circa 30 Nm and will often be able to reach and respond at 50nm, but this depends on

atmospherics, power output etc. .

Key Point 1; Maximum range of MCA VHF Tx/Rx is 30Nm compared to circa 12-14 Nm observed on leisure craft.

Most readers with Class B, AIS transponders or transceivers (i.e. able to transmit (TX) and receive (RX) AIS) will be aware that it is also a VHF system with TX/RX ranges comparable to their VHF radio i.e. 12-14 Nm. During the recent WOA Summer Cruise to the Channel Islands and France, several yachts reported that family and friends using Apps such as Marine Traffic, noticed that the yachts AIS dropped out for between 6-8 hours. This coincided with the yachts distance from land exceeding their VHF TX range. AIS connectivity would be regained once the yachts came in range of the Channel Islands or France. The MCA stated that this is not the case in their Operation Centre, the extended range provided by their antennae general means that they can still track weak AIS signals from vessels such as leisure craft well beyond the limits observed by the craft. An example was shown of a yacht midway across the English Channel still being tracked on its AIS.

The reason why the Marine Traffic App drops out was explained by the MCA, in that Marine Traffic and other similar app providers, receive the AIS data via open sources. An example was stated of VHF antennae mounted on houses or in back gardens and in fields. The MCA antennae as described earlier are much more bespoke and highly sophisticated to meet the MCA requirements. The MCA added that AIS data collected by them, is archived for many years and is not passed to third parties unless it is requested for legal purposes.

It was noted that the MCA also use the Marine Traffic App. Their reasoning is that the Marine Traffic App provides much more information about a vessel than just the AIS location. It will for example, show a picture of the vessel and its last port of call. The Coastguard may be able to track vessels at a greater range than marine traffic using their own system, but this may not always be the case. The most important thing to take from it is that they will utilize as many systems as possible to get the most up to date positional information. This includes satellite AIS for vessels with that capability.

Key Pont 2; MCA also use the Marine Traffic App.

The AIS software used by the MCA can alert the ops officer if vessels are converging on a collision course. In this case the ops office will monitor and call the vessels if they perceive that collision avoidance has not been taken.

Traffic Separation Zones are also monitored to ensure vessels are complying with the rules.

2.3.2 RYA SafeTrx

This was one of the main reasons for organising the visit to the MCA Falmouth, to enquire how they use it and why?

About SafeTrx, this is a mobile app for a smart phone and Tablet which offers the user three options. It relies on the user to enter and store details about the leisure craft and contact details of a person who will be contacted in the event of a possible accident or emergency.

Option 1; is simply the 'Explore' mode which uses the vessel's GPS position to show your location and surrounding area.

Option 2; 'Track Only' mode does not record a passage plan and it will only send an SMS message to your emergency contact if the mobile phone battery power falls below 10%.

Option 3; 'Sail Plan Mode' records a start point and destination with optional waypoints. It sends a SMS message to your emergency contact if you exceed your Estimated Time of Arrival (ETA).

All the above require mobile phone/internet connection to operate and herein lies the problem perceived by many members. Here is a quick example to demonstrate the problem. *Last year (2022) a Westerly Yacht Owner sailed from Plymouth to the Isles of Scilly with his family including children onboard. The skipper filed his passage plan using Option 3 and submitted it as he left his final stopover before heading out to the Isles of Scilly. The passage was uneventful, and they arrived safely at their destination. Upon arrival the skipper remembered to access the app and entered their safe arrival. The day had been long with and early morning departure and so the family took to their bunks early in the evening. They were woken a few hours later by the coastguard boarding their yacht to check that they were safe.*
In the ensuing conversation, it was established that the skipper did not have a mobile phone connection when he entered their safe arrival and so his emergency contact received an SMS message to say they had exceeded their ETA. In recalling this story to the MCA during this visit, it transpires that the MCA do receive and record all SafeTrx passage plans but they do not routinely act upon them until they are alerted by the emergency contact.

Key Point 3; The MCA receive all SafeTrx passage plans but do not routinely monitor them.

Key Point 4; MCA only interrogate the information in SafeTrx if they have been alerted by an emergency contact.

Reporting Passage Plans via VHF CH16 or SafeTrx?
MCA would rather a passage plan be logged than not at all. They state that SafeTrx is entirely optional but during detailed questioning, there is a view that they prefer SafeTrx.

If a passage plan is reported over VHF as routine traffic, the information is logged but not routinely monitored. Just like SafeTrx, it is acted upon only when the MCA have been alerted to a possible incident.

When logging a passage plan over VHF, the ops officer may ask if the skipper is registered with SafeTrx. This is not asking you to use the app, but it gives them an opportunity to promote the app if you have not registered to it.

The main value in reporting a passage plan is to provide the number of persons and details about the safety equipment on board.

What can we learn?

1. The MCA prefer a passage plan to be reported in, rather than not at all.
2. Reporting a passage plan via VHF does absorb resources in the operation centre and you can be told to hold if they are busy especially if there is an ongoing incident. The Ops Officer receiving the initial call on VHF CH16 will pass on the task to another ops officer so that watch on CH16 is maintained.
3. SafeTrx avoids (2) above.
4. SafeTrx does require a mobile phone internet connection, but this is no different from calling the coastguard to inform them of your safe arrival once out of VHF range.
5. The key lesson using SafeTrx is to warn your emergency contact when you expect the cell phone signal to drop out and then be regained.
6. Remember to keep your mobile device battery charged.

Key Point 5; on balance, if the connectivity issues affecting SafeTrx can be worked around then the view can be taken that it is the preferred method of reporting passage plans.

2.3.3 Communications In General

Telephones Mobile & Landline

The MCA Ops Centre can locate the position of your mobile phone within 3-4 seconds if you use it to call in an incident or emergency. The location accuracy can be within a few metres depending upon the number of cell towers in the area. If a landline is used, then they can obtain the subscribers name and address.

In the absence of handheld flares, the mobile phone can be used to minimise the search area to locate you.

Key Point 6; Accurate location can be obtained from a mobile phone used in an emergency call to the MRCC.

Radio Checks

It was made clear by the MCA that they do not like Radio Checks being conducted over VHF CH16. Their recommendation is to call the National Coast Watch.

MF Radio

Any Coastguard Station can access the MF radio channels if required, however, the Falmouth Centre is designated as the primary base station. As the antennae are spread out around the coast it ensures that the Coastguard Stations have a long reach circa 300 Nm, around the whole of the British Isles. MF is almost solely used by large merchant vessels for ship to shore communications.

VHF Channel Monitoring

VHF CH16 is the only channel that the MCA keep a constant listening watch on. When asked if they listen to Ship to Ship communications such as CH72, they said no.

MCA were asked what to do if a vessel does not respond to calls on CH16. The example of a fishing boat regularly changing heading was used. The MCA recommend an attempt to use Digital Selective Calling (DSC) to contact the vessel. If this does not work, then the Coastguard can be contacted to make a report.

Digital Selective Calling (DSC)

MCA was asked if routine traffic requests can be initiated over DSC? The response was that in theory, yes. However, they very rarely receive routine DSC messages, and that priority is not given to DSC unless it is an activated distress call. However, it is an effective means of raising communications with the Coastguard. There may be a delay in their response if they are incident working, but they will be able to respond, and it eases the amount of radio traffic on VHF 16.

Maritime Mobile Service Identity (MMSI)

It was confirmed by the MCA that the MMSI is still an important piece of information. This is required to differentiate vessels that may be registered with the same name.

MMSI is essential for identification and using DSC.

2.3.4 Emergency Beacons

Personal Locator Beacon (PLB), Emergency Position Indicating Radio Beacon (EPIRB) and Emergency Locator Transmitter (ELT) used with aircraft were all discussed. MCA stated that in all cases, as soon as the first signal is received, they will activate the emergency response units, which as a minimum will include Coastguard Rescue Teams, RNLI and Search & Rescue Helicopter. In the next two to three minutes, the MRCC Ops Officer will have accessed the details of the beacon and its location. Telephone and radio calls will be made to the person registered with that beacon to establish the nature of the emergency.

In some cases, the beacon can be activated by mistake and if this is verified then the emergency response units will be stood down. On other occasions, the location can be anywhere around the world in which case MRCC will coordinate an emergency response with the nearest country and vessels in the area.

When asked if the MRCC will respond to a PLB activated in land by a hill walker for example, the answer was a definite yes. In such cases, the ops officer will initiate the first emergency response but then hand over the coordination to the police and mountain rescue teams.

Key Point 7; it is important to ensure the emergency beacon is registered and up to date. A UK registered beacon if activated will be received by the MCA wherever the location is and immediately acted upon.

Re-registering a PLB/EPIRB

A WOA Member pointed out that he had trouble with the online process of re-registering his EPIRB. The MCA suggesting calling their office and they can route the call to the registration team based in the Pendennis facility.

2.3.5 Flares

The MCA did not have an opinion on legacy heat flares or the new digital LED flares. Their point is that there are now other means of accurately locating the vessel or person which have been detailed above, namely beacons and mobile telephones. That said, the MCA seemed to lean a little towards the digital flare purely because they are safer to store and use.

The use of flares is less prevalent now due the various other mean of signifying a distress as in the above, they can still be an effective method for SAR assets locating a vessel/person i.e., last mile location. Other locating devices such as MOB markers and SARTs are also effective.

2.3.6 Software

There is a specialist 'Search Planning and Drift' software used by the MCA that can capture the arc of a rocket flare to backtrack to the location point where the flare was initiated. This is particularly useful if there is no other information available. The MCA can utilise this if they receive a flare report. However, the accuracy of this search plan relies on the information provided by the caller. For example, this may be a member of the public on the coast path rather than a commercial skipper/yachtsman. Flares always require someone to be looking at them. This is why the MCA highlight the importance of other means of raising the alarm such as EPIRBs and DSC.

There is a drift calculator software modelled for yachts, life rafts and people in the water all the way up to large merchant vessels. This is used by the MRCC in search and rescue operations.

2.4 Other General Information

Coastguard Rescue Service

- 3,500 volunteers.
- 100 full time offices.
- 400 teams in 37 zones.

Lifeboats

- 238 RNLI stations in 19 zones.
- 80 independent stations.

Airborne Assets

- 10 Search And Rescue (SAR) helicopter bases.
- 3 fixed wing aircraft available.
- SAR Drones are becoming available.

Lifeguards

- 245 beaches manned by lifeguards across all 37 zones.
- All are independent but can be called upon to assist the MRCC.

National Coast Watch

- 58 Coast Watch stations in total.
- Over 2,000 volunteer watchkeepers.
- VHF CH65.

3. Summary Of Key Points

A summary of key points is in Table 1, below.

KP #Number	Key Point
1	Maximum range of MCA VHF Tx/Rx is 30Nm compared to circa 12-14 Nm observed on leisure craft.
2	MCA also use the Marine Traffic App.
3	The MCA receive all SafeTrx passage plans but do not routinely monitor them.
4	MCA only interrogate the information in SafeTrx if they have been alerted by an emergency contact.
5	On balance, if the connectivity issues affecting SafeTrx can be worked around. then the view can be taken that it is the preferred method of reporting passage plans.
6	Accurate location can be obtained from a mobile phone used in an emergency call to the MRCC.
7	It is important to ensure the emergency beacon is registered and up to date. A UK registered beacon if activated will be received by the MCA wherever the location is and immediately acted upon.

4. Attendees

Those attending this visit are as follows;

Bob Walker – Secretary South West Group WOA
Bill Shepherd – South West Group Committee WOA
Neil Stuart – WOA
Peter Carpenter – WOA
Robert & Lisa Levy – WOA
Clive Tayton & Jude - WOA

5. Distribution

No.	Name	Position
1	Gill Clare	Commodore Westerly Owners Association
2	Brian Jones	Vice Commodore Westerly Owners Association
3	Rose Casey	Admin (Stow VA) Westerly Owners Association
4	Chris Strang	Secretary Westerly Owners Association
5	Barbara Box	Chairman South West Group WOA
6	Bill Shepherd	South West Group Committee & RYA Representative London & South East Region
7	Neil Person	West Country Branch Chairman Royal Naval Sailing Association
8	Tom Furse	Team Leader HM Coastguard (MRCC Falmouth)