6.0 Emergency communications

6.1 Distress signals

There are many widely recognised signals used to indicate distress, including:

- a continuous sounding with any fog-signalling apparatus
- a signal ••• - - - ••• (SOS) in the Morse code
- a mayday call on marine radio
- a red rocket parachute flare or hand flare at night
- an orange smoke signal during day time
- slowly and repeatedly raising and lowering arms
- EPIRB signals
- V-sheet
- dye marker during day time.

The use or exhibition of any of these signals except for the purpose of indicating distress and need of assistance is prohibited. Misuse of them may put the lives of others at risk and is illegal.

6.2 Marine radio

A marine radio transceiver is a vital safety aid, especially for boats travelling offshore. It provides a means of advising marine rescue groups of your itinerary and keeping in contact with them and other boats nearby, checking the weather and receiving navigational warnings. In an emergency, marine radio is your best means of summoning help.

Licences and certificates

Under federal regulations, operators of VHF and MF/HF radios are required to hold an operating certificate; the normal certificate for recreational operators is the Marine Radio Operators Certificate of Proficiency (MROCP). Many Coast Guard and Volunteer Marine Rescue (VMR) stations provide this course or may advise where a local course is available. Operators of 27 MHz equipment are not required to hold a certificate but are strongly encouraged to obtain one. Station (equipment) licences are no longer required for 27 MHz or VHF radios but are still necessary for MF/HF long range radio equipment.

Equipment

Marine radios are essential, and in most cases the only method of communicating with other boats, marine rescue groups and to receive navigational warnings and weather updates. When selecting or using a marine radio there are many factors for you to consider, including:

- the area of operations
- location of local marine rescue groups
- the number of boats in the same area
- your budget
- size and type of boat.

There are four main types of marine communications equipment.

1. VHF – this is the preferred radio for short range communications. All large boats and an increasing number of smaller boats monitor channel 16.

   Areas with large boating populations have marine rescue stations monitoring channel 16 and 67 on a 24 hour/7 day basis. Weather information is regularly broadcast on channel 67. Channel 16 is for emergencies or initial calls and should not be used for routine messages or 'chat'. Most areas throughout Queensland have a local 'chat' frequency or a common use rebroadcast frequency.

   The local marine rescue station can advise on this practice.

2. 27MHz – these are relatively cheap, easy to operate transceivers and are common in small boats. Their range is essentially 'line-of-sight' and they may be subject to interference noise.

   Although better than no radio, you should check that a limited coast station is in your immediate vicinity before relying on this equipment for your safety. Most marine rescue groups monitor channel 88 but larger boats at sea do not listen to this radio.

3. HF – these radios have a greater communication range if travelling long distances from shore although they are reliant on atmospheric conditions and to some extent on hull material. They can be difficult to operate without training and practice.

All states and territories operate 24 hour/7 day monitoring on the frequencies 4125, 6215 and 8291 kHz from 'Coast Radio' stations Cairns, Gladstone, Sydney, Melbourne, Adelaide, Hobart, Perth, Port Hedland and Darwin. Queensland HF services cover coastal waters to a minimum of 200 nm seaward from sites located at Cairns (call sign: coast radio Cairns) and Gladstone (call sign: coast radio Gladstone). Weather broadcasts are made on frequency 8176 kHz. Navigational warnings are also broadcast on this frequency at the scheduled times.

All operators should be competent in the operation of radios, know the frequencies dedicated to distress and safety and be able to properly format and transmit distress and safety messages.

4. *Satellite equipment* – although relatively expensive, the range of satellite equipment and telephones provide excellent coverage and are the preferred long range communications device. Training and operator certification are necessary before operating this type of equipment. As the long term future of HF monitoring by coast stations is uncertain, investment in this type of equipment is recommended for boats on off shore voyages.

Over 40 volunteer rescue stations from VMR Point Danger (south) to VMR St Paul's (north) monitor 24 MHz, VHF and HF frequencies. Their hours of operation, frequencies monitored and contact phone numbers are available on the Maritime Safety Queensland website under the 'safety' link.

Operating procedures

Standard radio procedures are used internationally.

Routine calls—logging on and off

Queensland has a large number of volunteer marine stations who, as limited coast stations, provide an invaluable service to the boating public. Boats are strongly encouraged to log on/off with their local station and update changes to location and intentions. Recent fatalities in Queensland highlight the disadvantages of not using this service.

When making a routine call to another vessel or limited coast station, state clearly:

- the boat/group you are calling—(spoken three times if communications are difficult)
- this is — name of your boat—(spoken three times if necessary)
- await a reply/response
- message
- over.

Distress calls

The distress call 'mayday' may be used only if the boat is threatened by grave and imminent danger and immediate assistance is required. For example, the boat is sinking or on fire. This distress call has absolute priority over all other transmissions and may only be transmitted on the authority of the skipper or the person responsible for the safety of the boat. Calls are made on distress frequencies (VHF 16, 27.88 MHz or HF 4125, 6215, 8291 kHz).

Call procedure:

- mayday mayday mayday.
- this is—name and radio call sign of boat in distress—spoken three times.
- mayday
- name and radio call sign of boat
- details of boat's position
- nature of distress and assistance required
- other information including number of people on board, boat description and intentions.

Urgency calls

The urgency call should be used when use of the distress call cannot be justified but a very urgent message concerning the safety of the boat or the safety of a person needs to be transmitted. For example, your boat is disabled and drifting onto a lee shore or a crew member is seriously ill. An urgency call can only be made on the authority of the skipper or person responsible for the safety of the boat. Distress call frequencies (above) may be used for these calls.

Call procedure:

- pan pan, pan pan, pan pan
- hello all stations hello all stations hello all stations
- this is—name and radio call sign of boat—spoken three times
- details of the boat's position
- details of assistance required and other information.

Safety calls

The safety call should be used if you wish to broadcast an important navigational warning to other stations. For example, you have sighted a large floating object that could damage the hull of a boat.

A safety call is more likely to be made by a coast station or a limited coast station operated by a marine rescue group and may include important weather warnings such as severe thunderstorm, gale and cyclone warnings.

Call procedure:

- say-cure-e-tay say-cure-e-tay say-cure-e-tay
- hello all stations hello all stations hello all stations
- this is—name and radio call sign of boat or shore station—spoken three times
- details of the warning.

Initial safety call to all stations can be made on a distress frequency. However, this should be changed to a working frequency for the broadcast of the safety message.

Radio problem checklist

Equipment:

- Is the correct frequency/channel selected?
- Is the volume (AF gain) adjusted correctly?
- Is the squelch adjusted correctly?
- Is the RF gain set to maximum sensitivity?
- Power supply—is the battery fully charged?
- Antenna—are the leads and whip intact, not corroded, have proper earthing and connections in good order?

Procedure:

- Time—is the other station keeping a listening watch?
- Is a silence period in force?
- HF—is the set tuned to the right frequency for the ship's position and time of day?
- Sked times—is the other station busy with a routine broadcast?

If these checks have been completed and there is still no response, another channel or frequency should be tried. Delays may arise because shore station operators are busy on other circuits or handling emergency communications.

In all circumstances, listen before transmitting.

Phonetic alphabet

A—ALPHA	N—NOVEMBER
B—BRAVO	O—OSCAR
C—CHARLIE	P—PAPA
D—DELTA	Q—QUEBEC
E—ECHO	R—ROMEO
F—FOXTROT	S—SIERRA
G—GOLF	T—TANGO
H—HOTEL	U—UNIFORM
I—INDIA	V—VICTOR
J—JULIET	W—WHISKY
K—KILO	X—X-RAY
L—LIMA	Y—YANKEE
M—MIKE	Z—ZULU

6.3 Mobile phones

Although commonly carried on boats, mobile phones can only be considered as a 'back up' device. They should not be seen as a substitute for emergency radio communications because:

- The cellular system does not provide for distress priority alerting.
- Mobile phones may be out of range, have low batteries or become water-damaged.
- Marine radios are used to broadcast so all parties involved in an incident can listen. Mobile phones only call point to point. If you don't know a number, you can't call for assistance even if the boat is in sight.
- Rescue organisations cannot use a radio direction finder to trace a mobile telephone call.
- Few volunteer rescue boats are equipped with mobile phones, resulting in delays (and misinterpretation) while calls are relayed from shore.

In an emergency the most vital link between the rescuers and the rescued is radio communications.

Section 6 activities

Activity 1

What type of marine radios require operator's licences?

_____

_____

Activity 2

List six distress signals you could use to notify others of an emergency situation.

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

Activity 3

What are the distress calling channels for each of the three radios?

VHF _____

HF _____

27 MHz _____

Activity 4

For what typical reason would you use:

The international distress call (Mayday)?

_____

_____

The international urgency call (Pan Pan)?

_____

_____

The international safety call (Saycureetay)?

_____

_____

Activity 5

Write out what you would say in a routine call to a volunteer marine rescue group requesting a tow.

_____

_____

_____

_____

_____

Activity 6

List the four main reasons you believe a mobile phone should not be used for a substitute to a marine radio.

1 _____

2 _____

3 _____

4 _____