Marine Radio

Public Comment Report

&

Working Party
Final Recommendations

Tabled at NSC Meeting
26 April 2012

Teleconference

Working Party:
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Scott Disley
David Ellis
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Working Party Project Coordinators:
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1.0 Abstract

In October 2011 a submission was received by Yachting Victoria relating to Marine Radio. The submission was in the format of, and contained all information required by YA's Risk Management policies and procedures (CMP).

The proposal was made available for public comment in accordance with policy requirements. At the close of public comment, twenty eight responses had been received. The responses included a variety of opinions and suggested a number of changes to the proposed 2013 regulations. A report of the public feedback was collated for the benefit of the working party, which has been included in this document.

The working party, comprised of marine communications experts, search and rescue interests, and experienced sailors was convened on 12 December 2011 in Melbourne to consider the CMP and the public comments received. This meeting was followed up with subsequent email discussions, and a teleconference.

Key issues considered were the phasing in of Digital Select Calling (DSC) capable equipment, and AIS transponders. It is clear that this equipment is becoming the norm on the market, and is expected by search and rescue interests such as AMSA's RCC and commercial vessels. Consideration was given to phase in periods and natural attrition of existing equipment.

Satellite phone technology was considered thoroughly and, whilst excellent communication devices, inappropriate for emergency dependency.

The proposed Special Regulations offers an opportunity to bring the Marine Radio equipment into line with best practices, SAR expectations, and minimise the risks presented by having out of date requirements.

Marine Radio

Review of YV submission and public comment

12 December 2011

Toll ANL Bass Strait Shipping
Toll Domestic Forwarding
120 - 150 Williamstown Road
Port Melbourne VIC 3207

Meeting chaired by Adam Manders started at 0900.

Present:

AM Adam Manders (Chair)
CDE Captain David Ellis
SD Scott Disley
AMac Amanda MacKinnell (AMSA)
NM Neal Moodie (BoM)

1.0 Working party introduction

AM and RP provided an overview of the Yachting Australia (YA) risk assessment policy, the role of the NSC, the work plan and outcomes expected of the working party.

The following milestones were noted:

23 December 2011 Public comment overview to NSC
31 January 2011 Recommendations to NSC on Marine Radio

It was decided that the working party would work through the Yachting Victoria (YV) proposal and concurrently consider the public comment.

AMac advised that GOV DEX, a government-sponsored online noticeboard facility, may be useful for communication amongst the working party.

Action

AMac Set up GOV DEX access for the working party

2.0 Review of YV submission with consideration of public comment

Working party comments and draft changes to the YV proposal attached: WP SR 3.2.pdf.

3.0 Review of public comment

YNSW – 0.1 agree, 0.2 agree, 0.3 agree, 0.4 ok, 0.5 – no comment.

YVIC response to YNSW and YWA – mistake in training noted. There appears to be a difference of interpretation because of the 'or' in the wording of the proposal. It is noted that YVs not proposing that Satphone be used instead of broadcasting capable equipment. Item 3.3 coast radio and volunteers are improving their skills all the time for HF.

A. Dally – agree with reliability issues with satphones. Agree with power issues with gyro equipment. Agree that DSC type B is not very user-friendly and training will be necessary. Agree that Satellite C is robust and easy to operate system. Comments have been taken onboard for future review of the regulations, however Satellite C is not currently in ISAF.

T. Faragan – Satphone can be carried as an additional piece of equipment as per good seamanship. The WP feels that it is necessary that broadcast technology be maintained but is not restricting OAs from specifying equipment above that stipulated in the special regulations.

D. Kellett – Agree that having a satphone is good seamanship
Agree that HF should be carried

P. Stuart – Agree that testing of equipment is necessary for Cat 1 and Cat 2.

Action

WP to draft replies to the 8 public comment submissions. Drafts to be circulated through WP Monday 19 December. Feedback to RP by Wednesday 21 December so that can reply to people on 23 December.

SD YWA
RP D.Kellett, YNSW
CDE Dally, McConville, Faragher
AM Hudson, Stuart

4.0 Look at Nav Comms on bridge of TOLL.

Looked at the different types of nav comms installations, including AIS and DSC systems, onboard TOLL vessel.

Meeting closed at 1700

3.25	**MARINE COMMUNICATION SYSTEMS** Note: these specifications do not alter the requirement for craft and operators to comply with state and federal marine and telecommunication laws, regulations and licensing.	WP Comments and actions
	BEACONS	
WP General Comments EPIRB & PLBs	**AMac -** Battery life of PLBs and EPIRBs needs to be included in the safety audit process **SD** – prefers GPS capable Beacons and testing is required because they are not used regularly. EPRIBs are not part of the equipment packed within a liferaft and are kept on the yacht – often in a grab bag. **AM** – The YV submission makes no proposals for changes to the current regulations for EPRIBs other than moving it from Section 4: Portable Equipment and Supplies to being included within the Marine Comms section of the regulations. **AMac** – Registration of EPIRBs and PLBs is messy, with user names often added in the reference fields. **SD** – Many boats supply PLBs or they are borrowed. User details are usually put in as the contact and it is not reregistered in the users name. Some boats provide crew list details to rescue authorities. **CDE** – MSLS is an alternative to PLBs. Pros and Cons include – MSLS warns when a person is separated from a vessel (used by pilots) but is not useful if the boat is lost. PLBs have a rather long loop time of approximately 25 minutes but will still operate when the vessel is lost. **CDE -** Stowage of EPIRBs? – near raft, in companionway? **SD** – PLBs need to be tested when doing a safety audit. RP – will bring this to the attention of the working party looking at the national safety equipment auditor scheme.	
WP General Comments AIS	**AM** – AIS was mandatory for the Fastnet race. **(YWA Public comment)** – YWA against introduction of AIS because of cost and believe that there is not the density of shipping. Result will reduce participation. **SD** – recently installed AIS Class B and it cost approximately $750 + $100 installation. Class B (bit clunky – text system, gives heading, speed, c ollision course warning but not range). AIS is useful especially as new yachts are sailing faster. Application of AIS – Cat 1 – yes, Cat 2 – yes and Cat 3 – no. **CDE** – AIS is useful when crossing a traffic area. There are two aspects of AIS – 1) Competitors know where you are and 2) Traffic density – is it significant? **AMac** – Radar reflectors are not very effective. Commercial shipping are not looking for yachts on their radars, and there are many alarms going off on a	

bridge. AIS may not be the best solution. Race organisers should consider track plus to give information on competitors location to SAR services.

SD – Yellow Brick is another tracking system. It is not open only to registered users. Race organisers and SAR services could be registered so that they know the location of all competitors. This information does not have to be publicly available to competitors.

CDE – Can the SAR features of AIS be achieved in other ways? Is AIS the cheapest? Is it the best way? Would it be better to mandate SART? How do trackers send their signal? (AMac – ERIDIUM – orbiting satellites).

AM – CMP 1 gives costs for AIS as $1300 per vessel for AIS for graphic system and $450 to $750 for B type (Text). If the EPIRB doesn't set off, using AIS they can find a yacht's position and broadcast to boats close by. AIS is a line-of-sight system.

AIS is like a modern version of a radar reflector.

AMac – AMSA is reviewing the commercial vessel safety management system and the Standards will be tweeked. These standards include AIS.

Response to Public comment: AIS is a proven safety system. The benefits of installing AIS far out-weight the costs as there are many systems, which now have AIS as integral with chart plotting devices and so forth. The use of trackers and improvements in technology already mean that boats can view what their competitors are doing.

	EPIRB		**Consensus: EPIRBs to be included in 3.25 Marine Communication Systems and not as part of Section 4 Portable Equipment and Supplies**
3.25.1	A 406 MHz Emergency Positioning Indicating Radio Beacon (EPIRB) registered with a National Registration Authority. Australian registered EPIRBs shall have a current registration label attached.	1 2 3	**Agreed – keep as per current regulation**
3.25.2	The number of EPIRBs carried on board shall be not less than the number of life rafts carried on the boat.	1 2	**Agreed – keep as per current regulation**
3.25.3	EPIRBS shall be:	1 2 3 4	**Agreed – keep as per current regulation**
(a)	stored in a dry, well marked location near the companionway;		

(b)	within battery life;		
(c)	regularly tested to ensure they are in working condition;		
(d)	registered in the boat's name.		
	Crew members shall be trained in the use of this equipment		
3.25.4	Additional EPIRBs required under 3.25.2 may be packed in each life raft or stored in a dry, well marked location near the companionway.	1 2	**Agreed – keep as per current regulation**
3.25.5	It is strongly recommended that non-GPS EPIRBs be replaced with GPS capable 406 MHz EPIRBs as soon as practicable.	1 2 3 4	**Agreed – keep as per current regulation**
(a)	Registered GPS capable 406 MHz beacons provide a signal that may be received within seconds by Geostationary satellites and have an accuracy locator of 120 metres. Calculating the position of non-GPS beacons will typically take 90 minutes (but could take up to 5 hours) and the position is only accurate to 5 kilometres. For further information visit the AMSA website.		
(b)	From 1 July 2015, all 406 MHz EPIRBs shall be GPS capable.	1 2 3 4	**Agreed – keep as per current regulation**
	Personal Locator Beacon (PLB)		
3.25.6	A 406 MHz Personal Locator Beacon (PLB) registered with a National Registration Authority with for Australian registered PLBs, a current registration label attached carried by or attached to each member of the crew when on deck.	1 2	**Agreed – keep as per current regulation**
3.25.7	PLB's shall be:	1 2	**Agreed – keep as per current regulation**
(a)	within battery life;		
(b)	regularly tested to ensure they are in working condition;		
(c)	registered in the user's name.		
3.25.8	Crew members shall be trained in the use of this equipment	1 2	**Agreed – keep as per current regulation**
3.25.9	It is strongly recommended that non-GPS PLBs be replaced with GPS capable 406 MHz PLBs as soon as practicable.	1 2	**Agreed – keep as per current regulation**
(a)	Registered GPS capable 406 MHz beacons provide a signal that may be		

	received within seconds by Geostationary satellites and have an accuracy locator of 120 metres. Calculating the position of non-GPS beacons will typically take 90 minutes (but could take up to 5 hours) and the position is only accurate to 5 kilometres. For further information visit the AMSA website.			
(b)	From 1 July 2015, all 406MHz PLBs shall be GPS capable.	1	2	**Agreed – keep as per current regulation**
	Automatic Identification System (AIS)			
3.25.10	From 1 July 2015, an AIS Transponder Class B shall be fitted and demonstrated to be operational at least annually.	1	2	**Consensus: Agreed for Cat 1 and Cat 2 – but bring in immediately July 2013**

TWO WAY COMMUNICATIONS EQUIPMENT

WP Comments on Two Way Comms

CMP 2 – Remove 27 MHz. WP agrees to this but bring the date forward to 2013. Race Organisers (ROs) can still use 27 MHz, but it will no longer be a requirement.

CMP 3 – Allow Sat Phone

AMac – It is not good to not having broadcast capability.

SD – There are two aspects 1) Phone broadcast and radio schedules. Sometimes it is not possible to get through on HF at Scheds and it is good to have the ability to ring directly through to RO. When had problems in the Bali race the sat phone was used to talk directly with hospitals to get an immediate response. HF was used to broadcast as well as talk with RO. Sat phone reliability is a problem. Aerials can be affected by the amount of carbon in the hull or rigging.

CDE – Can't take out broadcast capabilities. A yacht needs to have a permanently installed method of broadcast, whether this be GDMSC, uses store and forward messaging, IMARSat and so forth. There doesn't have to be continual listening with all systems.

Andrew Dally (Public Comment)

Sat phone is unreliable and IMO do not allow Sat phones as mandatory safety equipment. (WP agrees)

YNSW and AMSA

Sat phone complements HF and VHF. AMSA requirement for broadcast capability.

AM – HF is power hungry and expensive to install. The YV proposal specifies that they be fixed units that will cost $6000 to $10000.

AMac – The priority level for communications capability are:

1. Broadcast (Voice or data)
2. Point-to-point
3. EPIRBS – PLB (last resort)

	Consensus: Sat phone is not a replacement to broadcast – see revised recommendation below.		
3.25.11	The following waterproof or marine standard communication equipment which must be operating at all times while racing shall be provided:		
	Carriage of a Satphone is encouraged but does not replace broadcast capable devices.	1 2	Satphone systems are very location specific and coverage depends on where satellites are located.
(a)	Permanently installed MF/HF transceiver It is recommended that new installations be GMDSC DSC (Class E or A) capable. As mandatory carriage is under consideration.	1 2	Removed or Satphone and added to Cat 2
(b)	Permanently installed VHF transceiver It is recommended that new installations be GMDSC DSC (Class D or A) capable. As mandatory carriage is under consideration.	1 2 3 4	Agreed – extending to Cat 4 is ok as these boats are racing not just in harbours.
(c)	It is recommended that a VHF transceiver be permanently installed It is recommended that new installations be GMDSC DSC (Class D or A) capable. As mandatory carriage is under consideration.	5	Removed 27 MHz and recommendation of VHF for Cat 5. Removed (e) – Standards do not define mobile phones as a recognised transmiting device. OAs can specify the carrying of hand held or mobile in their NoRs.
3.25.12	Additional waterproof hand held VHF transceiver.	1 2 3	Agreed
			Removed 3.25.13. Race length does not justify making a battery operated receiver a mandatory requirement. An additional burden on Cat 4 and Cat 5 participants.
	Training		
3.25.13	Qualified radio operators:		Note: ACMA requires all persons operating a marine MF/HF or VHF to hold a relevant MROCP (Agreed)
(a)	at least two operators holding a Marine Radio Operators Certificate of	1	

	Proficiency (MROCP);			
(b)	At least one operator holding a Marine Radio Operators Certificate of Proficiency (MROCP);	2		
(c)	at least one operator holding a Marine Radio Operators VHF Certificate of Proficiency (MROVCP or the higher MROCP qualification).		3 4	
	Specifications and testing			
	MF/HF Transceiver			
3.25.14	Where the permanently installed transceiver is an MF/HF, it shall:	1	2	Removed - fails the practicability test. Causes downflooding issues. There are alternatives such as handheld devices which can be used in cockpit.
(a)	be able to transmit and receive on the standard distress frequencies of 4125, 6215, 8291 kHz;			Agreed (c) Removed because devices can accept these frequencies if they comply with (a). (d) Removed – keep the current regulation section on antenna. Clarification of current requirement (e) Recommendation – moved to 3.25.11 Removed (f)
				3.15.16 Removed because not mandatory.
3.25.15	MF/HF transceiver operation and installation shall be tested and logged prior to a race.	1	2	The testing regime is location dependent and better stipulated by the Organising Authority. The recommendation may require a radio to be tested more than annually depending on how many Cat 2 races are entered. If a serices of races are covered by a single NoR then the yacht need only be tested prior to starting the series.
	Satphone			Removed as Satphone is not in the regulations. There is too much variation in the Satphone market.

			Satphones are not accepted by AMSA. Comms A will be looked at in the next 5 years. Satphone may be a future consideration.
	VHF Transceiver		
3.25.16	Where the permanently installed transceiver is a VHF, it shall:		
(a)	have a minimum rated output power of 25 watts;	1 2 3 4 5	Agreed – removed cat 6 and 7 (b) removed – overly prescriptive. (c) removed – see MF/HF
(b)	on boats with a mast height above the water of 11m and above, have a masthead antenna;		Agreed (e) removed – keeping separate section for antenna (f) moved to previous section (g) removed – no set phase in date
			3.25.21 has been removed because not mandatory
3.25.17	VHF transceiver operation and installation shall be tested and logged annually.		For testing methodology – see HF.
(a)	a transmission and reception with a base station at least 8nm distant:		(b), (c), (d), (e) removed – too prescriptive
			3.25.23 and 3.25.24 Removed as 27 MHz no longer a requirement
	Hand held VHF Transceiver		
3.25.25	Any waterproof hand held VHF transceiver shall:		Specification for current requirement
(a)	have a rated transmission of at least 5 watts;	1 2 3	(b), (c), (d) Removed. Handheld VHF have long battery lives (several weeks with regular use).
3.25.26	Hand held VHF transceiver operation shall be tested annually and logged.		Testing regime up to the organising authority.
	Mobile Phone		Mobile phones removed. Not allowed under state regulatory laws.

3.25 MARINE RADIO

Satcom C equipment forms part of the Global Maritime Distress and Safety System and is carried aboard all commercial shipping as well as by shore based rescue coordination centres. This technology is well established and is an option available to yachts participating internationally under the ISAF Special Regulations. Owners and race organisers may consider phasing in this equipment as a prelude to it's potential introduction into future versions of these Special Regulations.

3.25.1	The following waterproof or marine standard communication equipment which must be operating at all times while racing shall be provided:		1 2 3 4 5 6 7
(a)	(i)	Permanently installed HF transceiver.	1 2
	(ii)	From 1 July 2013 all new HF transcievers shall be DSC capable.	
	(iii)	It is *recommended* that all HF transceivers be DSC capable.	
(b)	(i)	Permanently installed VHF transceiver	1 2 3 4
	(ii)	From 1 July 2013 all new permenantly installed VHF transcievers shall be DSC capable.	
	(iii)	It is *recommended* that all permenantly installed VHF transceivers be DSC capable.	
(c)	(i)	VHF transceiver	
	(ii)	A permenantly installed, DSC capable VHF transceivers is *recommended*.	5
(d)	A satellite phone is *recommended*.		1 2
3.25.2	A waterproof hand held VHF transceiver.		1 2 3
	Specifications and Testing		
3.25.3	Permanently installed HF transceivers shall be:		1 2
(a)	Able to transmit and receive on the standard distress frequencies of 4125, 6215, 8291 kHz		
(b)	Tested in accordance with the notice of race		
3.25.4	Permanently installed VHF transceivers shall:		1 2 3 4 5

(a)	Have a minimum rated output power of 25 watts.		
(b)	On boats with a mast height above the water of 11m and above, have a masthead antenna		
(c)	Have transmission and reception with a base station at least 8nm distant		
(d)	Be tested in accordance with the notice of race		
3.25.5	Emergency Antenna:-		
(a)	(i) An emergency antenna for each required radio.	1 2 3	
(b)	(ii) An emergency antenna where the regular antenna depends upon the mast.	4	
3.25.6	Hand held VHF transceivers shall:	1 2 3 4 5	
(a)	Have a minimum rated output power of at least 5 watts		
(b)	Be tested in accordance with the notice of race		
3.25.7	A radio receiver capable of receiving weather bulletins.	1 2 3 4 5	
3.25.8	A race committee shall arrange for constant radio monitoring of the nominated race frequency/ies while any race is in progress and for a reasonable period prior to and after the race. Details shall be provided in the sailing instructions.	1 2 3 4 5 6 7	
	Training		
3.25.9	Licensed Operators:		
(a)	At least two operators holding a Marine Radio Operators Certificate of Proficiency (MROCP)	1	
(b)	At least one operator holding a Marine Radio Operators Certificate of Proficiency (MROCP)	2	
(c)	At least one operator holding a Marine Radio Operators VHF Certificate of Proficiency (MROVCP or the higher MROCP qualification).	3 4 5	
4.09	**RADAR REFLECTOR, AIS**		
(a)	Until 1 July 2015, a radar reflector	1	
(b)	From 1 July 2015, an AIS Transponder Class B	1	
(c)	From 1 July 2015, an AIS Transponder Class B is *recommended*	2	

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2 October 2011

Mr Glen Stanaway
Sport Services Manager
Yachting Australia
Level 1, 22 Atchison St
ST LEONARDS NSW 2065

Dear Glen

Proposed amendment to Yachting Australia Special Regulation 3.25 Marine Radio

As you are aware, the Yachting Victoria Risk Management & Safety Committee has been working throughout 2011 on amendments to the marine radio special regulation. There has been no major change to communication section of the special regulations for more than 20 years whereas communications and positioning technology has advanced significantly in the same period. YV believes that a review of the marine radio special regulation is well overdue.

Technology

There is technology available today that can enhance and support safety at sea. Vessels need to be able to effectively communicate with race organising authorities, base stations, commercial shipping and marine search and rescue agencies.

Currently YA SR 3.25.2 requires various combinations of radios depending on the category of race:

Cat	Requirement
Cat 1	permanently installed HF and VHF radios
Cat 2	permanently installed HF or a VHF radio where shore based facilities exist for the entire length of a race
Cats 3, 4, 5	HF or VHF radio or 27MHz
Cat 6	A radio is only recommended

Currently SR 3.25.4 defines that a VHF radio may be a handheld for Cat 5 when permitted in the Notice of Race.

The SR's are silent on other possible methods of communication such as EPIRB's, PLB's, AIS, GMDSS DSC, mobile phones and satellite phones, etc that, in 2011, are potentially viable alternatives or could be used instead of or in conjunction with existing radio systems.

ISAF OSR 3.29.1 requires for Cats 0 – 3, a marine radio transceiver (or if stated in the Notice of Race, an installed satcom terminal) to be provided and an emergency antenna when the regular antenna depends on the mast. It further specifies the requirements for a VHF transceiver. Only for Cat 0, does ISAF require an HF radio system.

There needs to be a more realistic approach to the YA SR's for marine radio given the range of communications technologies that are now available. Yachts require a comprehensive communication package and this should include EPIRBs and PLBs as well as two way communication equipment. There is now significant in-shore mobile phone coverage and satphones are now a cost effective solution.

In order to provide additional safety, the number and variety of communications technologies available on a boat should increase according to the race category, and where appropriate, specific communication requirements to be stated in the Notice of Race.

The requirement to carry a separate transceiver for SAR communication has been removed as Australian SAR aircraft use marine VHF.

The recommended changes generally align with the ISAF OSRs but also includes the use of mobile phones.

Equipment performance

Skippers need to be confident that communication equipment is operating effectively. The proposed changes recommend a practical testing regime to demonstrate performance of communications equipment that a skipper can perform.

Currently the YA SR's require boats in Cats 1 – 3 with a mast height above the water of 11m and above have a masthead antenna with an effective radiated power ("ERP") of at least 15 watts.

It is not practical to expect a skipper to physically measure ERP directly. ERP can only be measured with specialised skills and equipment. It can also be calculated from known parameters such as output power, cable attenuation, antenna gain and transmission efficiency (SWR) but the mathematics is complex and without a method to physically validate the calculations it is impractical to assess. Because of these difficulties, many vessels will have made no assessment of radio performance.

ISAF OSR 3.29.1(b) requires a VHF transceiver to have a masthead antenna and co-axial feeder cable with not more than 40% power loss. The OSR's specify certain co-axial cable and their losses which is similar to the approach used in previous YA SR's (e.g. 2005 – 2008).

Both methods of defining VHF radio performance are unsatisfactory because neither demonstrates the strength and clarity of transmission.

Radio performance should be determined by a simple transmission test with a base station such as the Coastguard (or an authorised Yacht Club where a Coastguard base station is not available at the required test transmission distance) that demonstrates both strength and clarity of transmission of at least 4 by 4, based on the widely accepted terminology as follows:

Readability

1. Unreadable
2. Barely readable, occasional words distinguishable
3. Readable with considerable difficulty
4. Readable with practically no difficulty
5. Perfectly readable

Strength

1. Faint signal, barely perceptible
2. Weak
3. Fair
4. Good
5. Strong

While a suitably qualified radio technician should routinely check the installation of a radio the advantage of a transmission test is that it can be completed quickly and easily at any time. This translates to safer radio operation plus a higher level of confidence on the part of the owner as any deterioration of the system can be identified without requiring the services of a radio technician.

The recommended changes specify a level of transmission capability commensurate with the category of race and also require the tests to be performed through a VHF repeater (to demonstrate the correct channel set is installed) and with the emergency antenna.

A further safety improvement is the requirement that all communication equipment be switched on while racing to facilitate communication with all vessels in the event of an emergency.

Despite the thrust of the proposed approach being to move from an instrument based test to a simple transmission test that can be done by the owner, VHF instrumented test has been prepared and is included with CMP 7 (attached). This could be provided as an advisory document by YA or MYAs or as an appendix to the SRs. If this is included then similar procedures for HF and other equipment should be added. However, a competent radio technician should possess a battery of tests based on the test equipment at his disposal, the vessel under test and its location.

We recognise some limitations with specifying a mobile phone. If a mobile phone is the selected equipment, the onus should be on the owner to demonstrate to the race organising authority that the chosen equipment and network is adequate to ensure communication at all locations on the race course.

Review

In light of the above, YV conducted a review of the marine radio special regulation and developed the proposed marine communications system special regulation supported by risk analyses. At times this has involved vigorous debate with ORCV throughout a process of meetings and consultation and YV and ORCV are not in agreement on matters concerning the requirement to have equipment switched on at all times or the option to use satphones. Nevertheless, in anticipation of provoking discussion and debate, these requirements are included in the proposed amendments.

We present the proposed amendments and for the consideration of the YA National Safety Committee.

Yours sincerely

Jenni Maclean
Chair YV Risk Management & Safety Committee

3.25	**MARINE COMMUNICATION SYSTEMS** Note: these specifications do not alter the requirement for craft and operators to comply with state and federal marine and telecommunication laws, regulations and licensing.		Comments – as compared to current SR's **CMP**
	BEACONS		
	EPIRB		
3.25.1	A 406 MHz Emergency Positioning Indicating Radio Beacon (EPIRB) registered with a National Registration Authority. Australian registered EPIRBs shall have a current registration label attached.	1 2 3	No change– replicates current SR 4.18.1
3.25.2	The number of EPIRBs carried on board shall be not less than the number of life rafts carried on the boat.	1 2	No change– replicates current SR 4.18.2
3.25.3 (a) (b) (c) (d)	EPIRBS shall be: stored in a dry, well marked location near the companionway; within battery life; regularly tested to ensure they are in working condition; registered in the boat's name. Crew members shall be trained in the use of this equipment	1 2 3 4	No change– replicates current SR 4.18.3
3.25.4	Additional EPIRBs required under 3.25.2 may be packed in each life raft or stored in a dry, well marked location near the companionway.	1 2	No change– replicates current SR 4.18.4
3.25.5 (a)	It is strongly recommended that non-GPS EPIRBs be replaced with GPS capable 406 MHz EPIRBs as soon as practicable. Registered GPS capable 406 MHz beacons provide a signal that may be received within seconds by Geostationary satellites and have an accuracy locator of 120 metres. Calculating the position of non-GPS beacons will typically take 90 minutes (but could take up to 5 hours) and the position is only	1 2 3 4	No change– replicates current SR 4.18.5

	accurate to 5 kilometres. For further information visit the AMSA website.			
(b)	From 1 July 2015, all 406 MHz EPIRBs shall be GPS capable.	1 2 3 4		
	Personal Locator Beacon (PLB)			
3.25.6	A 406 MHz Personal Locator Beacon (PLB) registered with a National Registration Authority with for Australian registered PLBs, a current registration label attached carried by or attached to each member of the crew when on deck.	1 2	No change– replicates current SR 5.05.1	
3.25.7	PLB's shall be:	1 2	No change– replicates current SR 5.05.2	
(a)	within battery life;			
(b)	regularly tested to ensure they are in working condition;			
(c)	registered in the user's name.			
3.25.8	Crew members shall be trained in the use of this equipment	1 2	No change– replicates current SR 5.05.3	
3.25.9 (a)	It is strongly recommended that non-GPS PLBs be replaced with GPS capable 406 MHz PLBs as soon as practicable. Registered GPS capable 406 MHz beacons provide a signal that may be received within seconds by Geostationary satellites and have an accuracy locator of 120 metres. Calculating the position of non-GPS beacons will typically take 90 minutes (but could take up to 5 hours) and the position is only accurate to 5 kilometres. For further information visit the AMSA website.	1 2	No change– replicates current SR 5.05.4	
(b)	From 1 July 2015, all 406MHz PLBs shall be GPS capable.	1 2		
	Automatic Identification System (AIS)			
3.25.10	From 1 July 2015, an AIS Transponder Class B shall be fitted and demonstrated to be operational at least annually.	1 2	New requirement	**CMP 1**
	TWO WAY COMMUNICATIONS EQUIPMENT			
3.25.11	The following waterproof or marine standard communication equipment which must be operating at all times while racing shall be provided:		27 MHz and HF as an option for Cats 3, 4 and 5 removed	**CMP 2**

(a)	Permanently installed MF/HF transceiver or, if stated in the Notice of Race, a Satphone	1							Change to allow choice of Satphone	**CMP 3**
(b)	Permanently installed VHF transceiver where continuous shore based communication can be maintained, if not then MF/HF transceiver or, if stated in the Notice of Race, a Satphone.		2						Change to allow choice of Satphone	**CMP 3**
(c)	Permanently installed VHF transceiver	1	2	3	4				No change other than making VHF an explicit requirement for Cat 2	
(d)	Permanently installed VHF transceiver or (until 30 June 2015) permanently installed 27MHz transceiver.					5			No change other than phase out date for 27MHz	
(e)	Permanently installed VHF transceiver or (until 30 June 2015) permanently installed 27MHz transceiver or waterproof hand held VHF transceiver or mobile phone.						6	7	Change to make some form of communications equipment a requirement for Cats 6 and 7 and to allow mobile phone as an option	**CMP 10**
3.25.12	Additional waterproof hand held VHF transceiver.	1	2	3					Change to make this a requirement for Cat 3	
3.25.13	Additional battery operated receiver capable of receiving weather bulletins				4	5			Clarification of current requirement. A second receiver is already a requirement for Cats 1, 2 and 3 by SR 3.25.12	**CMP 4**
	Training									
3.25.14	Qualified radio operators:								No change other than removing recommended requirements and making distinction between HF and VHF qualifications. Note: ACMA requires all persons operating a marine MF/HF or VHF to hold a relevant MROCP	
(a)	at least one operator holding a Marine Radio Operators Certificate of Proficiency (MROCP);	1								
(b)	where an MF/HFtranceiver is required, at least one operator holding a Marine Radio Operators Certificate of Proficiency (MROCP);		2							
(c)	at least one operator holding a Marine Radio Operators VHF Certificate of Proficiency (MROVCP).	1	2	3	4	5				

	Specifications and testing			
	MF/HF Transceiver			
3.25.15	Where the permanently installed transceiver is an MF/HF, it shall:	1 2		
(a)	be connected to a cockpit speaker and have a minimum rated output power of 100 watts;		Specification for current requirement	
(b)	be able to transmit and receive on the standard distress frequencies of 4125, 6215, 8291 kHz;		No change	
(c)	be able to receive on all VMC and VMW voice weather channels: 4149, 4426, 6230, 6507, 8113, 8176, 12362, 12365, 16528 and 16546 kHz (at the time of publication);		Additional frequencies added and no distinction made between eastern and western states	**CMP 5**
(d)	have an emergency antenna where the regular antenna depends upon the mast;		Clarification of current requirement	
(e)	for all new installations from 1 July 2014, be GMDSS DSC (Class E or higher) capable;		New requirement	
(f)	from 1 July 2017, be GMDSS DSC (Class E or higher) capable.		New requirement	
3.25.16	If the MF/HF transceiver is DSC-capable it shall:	1 2 3		
(a)	be fully operational, i.e. programmed with an AMSA-assigned MMSI (unique to the vessel);		New requirement	**CMP 5**
(b)	be connected to a GPS receiver;			
(c)	be capable of making both distress alert calls and make and receive a DSC position report with another DSC-equipped station.			
3.25.17	MF/HF transceiver operation and installation shall be tested annually. The annual test shall be:	1 2		
(a)	a transmission and reception with a base station at least 100nm distant, where the call shall be logged;		Testing regime for current requirement	**CMP 5**
(b)	of good clarity, volume and strength (at least 4 by 4) for send and receive;			
(c)	be repeated using the emergency antenna to a base station at least 40nm distance;			

(d)	where DSC-capable, a test call made to and automatically acknowledged by AMSA			
(e)	At the time of the HF test transmission: (i) all normally used electronic equipment must be switched on; (ii) the engine must be running.			
	Satphone			
3.25.18	Where the Notice of Race requires a Satphone, it shall:	2	New requirement	**CMP 6**
(a)	be with a service providing continuous coverage for at least the race area			
(b)	be retained in a suitable permanent mounting;			
(c)	be connected to the vessel's electrical supply;			
(d)	have a permanently located external aerial;			
(e)	be able to be recharged while at sea or spare batteries shall be carried to enable the Satphone to be operated if the vessel's 12 volt supply fails.			
3.25.19	A test call of a Satphone where installed, shall be made annually and logged with the race committee.	2	New requirement	**CMP 6**
	VHF Transceiver			
3.25.20	Where the permanently installed transceiver is a VHF, it shall:			
(a)	have a minimum rated output power of 25 watts;	1 2 3 4 5 6 7	No change	
(b)	be able to transmit and receive on the standard VHF voice channels and be set to international mode;	1 2 3 4 5 6 7	Clarification of current requirement	
(c)	be connected to a cockpit speaker	1 2 3 4 5	New requirement	**CMP 7**
(d)	on boats with a mast height above the water of 11m and above, have a masthead antenna;	1 2 3 4	New requirement for Cat 4. This was previously a recommendation	
(e)	have an emergency antenna where the regular antenna depends upon the mast;	1 2 3 4	Clarification of current requirement	
(f)	for all new installations from 1 July 2013, be GMDSS DSC (Class D or higher) capable;	1 2 3	New requirement	

(g)	from 1 July 2015, be GMDSS DSC (Class D or higher) capable.	1 2 3	New requirement	
3.25.21	If the VHF transceiver is DSC-capable it shall:	1 2 3	New requirement	**CMP 7**
(a)	be fully operational, i.e. programmed with an AMSA-assigned MMSI (unique to the vessel)			
(b)	be connected to a GPS receiver			
(c)	be capable of making both distress alert calls and make and receive a DSC position report with another DSC-equipped station.			
3.25.22	VHF transceiver operation and installation shall be tested annually. The annual test shall be:		Revised testing regime	**CMP 7**
(a)	a transmission and reception with a base station:			
	(i) at least 20nm distant;	1 2 3		
	(ii) at least 8nm distant;	4 5		
	(iii) at least 4nm distant;	6 7		
(b)	of good clarity, volume and strength (at least 4 by 4) for send and receive;	1 2 3 4 5 6 7		
(c)	repeated using the emergency antenna to a base station at least 8nm distance;	1 2 3 4		
(d)	repeated through a VHF repeater over any distance.	1 2 3		
(e)	At the time of the VHF test transmission:			
	(i) all normally used electronic equipment must be switched on;	1 2 3 4 5 6 7		
	(ii) the engine must be running.	1 2 3 4 5		
	27MHz Transceiver			
3.25.23	Where the permanently installed transceiver is a 27MHz, it shall have a minimum rated output power of 4 watts.	5 6 7	Specification for current requirement	**CMP 8**
3.25.24	27MHz transceiver operation and installation shall be tested annually. The annual test shall be:		Testing regime for current requirement	**CMP 8**
(a)	a transmission and reception with a base station at least 6nm distant:	5 6 7		

(b)	of good clarity, volume and strength (at least 4 by 4) for send and receive;	5 6 7		
(e)	At the time of the 27MHz test transmission all normally used electronic equipment must be switched on.	5 6 7		
	Hand held VHF Transceiver			
3.25.25	Any waterproof hand held VHF transceiver shall:			
(a)	have a rated transmission of at least 5 watts;	1 2 3 6 7		
(b)	be able to transmit and receive on the standard VHF voice channels and be set to international mode;	1 2 3 6 7	Specification for current requirement	**CMP 9**
(c)	be stowed in grab bag or emergency container when not in use.	1 2 3		
(d)	be able to be recharged while at sea or spare batteries shall be carried;	1 2		
3.25.26	Hand held VHF transceiver operation shall be tested annually. The annual test shall be:			
(a)	a transmission and reception with a base station at least 4nm distant;	1 2 3 6 7		
(b)	of good clarity, volume and strength (at least 4 by 4) for send and receive;	1 2 3 6 7	Testing regime for current requirement	**CMP 9**
(c)	repeated through a VHF repeater over any distance.	1 2 3		
(d)	At the time of the VHF test transmission:			
	(i) all normally used electronic equipment must be switched on;	1 2 3 4 5 6 7		
	(ii) the engine must be running.	1 2 3 4 5		
	Mobile Phone			
3.25.27	Where the communication equipment is a mobile phone, it shall be waterproof or kept in a waterproof container securely attached to the vessel.	6 7	New requirement	**CMP 10**

CMP 1

Title: Introduction of requirement for AIS	**Initiator YV**	**Date August 2011**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

YV is recommending a new requirement for Cats 1 & 2 (our reference 3.25.10) to replace the old radar reflector requirement for Cat 1

The radar reflector currently required by the SRs has been proved to be inadequate in marking the position of a vessel in order to avoid collisions with other shipping and in meeting the requirements of ISO 8729 (Ref 1)

The safety risk under the current rules is that it is extremely unlikely that other vessels would see a vessel on radar, particularly in limited visibility or bad weather, with the attendant risk of a catastrophic collision and potential loss of life.

In addition, the hoisting of an inadequate radar reflector is likely to engender a quite unjustified sense of security.

This risk is an Australia wide issue.

The introduction of a requirement for AIS Class B transponders will mean that not only will other shipping be able to see the vessel, but all shipping will have details of the vessel's size, position course and speed. In addition, the readout will give the vessel the same information on all other vessel movements.

Ref 1: "Radar Reflectors Report (MAIB)" from the UK

Step 2. Identify the risks if we do nothing.

Risk 1. Collision with possible sinking and potential loss of life or major injury

Risk 2.

Risk 3.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest)*	*Assessed Risk*
1. Collision with possible sinking and potential loss of life or major injury	A		
2.			
3.			

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	*Risk 3*
1. Active radar reflector		
2. AIS Receiver		
3. AIS Transponder		
4. Radar		

Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.

Risk 1 Alternative 1	*Current Situation*	***New – Active radar reflector***
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	A
Does the proposed change impact a Fleet, Class, Region or all yachts?	All in shipping lanes	All in shipping lanes
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Sinking, Loss of life, major injury None	Slightly reduced likelihood as yachts get some information Approx $1300 / vessel
Are any other Special Regulations impacted?	No	No
What is the impact of the change on yachting performance?	None	Increased battery drain
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*		 Equipment is available Yes Yes
Is this solution enforceable?		Yes
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	Additional cost of around $1300 for one way position advice which establishes your position for shipping, but not COG, SOG, or MMSI.	
Review/Interpretation of some Rules and Regulations	N/a	
Legal advice	N/a	
Engineering/Technical advice	See attached MAIB report on Sea-Me active RTE	
Safety Practitioners opinion	N/a	
Occupational Hygienists opinion	N/a	
Other (Please specify)	N/a	

Risk 1 Alternative 2	*Current Situation*	***New – AIS receiver***
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B -
Does the proposed change impact a Fleet, Class, Region or all yachts?	All in shipping lanes	All in shipping lanes
What is the cost of not implementing (loss of property, lives etc.?	Sinking, Loss of life, major injury	Reduced likelihood as yachts get some information but other shipping is not notified.
What is the estimated cost of implementation?	None	$450 - $700 / vessel
Are any other Special Regulations impacted?	No	No
What is the impact of the change on yachting performance?	None	Increased battery drain
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*		 Equipment is available Yes Yes
Is this solution enforceable?		Yes
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	Additional cost of around $450 - $700 for one way position advice. Limited benefit as other shipping is not notified	
Review/Interpretation of some Rules and Regulations		
Legal advice	N/a	
Engineering/Technical advice	AIS receivers are designed for monitoring AIS traffic. These may have two receivers, for monitoring both frequencies simultaneously, or they may switch between frequencies (thereby missing messages on the other channel, but at reduced price). In general they will output data for display on electronic chart plotters or computers.	
Safety Practitioners opinion	N/a	
Occupational Hygienists opinion	N/a	
Other (Please specify)	N/a	

Risk 1 Alternative 3	*Current Situation*	***New - AIS Transponder***
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	C -
Does the proposed change impact a Fleet, Class, Region or all yachts?	All in shipping lanes	All in shipping lanes
What is the cost of not implementing (loss of property, lives etc.?	Sinking, Loss of life, major injury	AIS transponders transmit and receive position and speed minimising possibilities of collision
What is the estimated cost of implementation?	None	$950 - $1500
Are any other Special Regulations impacted?	No	No
What is the impact of the change on yachting performance?	None	Increased battery drain
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*		 Equipment is available Yes Yes
Is this solution enforceable?		Yes
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	Additional cost of around $950 - $1500 for two way position advice. Considerable benefit as all surrounding shipping is displayed on your vessel showing MMSI, time, position, COG, SOG, and true heading, and in addition all vessels are notified of your MMSI, time, position, COG, SOG, and true heading	
Review/Interpretation of some Rules and Regulations	N/a	
Legal advice	N/a	
Engineering/Technical advice	See attached document “AIS Description”	
Safety Practitioners opinion	N/a	
Occupational Hygienists opinion	N/a	
Other (Please specify)	N/a	

Risk 1 Alternative 4	*Current Situation*	***New - Radar***
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	*A*	*B +*
Does the proposed change impact a Fleet, Class, Region or all yachts?	*All in shipping lanes*	*All in shipping lanes*
What is the cost of not implementing (loss of property, lives etc.?	*Sinking, Loss of life, major injury*	*Radar will show position of surrounding vessels but not MMSI, COG, or SOG*
What is the estimated cost of implementation?	*None*	*$1500 - $2500*
Are any other Special Regulations impacted?	*No*	*No*
What is the impact of the change on yachting performance?	*None*	*Additional windage and weight of radar antenna may affect stability.* *Significantly increased battery drain*
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*		*Equipment is available* *Yes* *Yes*
Part B. Detailed Impact Statements		
Detailed Cost/Benefit analysis	*Additional cost of around $1500 - $2000 for display of position of surrounding shipping – requires monitoring to establish approximate course and speed.* *Limited benefit as other shipping is not notified of your MMSI, COG or SOG*	
Review/Interpretation of some Rules and Regulations	*N/a*	
Legal advice	*N/a*	
Engineering/Technical advice	*Small radar units require monitoring to establish direction of surrounding vessels movements – may require a larger and more expensive 4kW unit for offshore range, although all send out a strong radar target signal*	
Safety Practitioners opinion	*N/a*	
Occupational Hygienists opinion	*N/a*	
Other (Please specify)	*N/a*	

Operational description of AIS Transponder systems Class B

The International Maritime Organization's (IMO) International Convention for the Safety of Life at Sea (SOLAS) requires AIS to be fitted aboard international voyaging ships with gross tonnage of 300 or more tons, and all passenger ships regardless of size. It is estimated that more than 40,000 ships currently carry AIS class A equipment. In 2007, the new Class B AIS standard was introduced which enabled a new generation of low cost AIS transceivers. This has triggered multiple additional national mandates from Singapore, China, Turkey and North America affecting hundreds of thousands of vessels.

Detailed description: Class B units

Class B transponders are designed for carriage by sub-SOLAS vessels. Each consists of one VHF transmitter, two VHF Carrier Sense Time Division Multiple Access (CSTDMA) receivers, one of which is multiplexed with the VHF Digital Selective Calling (DSC) receiver, and a GPS active antenna. Although the data output format supports heading information, in general units are not interfaced to a compass, so this data is seldom transmitted. Output is the standard AIS data stream at 38.400 kbit/s, as RS232 and/or NMEA formats. To prevent overloading of the available bandwidth, transmission power is restricted to 2 W, giving a range of about 5–10 mi.

Four messages are defined for class B units:

Message 14: Safety Related Message

This message is transmitted on request for the user – some transponders have a button that enables it to be sent, or it can be sent through the software interface. It sends a pre-defined safety message.

Message 18: Standard Class B CS Position Report

This message is sent every 3 minutes where *speed over ground* (SOG) is less than 2 knots, or every 30 seconds for greater speeds.
MMSI, time, SOG, COG, longitude, latitude, true heading

Message 19: Extended Class B Equipment Position Report

This message was designed for the SOTDMA protocol, and is too long to be transmitted as CSTDMA. However a coast station can poll the transponder for this message to be sent.
MMSI, time, SOG, COG, longitude, latitude, true heading, ship type, dimensions.

Message 24: Class B CS Static Data Report

This message is sent every 6 minutes, the same time interval as for Class A transponders. Because of its length, this message is divided into two parts, sent within one minute of each other.
MMSI, boat name, ship type, call sign, dimensions, and equipment vendor id.

Typically AIS Class B Transponders range from $950 to $1500 – the cheaper versions needing an external plotting display.

Receivers only are typically in the range $450 - $700 – the cheaper versions needing an external plotting display

CMP 2

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	**Initiator**	**Date**

Step 1. Establish the context

(*What is the hazard/issue/problem/incident)*

There is a need to change the Special Regulations for Marine Radio (SR 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations.

This CMP deals specifically with the requirement for a yacht to continuously monitor HF and VHF transmission in case of emergency (mayday, pan etc) transmission, and to be contactable at any time in case of an emergency.

Proposed new SR 3.25.11 provides:

> The following waterproof or marine standard communication equipment which must be operating at all times while racing shall be provided:

The aim of this change is to ensure more reliable communication at all times in order to reduce the risk of injury or loss of life.

Currently the SR's do not explicitly require radios to be switched on.

Most offshore races require VHF to be switched on for the duration of the race.

YWA requires HF to remain switched on for the duration of any race.

Seamanlike watch keeping practice requires a skipper to maintain a proper watch.

Such a responsibility includes monitoring race and distress frequencies.

VHF is range limited thus for offshore races, where HF is the primary means of race communication the HF radio should remain on for the duration of the race.

YWA has this requirement.

With the introduction of cockpit speakers for both HF and VHF, this is a practical solution for monitoring radio traffic and reducing unwanted noise within the boat as the radio speakers can be turned off.

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest)*	*Assessed Risk*
1. Injury or loss of life due to radio transceivers switched off.	*A (F5, C5)*		
2.			

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	*Risk 3*
1. Injury or loss of life due to distress calls not being received because radio transceivers switched off.	*1.*	*1.*
2.	*2.*	*2.*

Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.

Risk 1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	*A*	*B-*
Does the proposed change impact a Fleet, Class, Region or all yachts?	*30% of yachts*	*30% of yachts*
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	*Potential injury or loss of life*	*Injury or loss of life remains though potentially reduced*
Are any other Special Regulations impacted?	*No*	*(Part) replaces 3.25 Marine Radio*
What is the impact of the change on yachting performance?	*Nil*	*Nil*
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	*Yes* *Yes* *Yes* *Yes (mandated by YWA)*	*Yes* *Yes* *Yes* *Yes*
Is this solution enforceable?	*No requirement*	*Yes – by calling*
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	*N/R*	
Review/Interpretation of some Rules and Regulations	*N/R*	
Legal advice	*N/R*	
Engineering/Technical advice	*N/R*	
Safety Practitioners opinion	*N/R*	
Occupational Hygienists opinion	*N/R*	
Other (Please specify)		

CMP 3

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	**Initiator**	**Date**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations.

This CMP deals specifically with Satphones SR 3.25.11(a) and (b)

The aim of these changes is to ensure more reliable and efficient forms of communication in order to reduce the risk of injury or loss of life, or the risk of communications not being heard or understood.

The use of marine MF/HF communications has declined both in volume and service availability in recent years.

There are far less land and sea based stations monitoring MF/HF since the YA special regulations were first written.

For Cat 1:

3.25.11(a) A permanently installed MF/HF transceiver or, if stated in the Notice of Race, a Satphone.

The MF/HF transceiver clause continues from the prior special regulations with the new inclusion of the satphone. The requirement for VHF radio is specified via a separate SR.

For Cat 2:

3.25.11(b) Permanently installed VHF transceiver where continuous shore based communication can be maintained, if not then HF transceiver or, if stated in the Notice of Race, a Satphone.

The MF/HF transceiver clause continues from the prior special regulations with the new inclusion of the satphone. The requirement for VHF radio is specified via a separate SR.

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2. Injury or loss of life

Risk 3. Injury or loss of life

Risk 4. Avoidable misunderstanding, anxiety or panic amongst relatives and others

Risk 5. Breach of legal/community requirements in regard to medical information privacy

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood	A(F5 C4)		
2. Injury or loss of life due to atmospheric conditions or other interference inhibiting communications via MF/HF.	A(F5 C4)		
3. Injury or loss of life due to being unable to raise any shore or afloat station within radio range.	A(F5 C4)		
4. Inability to control misunderstanding and anxiety from friends and relatives overhearing broadcast communications	F5	No major consequence to those afloat but does impact orderly operations ashore and create additional load on incident management staff.	

5. Breach of privacy by having no alternative to radio broadcast forcing boats to describe personal medical conditions if gaining medical assistance to vessels.	F5	Fails to meet legal and community expectations on privacy for health related matters. Lack of privacy may inhibit crew revealing relevant health information	

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	*Risk 3*
1. Use modern, easier to operate satellite phones (sat phones)– aligns with ISAF	1. Satellite communications are not impacted by ionospheric (sunspot) propagation factors crucial to MF/HF. Local thunderstorms are less of an issue than with MF/HF	1. Satphones have an unlimited range Sailing instructions should nominate the services with coverage appropriate to the are being sailed – refer to 3.25.17 (a)
2. Use GMDSS DSC enabled MF/HF	2. Use GMDSS DSC enabled MF/HF	2. no alternative
Risk4	*Risk 5*	*Risk 6*
1. There is no intention of prohibiting or discouraging distress or urgency calls via the traditional MF/HF and VHF channels even though these can be widely overheard. However, any related communications which are carried out via satellite phone can be in private and only shared with media or related persons in suitable context.	1. Ships are obliged to seek medical advice in certain circumstances including the dispensing/administering of certain drugs in their first aid kits. The current approach of using MF/HF or VHF broadcast communications involves a clear breach of normal privacy provisions. Use of satellite phones enables such communications to remain private. Coastal radio stations no longer provide the same efficient linkage to medical support.	
2. Use cell phone if in range of land services	2. Use cell phone if in range of land services	

Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.

Risk1 Alternative 1	*Current Situation*	*New Situation*
Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.?	Potential injury or loss of life .	Injury or loss of life remains though potentially reduced
What is the estimated cost of implementation?	HF configurations cost $3000 t o $8000 with installation	Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with satellite phones ISAF regulations already specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	Note that some operational procedures for events would need t o be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast.	
Legal advice	N/R	
Engineering/Technical advice	Note that MF/HF use is reducing throughout the world. T here is substantially reduced service from government and private land stations – especially for the voice services specified in the special regulations. The practice and r equirement for commercial (SOLAS/ocean going) vessels to monitor MF/HF ceased in recent years.	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	Note that some operational procedures for events would need t o be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast. T his is already an established procedure with some events overseas	

Risk1 Alternative 2	*Current Situation*	*New Situation*
Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.?	Potential injury or loss of life Voice only MF/HF.	Injury or loss of life remains though potentially reduced GMDSS DSC enabled equipment is easier to use for distress call
What is the estimated cost of implementation?	Some installed radios are already suitable	Some suppliers no longer offer non-DSC MF/HF equipment. It would appear that DSC has a premium of about $1000 over no DSC and a new replacement cost of about $3000.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with GMDSS versions of MF/HF radios. ISAF already recommend GMDSS DSC radios. AMSA's only distress service. Commercial vessels no l onger monitor MF/HF voice. State and local groups offer limited voice service.	Solution fully relevant to Australian conditions. Better alignment with AMSA distress service DSC is useful for inbound calls too.
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	.	
Legal advice	N/R	
Engineering/Technical advice	AMSA monitor MF/HF DSC 24hours per day – for all Australian waters	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	Consider phase in period: • all new installations from 1 July 2013, be GMDSS DSC (Class E or higher) capable; • all installations from 1 J uly 2015, be GMDSS DSC (Class E or higher) capable.	

Risk 2 Alternative 1	*Current Situation*	*New Situation*
Injury or loss of life due to atmospheric conditions or other interference inhibiting communications via MF/HF.		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life HF configurations cost $3000 to $8000 with installation.	Injury or loss of life remains though potentially reduced Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with satellite phones ISAF regulations already specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	Note that some operational procedures for events would need to be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast.	
Legal advice	N/R	
Engineering/Technical advice	Note that MF/HF use is reducing throughout the world. There is substantially reduced service from government and private land stations – especially for the voice services specified in the special regulations. The practice and requirement for commercial (SOLAS/ocean going) vessels to monitor MF/HF ceased in recent years.	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	Note that some operational procedures for events would need to be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast. This is already an established procedure with some events overseas	

Risk 2 Alternative 2	*Current Situation*	*New Situation*
Injury or loss of life due to atmospheric conditions or other interference inhibiting communications via MF/HF.		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life Voice only MF/HF. Some installed radios are already suitable	Injury or loss of life remains though potentially reduced GMDSS/DSC enabled equipment is easier to use for Distress call and is less susceptible to interference. Some suppliers no longer offer non-DSC MF/HF equipment. It would appear that DSC has a premium of about $1000 over no DSC and a new replacement cost of about $3000.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with GMDSS versions of MF/HF radios. ISAF already recommend GMDSS DSC radios. AMSA's only distress service. Commercial vessels no l onger monitor MF/HF voice. State and local groups offer limited voice service.	Solution fully relevant to Australian conditions. Better alignment with AMSA distress service DSC is useful for inbound calls too.
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	.	
Legal advice	N/R	
Engineering/Technical advice	The digital nature of GMDSS DSC calling enhances the ability for a distress call to get through in period of poor propagation or high interference.	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	Consider phase in period: • all new installations from 1 July 2013, be GMDSS DSC (Class E or higher) capable; • all installations from 1 J uly 2015, be GMDSS DSC (Class E or higher) capable.	

Risk 3 Alternative 1	*Current Situation*	*New Situation*
Injury or loss of life due to being unable to raise any shore or afloat station within radio range .		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life HF configurations cost $3000 t o $8000 with installation.	Injury or loss of life remains though potentially reduced Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with satellite phones ISAF regulations specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	Note that some operational procedures for events would need t o be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast.	
Legal advice	N/R	
Engineering/Technical advice	There are several satellite providers with different coverage. Organising authorities would need to nominate satellite providers that deliver adequate coverage over the area in which the event is located.	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	Note that some operational procedures for events would need t o be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast. T his is already an es tablished procedure with some events overseas	

Risk 4 Alternative 1	*Current Situation*	*New Situation*
Inability to control misunderstanding and anxiety from friends and relatives overhearing broadcast communications		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	F5	Reduced or even eliminated entirely.
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Concern amongst family and friends who overhear distress / urgency calls. Without context, this concern may generate inappropriate anxiety or panic. Those involved people plus media may impose an additional burden on incident control staff.	Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with satellite phones ISAF regulations specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	There are several satellite providers with different coverage. Organising authorities would need to nominate satellite providers that deliver adequate coverage over the area in which the event is located.	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	Note that some operational procedures for events would need to be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast. This is already an established procedure with some events overseas	

Risk 5 Alternative 1	*Current Situation*	*New Situation*
Breach of privacy by having no alternative to radio broadcast forcing boats to describe personal medical conditions if gaining medical assistance to vessels		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	F5	eliminated
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Medical matters are regarded by law and t he community as requiring the strictest level of privacy control. Boats may need m edical advice for certain injuries and i llnesses and are obliged to seek medical authorization before dispensing/administering several of the drugs contained in the boats first aid kits. Open (broadcast) transmission of medical emergencies can generate the concerns as detailed in the prior risk. Open (broadcast) transmission of medical conditions is a br each of privacy. It is an unquantified risk that the potential disclosure of personal medical details may inhibit the awareness of such conditions and increase risk to health/life.	Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Many yachts are already equipped with satellite phones ISAF regulations already specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional subject matter experts might be required and why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	

Engineering/Technical advice	There are several satellite providers with different coverage. Organising authorities would need to nominate satellite providers that deliver adequate coverage over the area in which the event is located.
Safety Practitioners opinion	N/R
Occupational Hygienists opinion	N/R
Other (Please specify)	Note that some operational procedures for events would need to be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast. This is already an established procedure with some events overseas

CMP 4

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	**Initiator**	**Date**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations.

This CMP deals with yachts in race categories 4 and 5 being required to carry battery operated radio receiver to receive weather information.

Under the current SRs, boats carrying hand held VHF radios do not need to carry additional battery operated receiver.

Proposed SR 3.25.13 requires:

Additional battery operated receiver capable of receiving weather bulletins

The aim of this change is to ensure yachts can receive weather information if their 12 volt supply fails.

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2.

Risk 3.

Risk 4.

Risk 5.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due to not receiving weather bulletins.	*B*		

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	*Risk 3*
1. Injury or loss of life.	*1.*	*1.*
2. No alternative	*2.*	*2.*
3	*3.*	*3.*

Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.

Risk 1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	B+	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	30% of yachts	30% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Yes Yes Yes Yes (mandated in WA)	Yes Yes Yes Yes
Is this solution enforceable?	No requirement	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

CMP 5

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	Initiator	Date

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations.

This CMP deals specifically with Permanently Installed MF/HF Transceivers – SR 3.25 15, 3.25.16 and 3.25.17

The aim of these changes is to ensure more reliable and efficient forms of communication in order to reduce the risk of injury or loss of life, or the risk of communications not being heard or understood. Many of the suggested changes are 'like for like' and are listed below to enable the suite of suggested changes and improvements to be understood.

Suggested changes include like for like, alignment with ISAF, additional (stricter) requirement or new requirement.

3.25.15 Where the permanently installed transceiver is an MF/HF transceiver, it shall:

(a) be connected to a cockpit speaker and have a minimum rated output of 100watts (new requirement)

(b) be able to transmit and receive on the standard distress frequencies of 4125, 6215, 8291 kHz (existing requirement)

(c) be able to receive on all VMC and VMW voice weather channels: 4149, 4426, 6230, 6507, 8113, 8176, 12362, 12365, 16528, and 16546kHz (at the time of publication) (updating frequencies)

(d) have an emergency antenna where normal antenna depends upon the mast (existing requirement)

(e) for all new installations from 1 July 2014, be GMDSS DSC (Class E or higher) capable;

(f) from 1 July 2017, be GMDSS DSC (Class E or higher) capable

3.25.16 If the MF/HF transceiver is DSC-capable it shall:

(a) be fully operational, i.e. programmed with an AMSA-assigned MMSI (unique to the vessel);

(b) be connected to a GPS receiver;

(c) be capable of making both distress alert calls and make and receive a DSC position report with another DSC-equipped station.

3.25.17 MF/HF transceiver operation and installation shall be tested annually. The annual test shall be:

(a) a transmission and reception with a base station at least 100nm distant, where the call shall be logged (new requirement);

(b) of good clarity, volume and strength (at least 4 by 4) for send and receive (new requirement);

(c) be repeated using the emergency antenna to a base station at least 40nm distance (new requirement).

(d) where DSC-capable, a test call made to and automatically acknowledged by AMSA (see http://www.amsa.gov.au/Shipping_Safety/Marine_Notices/2007/10_07.pdf)

(e) At the time of the HF test transmission:

(i) all normally used electronic equipment must be switched on (mew requirement);

(ii) the engine must be running (new requirement).

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2.

Risk 3.

Step 3. Analyse and Evaluate the Identified Risks *Use the Guide in Appendix B.*			
Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due t o complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood Transceiver to be of adequate rated power (100 watts) and transmit on correct frequencies.	A (F5, C5)		
2. That emergency transmissions could be missed In bad weather because it is often impossible to hear HF transmissions from the radio speaker on deck. There is no current requirement for a cockpit speaker.			
3. Annual test transmission of at least 100nm and logged at a base station. Annual test transmission of at least 40nm and logged at a base station with emergency antenna. Transmission test to be completed with: (a) electronic equipment operating, (b) engine running			
Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.			
Step 4. Treat the Identified Risks *For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.*			
Risk1	*Risk 2*	*Risk 3*	
1. Use modern, easier to operate HF transceivers, which have correct rated power.	1. Fit cockpit speakers.	1. Annual logged transmission performance test	
2.	2. Use alerting system and message retention integral to DSC	2.	
3	3.	3.	
4.	4.	4.	
5.	5.	5.	
6.	6.	6.	

Risk 1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	30% of yachts	30% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Offshore yachts are already equipped with HF radios.	Yes Moves closer to ISAF OSRs Solution fully relevant to Australian conditions Yes
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

Risk 2 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	100% of yachts	100% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Estimated cost of cockpit speaker installation $200.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Not required	Yes Moves closer to ISAF OSRs Solution fully relevant to Australian conditions. Yes
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	N/R	

Risk 2 Alternative 2	*Current Situation*	*New Situation*
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	100% of yachts	100% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Many HF radios already have DSC capability although they may not be f ully enabled or utilised in this mode. ICOM, for example, no longer sell non-DSC HF radios, and have offered DSC since 1997. A replacement radio would cost approx. $3000. The National Marine Safety Committee reported in 2006 an upgrade cost of $5000 per vessel.
Are any other Special Regulations impacted?	Note the current special regulations "Provision of GMDSS and DSC is unlikely to be mandatory for small craft during the term of the present Special Regulations, however it is recommended that owners consider including these facilities when installing new equipment."	(Part) replaces 3.25 Marine Radio DSC reduce/replaces need for cockpit speakers as the alarm and retained message is superior.
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Not required	Yes Many HF radios already have DSC capability although they may not be f ully enabled or utilised in this mode. It is relevant that the Australian companies Barrett and C odan are not marketing a D SC equipped radio at this time. Moves closer to ISAF OSRs Solution fully relevant to Australian conditions. Yes
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		

Detailed Cost/Benefit analysis	N/R
Review/Interpretation of some Rules and Regulations	N/R
Legal advice	N/R
Engineering/Technical advice	Refer to DSC paper attached
Safety Practitioners opinion	N/R
Occupational Hygienists opinion	N/R
Other (Please specify)	*N/R*

Risk 3 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	100% of yachts	100% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Yes Yes Yes Yes	Yes Yes Yes Yes
Is this solution enforceable?	*No alternative*	*No alternative*
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

About Digital Selective Calling

AMSA offers HF radiotelephone service to mariners as part of the Global Maritime Distress and Safety System. This service, called digital selective calling (DSC), allows mariners to instantly send an automatically formatted distress alert to AMSA or other rescue authorities anywhere in the world. Digital selective calling also allows mariners to initiate or receive distress, urgency, safety and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. DSC acts like the dial and bell of a telephone, allowing you to "direct dial" and "ring" other radios, or allow others to "ring" you, without having to listen to a speaker. Many new VHF and HF radiotelephones have DSC capability.

DSC also significantly increases the probability that a call will be received – both by coastal rescue services and by other ships in the vicinity.

DSC improves the ability of safety or race organisers to contact ships (both routine and in an emergency). DSC facilitates contacting ships concerning a marine warning or distress in their area, or for some other urgent matter, without requiring the ship operator to actively monitor a radio channel.

DSC technology is established in treaty and is recognized internationally. While other technology could conceivably be developed to resolve many of these same problems, both the International Telecommunications Union and International Maritime Organization, United Nations organizations, selected DSC as the technology for this purpose after ten years of study. No other similar technology has this recognition.

History

On February 1, 1999, the International Safety of Life at Sea (SOLAS) Convention, a treaty document, required all passenger ships and most other ships 300 grt and larger on international voyages, including all cargo ships, to carry DSC- equipped radios. Ships were allowed to turn off their 2182 kHz radio listening watch on that date.

In August 2000, the Australian Maritime Group (AMG) commenced a project to develop a replacement safety radio system to replace the Telstra voice HF Coast Radio network due for closure in 2002. Its closure was planned to coincide with the introduction of a new HF DSC network established by the Australian Maritime Safety Authority (AMSA).

On 1 July 2002 the HF DSC network was introduced by AMSA, replacing the existing Telstra network, including the Telstra voice HF Coast Radio Stations previously subsidised by the Commonwealth Government.

An interim coastal system of nine voice HF limited coast radio stations became operational on 1 July 2002. Each State and the Northern Territory provides an element of this distributed network that provides overlapping long range coverage.

The International Maritime Organization has postponed indefinitely plans to suspend this VHF watch on ships. It had originally planned to suspend this watch on February 1, 2005.

Australia announced plans to phase out voice monitoring from 2010, but this closure has been deferred with no confirmed review date. It is, however, clear that HF voice is being dropped from international standards as a trend.

Because of the safety problems that lack of communications interoperability would cause between SOLAS-regulated vessels (mostly cargo ships) and other vessels (recreational boaters, commercial fishing vessels, etc.), the US Coast Guard petitioned the Federal Communications Commission in 1992 to require all marine radios made or sold in the U.S. have a DSC capability.

The US Coast Guard had also asked the Radio Technical Commission for Maritime Services (RTCM), a non-profit professional organization, to develop a standard which would allow incorporation of DSC in a marine radio without affecting the low-end market price of that radio. The US FCC solicited comments on that petition in 1992 and 1993, and subsequently adopted a Report and Order requiring radios type accepted on or after 17 June 1999 to include this minimum DSC capability.

This has led to wide availability of DSC equipped radios from US and international suppliers and a drop in cost. Australia has not mandated DSC for low end radios, and so supply is mixed, and the prices from domestic suppliers have not fallen as low as seen overseas.

Interconnection to a GPS Receiver

All DSC-equipped radios, and most GPS receivers, have an NMEA 0183 two-wire data protocol That NMEA protocol allows any model of GPS to be successfully interconnected to any model of radio, regardless of manufacture Although NMEA has no standard for the type of cable or connector used, many if not most DSC and GPS receiver manufactures generally use ribbon cable with no connectors. These wires are simply connected between the radio and the GPS by twisting the wires (some people solder) and tape (some people use waterproof heat shrink tubing) Note also that NMEA 0183 and IEC 61162-1 data interfaces are identical.

Class E:

Minimum DSC capability for HF marine radios carried by recreational boaters, commercial fishing vessels, and other non-SOLAS regulated vessels. Class E required capabilities include:

- Distress call
- Individual station call
- Use of distress, urgency, safety and routine priorities
- Nature of distress
- Distress coordinates
- Time for last (distress) position update
- Type of subsequent communications
- Radio channel or frequency
- Display
- Receive distress relay and distress acknowledgment calls
- Test call
- Test acknowledgement

This is the class recommended for the YA special regulations.

ISAF Class 0 offshore regulations currently require the higher “Class A” – the specification required for SOLAS commercial vessels.

Extracts from National Marine Safety Committee, Marine Safety and Distress Communication Discussion Paper 25 May 2006, US coast Guard papers, AMSA, SA.Gov.au, FCC documents plus advice from Icom, Barrett, Codan

CMP 6

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	**Initiator**	**Date**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations. This CMP deals specifically with Satphones SR 3.25.18 and 3.25.19

The aim of these changes is to ensure more reliable and efficient forms of communication in order to reduce the risk of injury or loss of life, or the risk of communications not being heard or understood.

The following SRs extend the provision in SR 3.25.11 which permit the use of satphones to include relevant specifications. Without such specifications, the SR 3.25.11 provision is incomplete.

3.25.18 Where the Notice of Race requires a Satphone, it shall:

(a) be with a service providing continuous coverage for at least the race area

(b) be retained in a suitable permanent mounting;

(c) be connected to the vessel's electrical supply;

(d) have a permanently located external aerial;

(e) be able to be recharged while at sea or spare batteries shall be carried to enable the Satphone to be operated if the vessel's 12 volt supply fails.

3.25.19 A test call of a Satphone where installed, shall be made annually and logged with the race committee.

The VHF and MF/HF transceiver clauses continue from the prior special regulations with the new inclusion of the satphone

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2. Injury or loss of life

Risk 3.

Risk 4.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood	A (F5 C5)		
2. Equipment is unsuitable, inadequate or inoperative	A (F5 C5)		

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	
1. Use modern, easier to operate satellite phones (sat phones)– aligns with ISAF	1. Define standards that apply to the installation and testing	

Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.

Risk 1 Alternative 1	*Current Situation*	*New Situation*
Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life HF configurations cost $3000 to $8000 with installation.	Injury or loss of life remains though potentially reduced Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with satellite phones ISAF regulations already specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	*N/R*	
Review/Interpretation of some Rules and Regulations	*Note that some operational procedures for events would need to be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast.*	
Legal advice	*N/R*	
Engineering/Technical advice	*Note that MF/HF use is reducing throughout the world. There is substantially reduced service from government and private land stations – especially for the voice services specified in the special regulations.* *The practice and requirement for commercial (SOLAS/ocean going) vessels to monitor MF/HF ceased in recent years.*	
Safety Practitioners opinion	*N/R*	
Occupational Hygienists opinion	*N/R*	
Other (Please specify)	Note that some operational procedures for events would need to be altered to communicate via narrowcast (one on one satellite calls) rather than by MF/HF broadcast. This is already an established procedure with some events overseas	

Risk2 Alternative 1	*Current Situation*	*New Situation*
A set of equipment specifications and testing procedures.		
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Mounted satellite phone cost from $2500
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with satellite phones ISAF regulations already specify satellite phones	Satellite phones are readily available Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations		
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

CMP 7

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	Initiator	Date

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations.

This CMP deals specifically with Permanently Installed VHF Transceivers – SR 3.25 20, 3.25.21 and 3.25.22

The aim of these changes is to ensure more reliable and efficient forms of communication in order to reduce the risk of injury or loss of life, or the risk of communications not being heard or understood.

The use of GMDSS DSC was initiated in 1999 with International Maritime Organisation (IMO) mandating its use for commercial craft and both MF/HF and VHF DSC has been increasing in use ever since.

The US FCC required from that time that approvals would no longer be issued for marine radio equipment that did not have at least basic DSC capability.

A quick survey of 6 brands of marine VHF radios sold in Australia found that all offered DSC and only one supplier still included a VHF radio that did not have DSC capability.

Many of the suggested changes are 'like for like', create alignment with ISAF or introduce additional (stricter) requirement and are listed below to enable the suite of suggested changes and improvements to be understood.

3.25.20 Where the permanently installed transceiver is VHF, it shall:

(a) have a minimum rated transmission power of at least 25 watts (no change to current SR's for Cats 1 to 6, but a new requirement for Cat 7)

(b) be able to transmit and receive on the standard VHF voice channels and be set to international mode (specification for current requirement – aligns with ISAF)

(c) be connected to a cockpit speaker (new requirement)

(d) on boats with a mast height above the water of 11 m and above, have a masthead antenna (no change for Cats 1-3, changes a recommendation to a requirement for Cat 4)

(e) have an emergency antenna where the regular antenna depends upon the mast (clarification of current SR 3.25.5 (ii))

(f) for all new installations from 1 July 2013, be GMDSS DSC (Class D or higher) capable (new requirement);

(g) from 1 July 2015, be GMDSS DSC (Class D or higher) capable (new requirement).

3.25.21 If the VHF transceiver is DSC-capable it shall:

(a) be fully operational, i.e. programmed with an AMSA-assigned MMSI (unique to the vessel) (new requirement)

(b) be connected to a GPS receiver (new requirement)

(c) be capable of making both distress alert calls and make and receive a DSC position report with another DSC-equipped station (new requirement).

3.25.22 VHF transceiver operation and installation shall be tested annually, The annual test shall be:

(a) a transmission with a base station

(i) at least 20nm distant for Cats 1, 2 and 3 (new requirement)

(ii) at least 8nm miles distant for cat 4 and 5 (new requirement)

(iii) at least 4nm distant for cats 6 and 7 (new requirement)

(provides an actual (practical) method to check equipment – new requirement)

(b) of good clarity, volume and strength (at least 4 x 4) for send and receive (provides an actual (practical) method to check equipment – new requirement)

(c) repeated using emergency antenna to a base station at least 8nm distance (new requirement)

(d) repeated through a VHF repeater over any distance (new requirement)

(e) at the time of the VHF transmission

(i) all equipment must be turned on (new requirement)

(ii) the engine must be running (new requirement)

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2. Injury or loss of life

Risk 3. Injury or loss of life

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or received or not understood Emergency transmissions could be missed because radios were set to wrong frequencies	A (F5, C5)		
2. Injury or loss of life due to emergency transmissions missed In bad weather because it is often impossible to hear VHF transmissions from the radio speaker on deck. There is no current requirement for a cockpit speaker.			
3. The current VHF performance test, requiring an "effective radiated power (ERP) of 15 watts" (clause 3.25.3 (ii)), is impossible to measure (unless the radio technician actually measures the radiated power at the top of the mast). The ERP instrumented test does not guarantee a readable signal. This test to be replaced with performance test regime to be completed with. (a) electronic equipment operating, (b) engine running			

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	*Risk 3*
1. Use modern, easier to operate VHF transceivers which have rated power and international frequencies, and set to "international" – aligns with ISAF	1. Fit cockpit speakers.	1. Replace instrumented test with annual logged performance test

2. Use modern, VHF radios with easy to operate DSC distress signalling. Pressing a s ingle button creates a distress alert identifying the craft and its location.	2. Use alerting system and message retention integral to DSC. DSC signals are more effective than voice communications at extreme ranges, with interference or with low power. DSC messages are stored in receivers and do not require full time monitoring to be captured.	2.
Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.		

Risk 1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	100% of yachts	100% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Most yachts are already equipped with required radios.	Yes Moves closer to ISAF OSRs Solution fully relevant to Australian conditions Yes
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

Risk1 Alternative 2	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	20% yachts	100% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life Most new installations would include DSC capable radios without this regulation. DSC capable radios are available from $310 with the only non DSC radio quoted at $249.	Injury or loss of life remains though potentially reduced Replacing a radio may cost from $310.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with DSC radios Commercial vessels have used DSC for many years. ISAF regulations already mandate VHF DSC for Cat 0 and recommend for other categories.	VHF DSC is readily available and may become the only option available. Moves closer to ISAF OSRs Solution is relevant to Australian conditions – but VHF DSC coastal monitoring although growing, is still limited in coverage
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations		
Legal advice	N/R	
Engineering/Technical advice	Refer to CRH newsletter	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	At the time of issuing the special regulations, YA should communicate with major distributors to ask their confirmation of radio models which comply – and then publish the list.	

Risk 2 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	100% of yachts	100% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life.	Injury or loss of life remains though potentially reduced. Estimated cost of cockpit speaker installation $200.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Not required	Yes Moves closer to ISAF OSRs Solution fully relevant to Australian conditions. Yes
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	N/R	

Risk2 Alternative 2	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B
Does the proposed change impact a Fleet, Class, Region or all yachts?	20% yachts	100% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life Messages are only received if the radio is attended and monitoring the designated channel.	Injury or loss of life remains though potentially reduced Receiving stations store the distress (or other DSC) message and display it on a screen whether monitored or not. An audible alert is generated too.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Some yachts are already equipped with DSC radios. Some coastal stations offer DSC monitoring. Commercial vessels have used DSC for many years. ISAF regulations already mandate VHF DSC for Cat 0 and recommend for other categories.	VHF DSC is readily available and may become the only option available. Moves closer to ISAF OSRs Solution is relevant to Australian conditions – VHF DSC coastal monitoring although growing, is still limited in coverage
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations		
Legal advice	N/R	
Engineering/Technical advice	Refer to CRH newsletter http://www.coastradiohobart.com.au/data/Newsletter%202010.pdf and http://www.afloat.com.au/afloat-magazine/2009/october-2009/VHF_DSC_compatibility	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	At the time of issuing the special regulations, YA should communicate with major distributors to ask their confirmation of radio models which comply – and then publish the list.	

Risk 3 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B-
Does the proposed change impact a Fleet, Class, Region or all yachts?	100% of yachts	100% of yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life.	Injury or loss of life remains though potentially reduced. Should save owner money as Radio technician will not be required to perform annual instrumented test.
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Additional equipment, specialist technician and ex pense required for annual test.	No additional equipment, specialist technician or expense required for annual test transmission to a shore station. Skippers can understand that the test has been adequa tely completed. Solution fully relevant to Australian conditions.
Is this solution enforceable?	Current test procedure is difficult to enforce.	Yes by audit of logs maintained by skipper and shore station.
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

VHF INSTRUMENTED TEST

It is not practical to physically measure VHF Effective Radiated Power (ERP) directly. It is a calculated value derived from known parameters such as output power, cable attenuation, antenna gain and t ransmission efficiency (SWR).

It should be noted that compliance with the technical requirements below does not automatically ensure good quality transmission as the measured signal is only transmitted power and does not guarantee quality of signal.

It is therefore required that a test transmission be made to another station to confirm signal clarity.

If an owner or technician wishes to demonstrate compliance of an installed VHF radio using instrumentation the following shall be achieved.

We do not recommend that this is appropriate for inclusion in the special regulations but it may be us eful for those that wish to conduct and instrumented test.

Note:
If this were included in the YA SR's, then a similar procedure should be written to cover other communication systems e.g. MF/HF**.**

XX.1 **VHF Instrumented Test** 1 2 3

Antenna/feeder VSWR:	<= 1.5:1 at Ch 16
Tx output power:	20 W minimum

This is very dependent on battery voltage, which is assumed to be healthy.

Battery voltage to be recorded during receive and transmit and must not drop below 12 volts measured at the transceiver, with the battery charging facilities (engine, auxiliary, solar panels, wind generator etc) disconnected.

Transmitter deviation observed with voice modulation (microphone only):	>+/-3 kHz on voice peaks.
Carrier frequency error:	Max 1 kHz
Rx performance:	20 dB SINAD with +/-3 kHz modulated signal: RF input level 1 uV or less.

Satisfactory two-way communications with a shore station.

A visual check to be made of the antenna, as well as the VSWR measurement.

International channel set selected by default at turn-on.

The **Global Maritime Distress and Safety System** (**GMDSS**) is an internationally agreed-upon set of safety procedures, types of equipment, and communication protocols used to increase safety and make it easier to rescue distressed ships, boats and aircraft.

GMDSS consists of several systems, some of which are new, but many of which have been in operation for many years. The system is intended to perform the following functions: alerting (including position determination of the unit in distress), search and rescue coordination, locating (homing), maritime safety information broadcasts, general communications, and bridge-to-bridge communications. Specific radio carriage requirements depend upon the ship's area of operation, rather than its tonnage. The system also provides redundant means of distress alerting, and emergency sources of power.

At present Recreational vessels in Australia do not need to comply with GMDSS radio carriage requirements, but are expected to increasingly use the Digital Selective Calling (DSC) VHF radios. Offshore vessels may elect to equip themselves further. Vessels under 300 Gross tonnage (GT) are not subject to IMO/SOLAS/state mandated GMDSS requirements.

Digital Selective Calling

The IMO also introduced Digital Selective Calling (DSC) on MF/HF and VHF maritime radios as part of the GMDSS system. DSC is primarily intended to initiate ship-to-ship, ship-to-shore and shore-to-ship radiotelephone and MF/HF radiotelex calls. DSC calls can also be made to individual stations, groups of stations, or "all stations" in one's radio range. Each DSC-equipped ship, shore station and group is assigned a unique 9-digit Maritime Mobile Service Identity.

DSC distress alerts, which consist of a preformatted distress message, are used to initiate emergency communications with ships and rescue coordination centers. DSC was intended to eliminate the need for persons on a ship's bridge or on shore to continuously guard radio receivers on voice radio channels, including VHF channel 16 (156.8 MHz) and 2182 kHz now used for distress, safety and calling. A listening watch aboard GMDSS-equipped ships on 2182 kHz ended on February 1, 1999. VHF listening watch has been listed to be discontinued - but still remains at present.

IMO and ITU both require that the DSC-equipped MF/HF and VHF radios be externally connected to a satellite navigation receiver (GPS). That connection will ensure accurate location information is sent to a rescue coordination center if a distress alert is transmitted. The United States FCC requires that all new VHF and MF/HF maritime radiotelephones type accepted after June 1999 have at least a basic DSC capability – this influences supply of marine radios throughout the world.

GMDSS telecommunications equipment should not be reserved for emergency use only. The International Maritime Organization encourages mariners to use GMDSS equipment for routine as well as safety telecommunications.

The GMDSS provides for automatic distress alerting and locating in cases where a radio operator doesn't have time to send an SOS or MAYDAY call, and, for the first time, requires ships to receive broadcasts of maritime safety information which could prevent a distress from happening in the first place.

GMDSS SERVICES PROVIDED BY AMSA

AMSA continues to provide for Australia's GMDSS requirements for DSC and follow-on communications via HF radiotelephony and Narrow Band Direct Printing (NBDP) as well as Inmarsat satellite services for GMDSS.

These services can be summarised as follows:

Distress alerting via Digital Selective Calling (DSC) (Ship to shore distress alerting and shore to ship distress relay).

A continuous automatic monitoring of the GMDSS Digital Selective Calling (DSC) distress and safety channels of 4207.5, 6312, 8414.5, 12577 and 16804.5 kHz.

A capability to transmit and receive on any frequency between 2-27 MHz using the following modes of emission:

- Radiotelephony (Single Side Band, suppressed carrier);
- GMDSS Narrow Band Direct Printing (NBDP) telegraphy; and
- GMDSS DSC, including the automatic response to DSC test calls.
- A limited capability to connect MF/HF radiotelephone services to the Public Switched Telephone Network (PSTN) for services such as medical advice to ship masters.

CMP 8

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)a	**Initiator**	**Date**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 -2017 Special Regulations.

This CMP deals specifically with 27MHz Transceivers – SR 3.25.23 and 24.

Under the current YA SR's 27MHz transceivers are an option for Category 3, 4 & 5. It is proposed that 27MHz transceivers be restricted to Category 5, 6 & 7 yachts, categories that are considered low risk as they involve short races close to the shoreline in protected waters, in daylight hours only and with effective rescue availability.

It is also noted that a small number of yacht clubs using inland lakes use 27MHz during overnight races such as the Marley Point Regatta which is a Category 5 trailable yacht race.

27MHz transceivers are not included in the ISAF OSR's.

The aim of these changes is to ensure more reliable and efficient forms of communication in order to reduce the risk of injury or loss of life, or the risk of communications not being heard or understood.

Suggested changes: new testing requirements and removal of 27MHz transceivers from higher categories to improve safety

3.25.23 Where the permanently installed transceiver is a 27MHz, it shall have a minimum rated output power of 4 watts (new requirement, output power previously not specified)

3.25.24 27MHz transceiver operation and installation shall be tested annually. The annual test shall be:

(a) a transmission with a base station at least 6nm distant (new requirement; provides an actual (practical) method to check equipment)

(b) of good clarity, volume and strength (at least 4 x 4) for send and receive (new requirement; provides an actual (practical) method to check equipment)

(c) at the time of the 27MHz test transmission all normally used equipment must be switched on (new requirement)

Step 2. Identify the risks if we do nothing.

Risk 1. Major injuries

Risk 2.

Risk 3.

Risk 4.

Risk 5.

Risk 6.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury caused by delays in obtaining assistance due to radio having either inadequate power, poor transmission quality or not working at all	A *(F5, C4)*		
2.			
3.			
4.			
5.			

Step 4. Treat the Identified Risks *For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.*		
Risk1	*Risk 2*	*Risk 3*
1. Equipment to have minimum rated output of 4 watts	1.	1.
2. Practical annual test regime which can be eas ily measured and understood by skippers and recorded by shore stations	2.	2.
3. Removal of 27MHz transceivers from Categories 3 & 4 as a per missible method of communication	3.	3.
4.	4.	4.
Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.		

Risk1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B+
Does the proposed change impact a Fleet, Class, Region or all yachts?	2% of all yachts	2% of all yachts as 27MHz transceivers no longer permitted for Categories 3 & 4
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Major injury	Severity of injury potentially reduced – especially when restricted to Category 5, 6 & 7 yachts Nil cost
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	A number of Category 3,4, 5, 6 & 7 yachts are equipped with 27MHz transceivers– any Category 3 boat would already be required to have a VHF transceiver (this is also recommended for Category 4).	27MHz radios would be restricted to Category 5, 6 & 7 yachts only Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit of equipment specification	Yes – by safety audit of equipment specification
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	*N/R*	
Review/Interpretation of some Rules and Regulations	*N/R*	
Legal advice	*N/R*	
Engineering/Technical advice	*N/R*	
Safety Practitioners opinion	*N/R*	
Occupational Hygienists opinion	*N/R*	
Other (Please specify)		

Risk1 Alternative 2	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B+
Does the proposed change impact a Fleet, Class, Region or all yachts?	2% of all yachts	2% of all yachts as 27MHz transceivers no longer permitted for Categories 3 &4
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Major injury	Severity of injury potentially reduced especially when restricted to Category 5, 6 & 7 yachts Nil
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil cost
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	No annual test specified	No equipment, specialist technician or expense required for annual test transmission to a shore station Skippers can understand that the test has been adequat ely completed Solution fully relevant to Australian conditions
Is this solution enforceable?	Current test procedure is difficult to enforce	Yes by audit of logs maintained by skipper and shore station
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

Risk1 Alternative 3	Current Situation	New Situation
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	B+
Does the proposed change impact a Fleet, Class, Region or all yachts?	2% of all yachts	2% of all yachts as 27MHz transceivers no longer permitted for Categories 3 & 4
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Major Injury	Severity of injury potentially reduced especially when restricted to Category 5, 6 & 7 yachts Nil cost
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	A number of Category 3, 4, 5, 6 & 7 yachts are equipped with 27MHz transceivers – any Category 3 boat would already be required to have a VHF transceiver (this is also recommended for Category 4).	27MHz radios would be restricted to Category 5, 6 & 7 yachts only Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

CMP 9

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	**Initiator**	**Date**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 – 2017 Special Regulations.

This CMP deals specifically with Handheld VHF Transceivers – SR 3.25.25 and 3.25.26

The aim of these changes is to ensure more reliable and efficient forms of communication in order to reduce the risk of injury or loss of life, or the risk of communications not being heard or understood. Many of the suggested changes are 'like for like' and are listed below to enable the suite of suggested changes and improvements to be understood.

Suggested changes include like for like, alignment with ISAF or additional (stricter) requirement

3.25.25 Any waterproof hand held VHF transceiver shall:

(a) have a rated transmission of at least 5 watts (specification for current requirement, this is a like for like change which aligns with ISAF. Specifications for Cats 6 & 7 have been added as a general requirement)

(b) to be able to transmit and receive standard VHF voice channels and be set to international mode (specification for current requirement - aligns with ISAF)

(c) be stowed in a grab bag or emergency container when not in use (aligns with ISAF)

(d) able to be recharged while at sea or spare batteries carried (new requirement)

3.25.26 Hand held VHF transceiver operation shall be tested annually, The annual test shall be:

(a) a transmission with a base station at least 4nm distant (new requirement for Cats 3, 6 & 7 plus provides an actual (practical) method to check equipment)

(b) of good clarity, volume and strength (at least 4 x 4) for send and receive (new requirement for Cats 3, 6 & 7 plus provides an actual (practical) method to check equipment)

(c) repeated through a VHF repeater over any distance (new requirement)

(d) At the time of the VHF transmission

(i) all equipment must be turned on (new requirement)

(ii) the engine must be running (new requirement)

Step 2. Identify the risks if we do nothing.

Risk 1. Injury or loss of life

Risk 2.

Risk 3.

Risk 4.

Risk 5.

Risk 6.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due to complex, out dated and difficult to operate equipment which is either not monitored, not heard or not understood	*A (F5, C5)*		
2.			
3.			
4.			

Step 4. Treat the Identified Risks *For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.*		
Risk1	*Risk 2*	*Risk 3*
1. Use modern, easier to operate VHF transceivers which have rated power and international frequencies – aligns with ISAF	1.	1.
2. Equipment stored correctly in a grab bag or emergency container with spare batteries	2.	2.
3. Practical annual test regime which can be easily measured and understood by skippers and recorded by shore stations	3.	3.
4.	*4.*	*4.*
Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.		

Risk1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	A
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced For those yachts not already equipped with a hand hel d VHF radio a one off implementation cost of c. $300
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Many yachts are already equipped with hand held VHF radios	Hand held VHF radios readily available and cost effective Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

Risk1 Alternative 2	*Current Situation*	*New Situation*
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	A
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Nil cost Hand held VHF radios will easily fit within existing grab bags and emergency containers
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Yachts are already required to have grab bags or emergency containers	Yachts are already required to have grab bags or emergency containers Moves closer to ISAF OSRs Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	N/R	

Risk1 Alternative 3	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	A
Does the proposed change impact a Fleet, Class, Region or all yachts?	All yachts of relevant category	All yachts of relevant category
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Nil cost
Are any other Special Regulations impacted?	No	(Part) replaces 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Additional equipment, specialist technician and e xpense required for annual test	No additional equipment, specialist technician or expense required for annual test transmission to a shore station Skippers can understand that the test has been adequ ately completed Solution fully relevant to Australian conditions
Is this solution enforceable?	Current test procedure is difficult to enforce	Yes by audit of logs maintained by skipper and shore station
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

CMP 10

Title 3.25 MARINE COMMUNICATION SYSTEMS (part)	**Initiator**	**Date**

Step 1. Establish the context

(What is the hazard/issue/problem/incident)

There is a need to change the Special Regulations for Marine Radio (Reference 3.25) in order to replace a number of complex items of equipment with more modern and reliable technology. It is proposed that Special Regulation 3.25 Marine Radio is removed and replaced in its entirety with Special Regulation 3.25 Marine Communication Systems in the 2013 – 2017 Special Regulations.

This CMP deals specifically with Mobile Phones as a permitted form of communication equipment referred to in SR 3.25.11(e) and 3.25.27

The aim of these changes is to recognise that for Cat 6 and 7 where there is less of a risk to safety, that a mobile phone may be an appropriate and cost effective method of communication. In introducing a requirement for Cat 7 to provide some form of communication equipment, it represents an option for vessels to comply without introducing barriers to do so.

The onus would remain on the vessel operator to ensure that the equipment and service provider used are sufficient to enable communication with race organisers and emergency services and that the equipment was in working order when required for use.

3.25.11 The following waterproof or marine standard communication equipment which must be operating at all times while racing shall be provided:

...

(e) Permanently installed VHF transceiver or (until 30 June 2015) permanently installed 27MHz transceiver or waterproof hand held VHF transceiver or mobile phone.

3.25.27 Where the communication equipment is a mobile phone, it shall be waterproof or kept in a waterproof container securely attached to the vessel.

***Step 2. Identify the risks if we do nothing*.**

Risk 1. Injury or loss of life

Risk 2.

Step 3. Analyse and Evaluate the Identified Risks

Use the Guide in Appendix B.

Risk	*Assessed Risk*	*>C+ Risks (Highest to lowest*	*Assessed Risk*
1. Injury or loss of life due to no communication equipment carried or communication equipment not operating.	*A (F5, C5)*		
2.			

Step 4. Treat the Identified Risks

For each of the risks in the previous section list possible treatment alternatives. Please identify the preferred treatment option based on the impact analysis below.

Risk1	*Risk 2*	*Risk 3*
1. Use mobile phones as readily available and easy to operate equipment.	1.	1.
2. Equipment stored correctly in a grab bag or emergency container with spare batteries	2.	2.
3.	3.	3.

Provide an impact analysis for each of the treatment alternative above. Also attach supporting data, reports, subject matter expert opinion etc.

Risk1 Alternative 1	*Current Situation*	*New Situation*
Part A. Initial impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	A
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Minimal cost of implementation – most people have a mobile phone. If several phones are carried then the chance of network connection is increased if different service providers are used.
Are any other Special Regulations impacted?	No	(Part) changes 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Many skippers and crews will already carry a mobile phone	Mobile phones readily available and cost effective Yes Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)		

Risk1 Alternative 2	*Current Situation*	*New Situation*
Part A. Initial Impact Analysis (compulsory)		
What are the current and proposed Safety Risk Ratings (refer workshop)?	A	A
Does the proposed change impact a Fleet, Class, Region or all yachts?	15% yachts	15% yachts
What is the cost of not implementing (loss of property, lives etc.? *What is the estimated cost of implementation?*	Potential injury or loss of life	Injury or loss of life remains though potentially reduced Nil cost Waterproof bags designed for mobile phones are readily available at minimal cost. Mobile phones will easily fit within existing grab bags and emergency containers.
Are any other Special Regulations impacted?	No	(Part) changes 3.25 Marine Radio
What is the impact of the change on yachting performance?	Nil	Nil
Is this solution feasible? *E.g. Can the equipment be sourced?* *Does it work somewhere else in the world?* *Is the solution relevant to Australian conditions?*	Yachts are already required to have grab bags or emergency containers	Yachts are already required to have grab bags or emergency containers Yes Solution fully relevant to Australian conditions
Is this solution enforceable?	Yes – by safety audit	Yes – by safety audit
Part B. Detailed Impact Statements (specify which additional Subject Matter Experts might be required and Why)		
Detailed Cost/Benefit analysis	N/R	
Review/Interpretation of some Rules and Regulations	N/R	
Legal advice	N/R	
Engineering/Technical advice	N/R	
Safety Practitioners opinion	N/R	
Occupational Hygienists opinion	N/R	
Other (Please specify)	N/R	