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RE: Updating of maritime radio regulatory instruments and comments on the VHF maritime channel plan in Australia

As an interested person in maritime radio internationally and in Australia, this serves to highlight some issues that the Australian Communications and Media Authority (ACMA) might consider in the next amendments to its various maritime radio regulatory instruments. Where the term “channel” is used hereafter, it refers to the channel number in the *Table of transmitting frequencies in the maritime mobile band*, Appendix 18 to the International Telecommunication Union (ITU) Radio Regulations (RR), and their equivalents in Australian regulatory instruments (Ref. A):

These instruments include:

- *Radiocommunications – Maritime Omnibus Variation 2019 (No.1)*
- *Radiocommunications Licence Conditions (Maritime Coast Licence) 2015*
- *Radiocommunications Licence Conditions (Maritime Ship Licence) 2015*
- *Radiocommunications (Maritime Ship Station – 27 MHz and VHF) Class Licence 2015*
- *Australian Radiofrequency Spectrum Plan (ARSP), 2021.*

I understand that the Joint Standing Committee on Treaties has completed its report on WRC-19 (part of Report No. 195) and the ARSP has recently been updated (May 2021) by the ACMA.

I am aware that certain suggestions have been made previously to the ACMA for improvements to VHF marine channel use in Australia, and many provisions which were agreed internationally at WRC-12 and WRC-15 have been reflected in the ACMA regulatory instruments. Now that WRC-19 has been completed, these suggestions should be re-visited.

I take this opportunity to make some suggestions that the ACMA might consider.

Channel 2006

The reference to this channel in the *VHF maritime mobile band – Channel allocations* on the ACMA’s web-site (Ref. B) as being for experimental use in relation to radiotelephony and digital selective calling (DSC) is I believe, misplaced – it was never intended for this, as I can find no justification of introducing radiotelephony and DSC into the table (Ref. B) on channel 2006 in Australia. This was never the intention at the last three World Radiocommunication Conferences, which I participated in (as part of Australian delegation). The reason is that there is no mention of radiotelephony or DSC in any ITU document, studies, nor deliberations leading to the creation of channel 2006, nor has it been raised at any time in the ACMA/DITRDC’s consultative processes, nor briefs for Australian delegations.

The internationally agreed use for channel 2006 is described in RR Appendix 18 (WRC-19), *Specific note r)* (Ref. D), and the wording of the *Specific note r)* was very carefully drafted, so as not to encourage a new class of unregulated devices which may be detrimental to maritime safety.

At WRC-19, it was agreed that this channel can be used also for ‘autonomous maritime radio devices’ (AMRDs) Class-B, but only for AMRD Class B devices using AIS technology (i.e. the AMRDs described in Recommendation ITU-R M.2135-0, Annex 2) (Ref. C).

WRC-19, after much discussion, could not achieve consensus on using non-AIS technology for AMRDs Class B, despite reference to such devices in Recommendation ITU-R M.2135-0, Annex 3, but this Recommendation was developed prior to WRC-19. At WRC-19 no other channel besides 2006 was provided for AMRD Class-B using AIS technology. It can be expected therefore, that the next revision of Recommendation ITU-R M.2135-0 (Ref. C) will have references to non-AIS technology AMRD removed, and ITU-R Working Party 5B has developed a working document to align with the outcome of WRC-19 (Ref. I).

VHF Data Exchange System (VDES)

Although the *Radiocommunications – Maritime Omnibus Variation 2019 (No.1)* makes provision for terrestrial use of VDES, the additional VDES satellite channels were approved in RR Appendix 18 at WRC-19 (Ref. D). Consideration can now also be given to mentioning these uses in the ACMA regulatory instruments at the next opportunity.

Public correspondence

It would be useful if this term could be defined or further explained to the general boating public. The information in the ACMA's table (Ref. B) would benefit in my opinion with such an explanation. There is flexibility for administrations via the ITU Radio Regulations to permit further use of these channels on a simplex basis, and further studies for utilising these channels would alleviate congestion in busy areas in Australia and allow perhaps innovative uses of benefit to the maritime community, whilst being consistent with the ITU Radio Regulations.

To my knowledge there have not been public correspondence stations in Australia for quite some years, so these channels remain unavailable.

It is noted that Tas Maritime Radio uses VHF channel 01 for automated weather broadcasts for South Eastern Tasmanian waters (Ref E), however, on the ACMA channel allocations web-page, this is still allocated to "Public Correspondence".

The ITU Radio Regulations definition of public correspondence is: "**1.116** any *telecommunication* which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission (CS)" (Ref. D).

Mention of 'Distress, urgency, safety' for repeater channels 21, 80, 81, 82

The use of these repeater channels effectively for distress and safety purposes is well understood Australia. However, the ACMA web-site is available internationally via the internet, and people could be forgiven for asking: "why does the Australian government make these repeater channels available as Distress, Urgency and Safety channels?". This terminology has specific meaning in the Radio Regulations and in the Global Maritime Distress and Safety System (GMDSS).

Inspection of the *Radiocommunications – Maritime Omnibus Variation 2019 (No.1)* shows no change to this, and the 2015 document remains the same for these channels.

A note could be placed on the web-page version of the channel plan so that it is more consistent with the existing legislation, i.e. "*The licensee must use this carrier frequency only if direct ship-to-ship or ship-to-shore communications on other carrier frequency are not practicable.*" This is important for safety reasons, since these channels are not normally monitored by SOLAS ships, and the primary GMDSS Distress, Urgency and Safety and Calling frequency of Channel 16 (156.800 MHz) for radiotelephony (voice), and channel 70 (156.525 MHz) for DSC are monitored by SOLAS ships in Australian waters. (Note: In Victoria, channel 70 DSC is also monitored by Marine Radio Victoria along the Victorian coast).

Channels 75 and 76 clarifications

Channels 75 (156.775 MHz) and 76 (156.825 MHz) are shown in the ACMA web-page solely as 'Automatic Identification System Satellite'. Whilst this is true internationally, as permitted since WRC-12 under RR Appendix 18, *Specific note s*), it also is used for 'navigation-related communications only and all precautions should be taken to avoid harmful interference to channel 16, by limiting the output power to 1 W, *Specific note n*), which remains in RR Appendix 18 (Rev. WRC-19). The web-page should reflect this additional usage (which pre-dated its use for AIS reception via satellite for ships with AIS Class-A).

Channel 69 (156.475 MHz)

This single-frequency (simplex) channel appears not to be included in the current ACMA legislation, although this is fitted to all modern VHF marine transceivers and used in Australian waters (see below).

The use of channel 69 in Appendix 18 to the ITU Radio Regulations (Rev.WRC-19) (Ref. D) is "Inter-ship" and "Port Operations and Ship Movement". There has been no change to the permitted use of this channel in Appendix 18 at WRC-19.

Tas Maritime Radio (TMR) also uses channel 69 for skeds on Eastern Bass Strait, Lower East Coast & Far North West Coast (Ref. E). At the time of writing, the TMR coast station sites that use channel 69 are Maria Island, Flinders Island, and Three Hummock Island (where TMR operates a base). (Ref. E).

The specific uses for channel 69 in Australia do not appear to be mentioned in the current (2020) edition of the AMC's *Marine VHF Radio Operators Handbook* (Ref. F), and the table contained (Appendix 4) of the handbook is not a complete reproduction of Appendix 18 of the Radio Regulations (Rev. WRC-15), but an extract. I'm sure that this will be updated to reflect with the outcome of WRC-19 in due course, as some significant revisions were made at WRC-19.

At the time of writing, a search of the ACMA's on-line public Register of Radiocommunications Licences (RRL) (Ref. G) for channel 69 (156.475 MHz) retrieved 32 registrations, reproduced below:

Licensees	No. of registrations	Locations
Australian Volunteer Coast Guard	2 (1 x transmit and 1 x receive)	QLD: Munna Point (Noosaville).
Newcastle Port Corporation	4 (2 x transmit and 2 x receive)	NSW: Botany Bay Pilot Station, South Head Signal Station.
Tas Maritime Radio Group	12 (6 transmit and 6 receive)	TAS: Elliot Range, Mt. Read, South Sister, Barren Tier, Kellys Lookout, Bradys Sugarloaf.
Department of Defence	14 (7 transmit and 7 receive)	ACT: HMAS Creswell (Jervis Bay) NSW: Garden Island (Sydney), HMAS Penguin (Sydney), HMAS Waterhen (Sydney) QLD: HMAS Cairns, VIC: HMAS Cerberus, WA: Garden Island.

According to Darwin Port's web-site, channels 14 and 69 are listed as being for "Navy vessels", with the use being "Navy port working frequency" (Ref. H), however, the use of channel 69 in Darwin Port does not appear in the RRL.

As has been shown, channel 69 in Australia is being used by limited coast stations (various types), and the ship stations that communicate with them.

Historically, channel 69 appears not to have been listed in the various ACMA maritime radio regulatory instruments for many years, but as this channel is evidently used, the ACMA might consider including this channel and its permitted Australian use(s) in the next amendments in its regulatory instruments.

Channel 69 appears not to be included in the ACMA regulatory instruments nor the table of channels on the ACMA's web-site (Ref. B).

Layout of the table

Whilst the table of channels (Ref. B) is useful on the ACMA web-site, another version could be made available on the web-site that it is in near-numerical channel ascending order, in a similar way to a common method these channels are listed in user manuals.

Shortcomings in VHF marine radio user/instruction manuals

Shortcoming have been noted in user manuals for marine VHF radios sold in Australia. Since most VHF radios contain the technical ability transmit on channels which are deemed to be illegal in Australia, it would be useful for the ACMA web-site to clarify to use of such channels, not only for educating the radio user, but also for entities selling such equipment (examples of 'illegal' channels in Australia include channels 2020, 2078 and 2079), and in addition:

- Some user manuals show channels 87 and 88 still as duplex channels, where they should be simplex channels transmitting on the lower leg; and
- Some user manuals show channels ASM 1 (161.960 MHz) and ASM 2 (162.000 MHz) still as radiotelephony channels.

It would also be useful for the boating/marine community in Australia if the ACMA could indicate which channels cannot be legally used in Australian waters.

I trust that these comments may be helpful to the ACMA.

Your Sincerely,

(signed)

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References

Ref. A, Regulatory instruments:

- *Radiocommunications – Maritime Omnibus Variation 2019 (No.1)*, Cwlth
- *Radiocommunications Licence Conditions (Maritime Coast Licence) 2015*, Cwlth
- *Radiocommunications Licence Conditions (Maritime Ship Licence) 2015*, Cwlth
- *Radiocommunications (Maritime Ship Station – 27 MHz and VHF) Class Licence 2015*, Cwlth
- *Australian Radiofrequency Spectrum Plan (ARSP)*, Cwlth.

Ref. B, *VHF maritime mobile band – Channel allocations*, ACMA, <https://www.acma.gov.au/vhf-maritime-mobile-band-channel-allocations> (retrieved 27 November 2021)

Ref. C, Recommendation ITU-R M.2135-0, *Technical characteristics of autonomous maritime radio devices operating in the frequency band 156-162.05 MHz*, ITU, 2019

Ref. D, *Radio Regulations, Edition 2020*, ITU, 2020

Ref. E, Skeds (Scheduled Broadcasts), TSMRG Pty Ltd (Tasmar Radio),

<https://tasmaritime.com.au/TMR/index.php/services/skeds> (retrieved 27 November 2021)

Ref. F, *Marine VHF Radio Operators Handbook*, Australian Maritime College, 2018, <https://www.amc.edu.au/industry/omc/handbooks-and-revision-questions#894960> (retrieved 27 November 2021)

Ref. G, Register of Radiocommunications Licences, Australian Communications and Media Authority, https://web.acma.gov.au/rrl/assignment_range_search, (retrieved 27 November 2021)

Ref. H, VHF Communications, Darwin Port (Landbridge), <https://www.darwinport.com.au/facilities-services/harbour-control> (retrieved 27 November 2021).

Ref. I, *Working document towards a preliminary draft revision of Recommendation ITU-R M.2135-0 - Technical characteristics of autonomous maritime radio devices operating in the frequency band 156-162.05 MHz*, Annex 17 to the Chairman's Report ITU-R WP 5B, Report of the twenty-sixth meeting of Working Party 5B (e-meeting, 10-21 May 2021), ITU.
