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Five-year spectrum outlook 2023–28

To whom it may concern

The Australian Maritime Safety Authority (AMSA) thanks the Australian Communications and Media Authority (ACMA) for the opportunity to comment on the draft *Five-year spectrum outlook 2023–28* (FYSO).

AMSA's comments are contained in Annex A.

Please contact Stuart Shepard, Principal Advisor Maritime Communications, on [REDACTED] for further information on this submission.

Yours sincerely



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Annex A

World Radiocommunication Conference 2019

The outcomes of World Radiocommunication Conference 2019 (WRC-19) relevant to maritime radiocommunications were finalised under agenda items 1.8 (Issue A and B), 1.9.1 and 1.9.2.

Publication of the *Australian Radiofrequency Spectrum Plan 2021* (ARSP) reflects the outcomes of these agenda items, but there remain outstanding amendments to the radiocommunications regulatory framework. Some of this work is proposed in the revisions discussed further in the draft FYSO to implement amendments agreed at WRC-19 to Appendix **18** of the ITU Radio Regulations.

We look forward to working with the ACMA to implement revisions to the Australian maritime radiocommunications regulatory framework following amendments agreed at WRC-19 under agenda items 1.9.1 and 1.9.2 to Appendix **18** of the ITU Radio Regulations.

The outcome of agenda item 1.8 (Issue A) to add a footnote No. **5.82C** to the Radio Regulations to identify the maritime mobile service in 495-505 kHz for NAVDAT¹ is not reflected in Australia's radiocommunications regulatory framework. At present, the International Maritime Organization (IMO) has not developed performance standards or a carriage requirement for SOLAS vessels, meaning there is time to implement this domestically. However, if the framework is being amended, it would be opportune to do this at the same time.

The outcome of agenda item 1.8 (Issue B) by modifications to No. **5.372** of the Radio Regulations, and the update to the table of frequency band allocations in the ARSP, has been made which includes a primary maritime-mobile satellite service (MMSS) allocation in the space-to-Earth direction. What remains outstanding is to reflect in Australia's radiocommunications regulatory framework the addition of 1 621.35-1 626.5 MHz to Table 15-2 of Appendix **15** of the Radio Regulations. This frequency range supports the Iridium global maritime distress and safety system (GMDSS) service.

Operational Iridium GMDSS service should be available from 1 July 2023 in Australia's search and rescue region², NAVAREA X and METAREA X regions³, providing improved safety services and consumer choice for vessels operating in Australia's waters.

¹ The frequency band 495-505 kHz is used for the international NAVDAT system as described in the most recent version of Recommendation ITU-R M.2010. NAVDAT transmitting stations are limited to coast stations.

² <https://www.amsa.gov.au/safety-navigation/search-and-rescue/australias-search-and-rescue-region>

³ <https://www.amsa.gov.au/safety-navigation/navigation-systems/maritime-safety-information>

One of the key outcomes from WRC-19 was an allocation, on a secondary basis, for the satellite component of the VDES under agenda item 1.9.2. AMSA is partnering with ports, industry and shipping to trial the satellite component of VDES around the Great Barrier Reef and Torres Strait. This will demonstrate and prove the system in the Australian environment. It is anticipated that the trial may extend to include the terrestrial component in the future.

Equipment rules

In December 2022, in response to the ACMA's consultation '*Proposed changes to radiocommunications equipment regulation*' (IFC 37/2022), AMSA supported the proposed amendments for VHF radiotelephone equipment.

AMSA also provided comments on ensuring the equipment rules supported the latest standards for personal locator beacons (PLB) to be contained in AS/NZS 4280.2:2023 and emergency position indicating radio beacons (EPIRB) contained in AS/NZS 4280.1:2022.

In this regard, AMSA was concerned that the proposed changes to the equipment rules did not capture radiocommunication elements contained in AS/NZS 4280.1:2022 for activation, the 406 MHz signal and message format, 121.5 MHz homing signal and AIS locating signal. These elements are critical for ensuring EPIRB imported and sold in Australia meet the performance requirements for radiocommunication set by the IMO⁴.

During further discussion with the ACMA prior to publication of the revised equipment rules⁵, the scope of the revision did not permit these issues to be addressed. It was suggested further consultation in 2023 could be undertaken to amend the equipment rules to address these issues.

In addition, Standards Australia is finalising the adoption of an amendment to AS/NZS 4280.2 for a partial adoption of the RTCM 11010.3 personal locator beacon (PLB) standard. AMSA would support inclusion and/or reference to AS/NZS 4280.2:2023 in the equipment rules.

AMSA encourages the ACMA to consider undertaking public consultation on further changes to the equipment rules to address the observations made. AMSA looks forward to working with the ACMA on this proposal which would bring the equipment rules in line with global standards and carriage requirements for 406 MHz beacons.

27 MHz marine radio

Shipborne use of 27 MHz marine radio (authorised by the *Radiocommunications (Maritime Ship Station — 27 MHz and VHF) Class Licence 2015*) is steadily being superseded by VHF

⁴ Resolution MSC.471(105) - *Performance standards for float-free emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz*

⁵ *Radiocommunications Equipment (General) Amendment Rules 2023 (No. 1)*

maritime radio which provides enhanced safety (especially if it includes digital selective calling (DSC)), coverage, automation and capacity.

The deployment of 27 MHz marine radio infrastructure and its requirement⁶ for fitment in recreational vessels is the responsibility of the jurisdictions.

AMSA does not operate or regulate the carriage of 27 MHz marine radio but has a strong interest in promoting VHF marine radio, especially DSC as part of the GMDSS, for the benefits mentioned previously. VHF marine radio is a carriage requirement for all SOLAS (including DSC), regulated Australian vessels (RAV) (including DSC) and domestic commercial vessels (DCV) in accordance with Marine Order 27⁷ and NSCV C7B⁸.

Some jurisdictions⁹ propose to phase out 27 MHz after a transition period. This is because the end-of-life costs for infrastructure are high, and comparable benefits of VHF marine radio cannot be achieved.

AMSA is preparing a paper to the Maritime Agencies Forum (MAF)¹⁰ proposing ACMA and AMSA work with the jurisdictions to consider the merits of a nationwide cessation of 27 MHz marine radio. Its next meeting is scheduled for 26 July 2023.

In this regard, the following issues would/could be considered concurrently:

- Amendments to radio standards (through Standards Australia and the equipment rules)
- Review of the licensing/authorisation framework
- Qualification and/or training framework for coastal waters

⁶ Most jurisdictions refer to a 'marine radio' as a 27 MHz, VHF marine or MF/HF radio. For example, in NSW see <https://www.nsw.gov.au/driving-boating-and-transport/waterways-safety-and-rules/lifejackets-and-safety-equipment/essential-safety-equipment>, for WA see <https://www.transport.wa.gov.au/imate/marine-radios.asp> and for QLD see <https://www.msq.qld.gov.au/Safety/Marine-radios.aspx>.

⁷ <https://www.amsa.gov.au/about/regulations-and-standards/marine-order-27-safety-navigation-and-radio-equipment>

⁸ <https://www.amsa.gov.au/about/regulations-and-standards/national-standard-commercial-vessels/nscv-c7b-communications>

⁹ Western Australia is proposing new safety equipment laws for recreational vessels including personal watercraft and non-registerable vessels which, under Stage 1, includes "27-MHz radios are being phased out over five years and will no longer be compliant". See <https://www.transport.wa.gov.au/imate/safety-equipment-changes.asp>.

¹⁰ Maritime Agencies Forum (MAF) is a national forum for marine safety agencies.

Use of land mobile radio on maritime VHF channels

In principle, AMSA supports the incorporation and use of maritime VHF radio capability by emergency service agencies in new (or existing) land mobile radio (LMR), subject to appropriate standards, qualification framework and authorisation being implemented.

We look forward to further updates on ongoing trials (which AMSA has supported), but do not have any specific comments at this time on use-cases and timing for the potential reforms which should be driven by the outcome of those trials and the emergency service agencies refining their use-cases.

Automatic identification system transmissions from personal locator beacons

Ongoing technical and operational improvements to the 406 MHz beacon architecture are resulting in the incorporation of the automatic identification system (AIS) in personal locator beacons (PLB). AIS in PLBs can facilitate localised search for such devices using a vessel's (or SAR aircraft's) existing AIS unit and electronic charting system. The technology is already incorporated in some EPIRB which meet the requirements of the IMO's performance standard⁴.

AIS operate on 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) which is limited to operation by maritime ship stations in the *Radiocommunications (Maritime Ship Station — 27 MHz and VHF) Class Licence 2015* and maritime coast stations in accordance with the *Radiocommunications Licence Conditions (Maritime Ship Licence) Determination 2015*. The radiocommunication and equipment rules framework does not appear to support AIS operation/authorisation on land.

Therefore, for the purposes of AIS being incorporated into PLB, AMSA questions whether changes to the radiocommunication and equipment rules framework are required, noting its use is limited to distress circumstances (unless caused by inadvertent activation).