



Dec 13, 2024

RESPONSE TO ACMA CONSULTATION on "*Updating the spectrum plan*"

Dear ACMA team,

The Bureau of Meteorology would like to provide its view and comments regarding the consultation published by ACMA on 08 Nov 2024 that is related to updating the spectrum plan as per WRC-23 Final Acts.

The Bureau's comments are divided into separate sections as below:

- 1- A new secondary allocation to the earth exploration-satellite (active) service in the frequency band 40–50 MHz limited to use by spaceborne radar sounders under footnote 159A (as an outcome of WRC-23 agenda item 1.12).**

During discussion of Agenda Item 1.12 at WRC-23, apart from new secondary allocation of the band 40-50 MHz to EESS(Active), Australia's name is also added to the existing footnote 5.162A (WRC-97) on which allows Australia to continue operation of its Wind Profiler Radars (WPRs) in the band 46-68 MHz.

Therefore, Column 2 of the Table of frequency allocation is required to be updated for the entire frequency range 46-68 MHz by making reference to footnote 5.162A. Currently, as per published draft ARSP document, only frequency range 45-50 MHz has reference to that footnote.

The proposed version of the Table of Frequency Allocation is as follows:

Column 1: ITU Radio Regulations Table of Allocations			Column 2:
Region 1	Region 2	Region 3	Australian Table of Allocations
44 – 47	FIXED MOBILE Earth exploration-satellite (active) 159A <u>162 162A</u>		44 – 45 FIXED MOBILE Earth exploration-satellite (active) 159A AUS57
47 – 50 BROADCASTING Earth exploration-satellite (active) 159A <u>162A 163</u> 164 165			45 – 50 BROADCASTING <u>FIXED AUS100A</u> <u>MOBILE AUS100A</u> Earth exploration-satellite (active) 159A 162 162A
50 – 52 BROADCASTING <u>Amateur 166A 166B 166C</u> 166D 166E 169 169A 169B <u>162A 164</u> 165	50 – 54 AMATEUR 162A <u>167</u> 167A 168 170		50 – 52 BROADCASTING Amateur 168 162A
52 – 68 BROADCASTING 162A <u>163</u> 164 165 169 169A 169B 171			52 – 54 AMATEUR 162A
			54 – 56 FIXED MOBILE <u>RADIOLOCATION AUS89</u> 162A
	54 – 68 BROADCASTING Fixed Mobile 172	54 – 68 FIXED MOBILE BROADCASTING 162A	56 – 70 BROADCASTING <u>FIXED AUS101A</u> <u>MOBILE AUS101A</u>
68 – 74.8 FIXED MOBILE except aeronautical mobile <u>149 175</u> 177 179	68 – 72 BROADCASTING Fixed Mobile 173	68 – 74.8 FIXED MOBILE <u>149 176</u> 179	176 162A
	72 – 73 FIXED MOBILE		70 – 74.8 FIXED MOBILE
	73 – 74.6 RADIO ASTRONOMY 178		
	74.6 – 74.8 FIXED MOBILE		
			<u>176 149</u>

2- New proposed footnote AUS 107

The Bureau understands that AUS 107 is suggested to provide Fixed service a permanent arrangement for the band 5600-5620 MHz and 5630-5650 MHz.

However, the Bureau proposes a modification to the allocation of the frequency bands 5600-5620 MHz and 5630-5650 MHz for Fixed service. The Bureau believes that these bands should be allocated solely for Point-to-Multipoint (PMP) applications, rather than being opened to all Fixed service uses, including Point-to-Point (PtP) applications.

The Bureau makes several key points to support this suggestion:

1. **Current Users:** The primary users in these frequency bands are legacy PMP licensees and migrated Wireless Internet Service Providers (WISPs) from the 3.6 GHz band, all of whom have PMP licenses. There are no Point-to-Point users in these bands, according to the RRL (Register of Radiocommunication Licences).
2. **Weather Radar Interference Concerns:** The Bureau operates a vast network of C-band weather radars, in the 5600-5650 MHz range. The primary weather radar frequency is 5620-5630 MHz, centred at 5625 MHz. However, the Bureau notes that there are technical and operational constraints that necessitate some radars, 15 licences, to operate in the range of 5600-5620 MHz and 5630-5650 MHz that is proposed for Fixed service.
3. **Existing Coordination Framework:** The current coexistence regime between weather radars and PMP systems is managed by RALI FX 23, which outlines a detailed procedure for coordination of PMP application and radiodetermination service for in-band and adjacent band scenarios. This process ensures that PMP systems and weather radars can function without significant interference.
4. **Concerns with Opening the Band to PtP:** The Bureau expresses concern that if these bands are opened to Point-to-Point users in addition to PMP systems, there would be no established coordination process for the coexistence of these new users with the weather radars. This lack of a coordination framework could lead to interference issues.

Therefore, the Bureau proposes the following amendment to AUS 107:

- **AUS 107 Amendment Proposal:**

*"The frequency bands 5600-5620 MHz and 5630-5650 MHz are also allocated to the fixed service on a primary basis, **limited to Point-to-Multipoint (PMP) applications. Coordination of PMP systems and C-band weather radars is outlined in RALI FX 23.**"*

This amendment reflects the Bureau's preference to limit the allocation to PMP applications, maintaining the existing coordination procedures with weather radars.

3- Modification of arrangements proposed for inclusion of Learmonth Solar Observatory (LSO)

The Bureau appreciates the introduction of LSO facilities in the preambles of the new version of ARSP (Chapter one section 14).

The Bureau however believes that more legislative support is required for the LSO facilities within the ARSP instruments. It appears that the preamble of the ARSP wouldn't be sufficient for legislative support of LSO given its operational sensitivity to interference and the requirement for proper visibility to other spectrum stakeholders. Therefore, providing clarity and legislative backing for operational protection of LSO facilities is required.

It should be noted that preamble is just to assist the understanding of the ARSP and doesn't form part of the spectrum plan registered in the Federal Register of Legislation. It is unlikely that the reader would feel the need to refer to the preamble when checking use of radiofrequency spectrum in Australia.

The Bureau's suggestion for the conclusion of LSO in the main body of ARSP is as below:

A) Amendment of the current AUS 87 to include part of LSO frequency bands:

For three frequency bands of **1407-1424 MHz, 4900-5000 MHz, and 8700-8900 MHz**, the Bureau suggests amending current AUS 87 as below to include LSO in those three frequency bands:

“Radio Astronomy facilities operated by CSIRO at ... in the frequency bands 1.2–1.8 GHz, 2.2–2.7 GHz, 4.5–6.7 GHz, 8–10 GHz and 16–26 GHz, and Learmonth Solar Observatory facilities (latitude 22° 13' 9" S, longitude 114° 6' 11" E) operated by the Bureau of Meteorology at the frequency bands 1407-1424 MHz, 4900-5000 MHz, and 8700-8900 MHz using receivers that are highly sensitive to interference. The Paul Wild and Mopra observatories also operate in the bands 30–50 GHz and 75–115 GHz.”

With the above modification, AUS87 aligns the LSO with other Radio Astronomy facilities and would indeed clarify the situation and provide formal recognition of the LSO's operational frequencies. It should be mentioned that three proposed frequency bands for LSO to be added to AUS87 are completely contained within the broader frequency ranges in the current text and hence no extra frequency bands are suggested for the RALI MS 31.

The Bureau appreciates the linkage between AUS 87 and RALI MS 31 and the lack of arrangement in the current RALI MS 31 for the narrower frequency bands of the LSO. However, this is a temporary issue that can be addressed in the revision process of the RALI MS 31. When revising RALI MS 31, it would make sense to incorporate the necessary changes to accommodate the LSO frequency bands and the relevant notification zones in the Table 1 of the RALI MS 31. We note that RALI MS 31 already includes subsets of some bands for certain sites, as contained in footnotes 4 and 5 of that RALI, for Hobart and Tidbinbilla.

B) A new Australian footnote for the LSO to cover frequency bands 232-257, 389-403, 430-441 MHz, 602-618, 2700-2708, 5000-5100, 8700-8900 and 15400-15500 MHz:

The Bureau acknowledge that these frequency bands are not RAS or SRS bands. However, these bands are utilised as the nature of LSO operation mandates. The Bureau's suggestion of new Australian footnote for the LSO covering those frequency bands provides a valid/alternative regulatory support and public visibility. This would give LSO the recognition it requires, similar to other research instruments. The footnote could help ensure that LSO is treated in a manner that reflects its importance, while providing clarity and legislative backing for its operational protection.

It is appreciated that there are currently no arrangements for the protection of LSO in those frequency bands, but this doesn't mean that nothing should be implemented to support normal operation and protection of LSO facilities.

In conclusion, the Bureau's position is to include three frequency bands of LSO that are already covered by RALI MS31 in the AUS 87 footnote and/or introducing a new Australian footnote to cover other frequency bands of the LSO. This will enhance the visibility for LSO and increase the likelihood of proper coordination and protection moving forward. The suggested revision of RALI MS 31 and the ongoing consultation with all stakeholders will also help address the technical and regulatory aspects of the LSO.

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