



International Civil Aviation Organization

**FIRST MEETING OF SPECTRUM REVIEW WORKING GROUP (SRWG/1)**

Bangkok, Thailand, 26 – 27 June 2014

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**Agenda Item 4: Review of Operational Needs in VHF Communications from States for 2014 - 2018**

**OPERATIONAL NEEDS AND FUTURE CONSIDERATIONS OF CHANNEL SPACING IN THE VHF AIRBAND**

(Presented by Australia)

**SUMMARY**

This paper presents the current Australian situation with respect to licensing and channel spacing in the VHF 'Airband' (117.975 to 137 MHz). Australia currently uses 100 kHz, 50 kHz and 25 kHz channel spacing as required. Our current operational needs do not require us to consider implementation of 8.33kHz channel spacing at this time. We support the proposed 3 stage approach of the SRWG to Identify VHF Voice current needs and limitations, identify solutions and then implement in a coordinated manner. However, it is further proposed that the SRWG should closely examine the potential for measures to improve the effective utilisation of the VHF airband before looking at any implementation or mandate of 8.33 kHz channel spacing

**1. BACKGROUND**

1.1 The aeronautical VHF band from 118 to 137 MHz is the primary band used for aviation related communications. This band is used by regular public transport (RPT), general aviation (GA) and recreational aircraft in all phases of flight including surface movement in most Australian continental airspace.

1.2 The aeronautical VHF band is divided into a number of channels. Each channel is used to conduct a voice conversation. To satisfy increased demand and frequency congestion in high-density traffic areas, particularly in Europe and the USA, the International Civil Aviation Organisation (ICAO) expanded the VHF band by developing channel spacing standards to provide additional channels. 8.33 kHz spacing was introduced in Europe above Flight Level (FL) 240 in October 1999 and above FL195 from March 2007.

1.3 In Australia, frequencies were assigned with a 100 kHz channel spacing until 1991 and then at 50 kHz spacing. Since 2005 frequencies based on the 25 kHz channel spacing have been assigned for Airservices, Company and Department of Defence use. It should be noted that Airservices only introduce a 25kHz channel in Class G Airspace (including CTAF) after other frequency planning options are exhausted.

**2. CURRENT / FUTURE OPERATIONAL NEEDS**

2.1 Airservices currently has 1025 VHF frequencies assigned in the VHF Airband.

2.2 We currently have no planned airspace or system changes that require any significant VHF assignment considerations. We will be implementing some additional tower frequencies where airport expansion requires it (for example the implementation of a second SMC frequency when new parallel runways come into operation). Some additional airspace projects around major airports and TCUs may also require new VHF frequencies but the main design factor will be the ground station capability based on equipment and frequencies already in use.

2.3 Note - Australia has published differences to ICAO SARPS related to Volume 5 – Aeronautical Radio Frequency Spectrum Utilisation (Refer Australia AIP SUP H18/14)

- 1. *Chapter 4 Para 4.1.2.2 - Australia uses 25 kHz separation*
- 2. *Chapter 4 Para 4.1.2.3 - Legislation does not specify mandatory carriage of equipment specifically designed for 8.33 kHz channel spacing*
- 3. *Chapter 4 Para 4.1.3.1.4 & 4.1.3.1.5 - Australia does not continuously guard 121.5 MHz*

**3. CURRENT / FUTURE OPERATIONAL NEEDS**

3.1 At this time Australia has no VHF frequency assignments based on 8.33 kHz channel spacing and has no operational requirements that will require its implementation or mandate.

3.2 We support the ICAO proposed approach to review the operational needs and identify solutions that minimise impact on all airspace users. We propose that the SRWG look closely and examine the potential for measures to improve the effective utilisation of the VHF airband before looking at any implementation or mandate of 8.33 kHz channel spacing. It is anticipated that the majority of the work of this working group could be carried out by correspondence with meetings as required.

3.3 Any proposed implementation in the Asia Pacific region will require careful consideration of the impact to all users and region specific issues. Studies from other groups and bodies, including those from Europe should be looked at during any discussions.

3.4 Any proposals for 8.33 kHz implementation in Australia will require detailed review and consultation with all Australian stakeholders including Industry, Regulators, Defence/Military and Company Users of the VHF Airband.

**4. ACTION BY THE MEETING**

4.1 The meeting is invited to note the information contained in this paper and discuss any relevant matters as appropriate.

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