



Subject: WRC-07 Agenda item 1.15

Australia

**AGENDA ITEM 1.15
AMATEUR SECONDARY IN THE BAND 135.7-137.8 kHz**

1. Introduction

The draft CPM report text prepared by WP 8A at its September 2004 meeting provides text where this agenda item can be satisfied by a footnote entry to Article 5 of the Radio Regulations. This is currently the only method suggested.

As part of the Voluntary Group of Experts (VGE) report, in order to simplify the Radio Regulations, it was stated there should be a halt in the proliferation of footnotes. This particularly applied to those involving world wide allocations.

2. Proposal

Australia therefore proposes that a second method of satisfying this agenda item would be to add a new amateur secondary allocation entry in Article 5 for the band 135.7-137.8 kHz. This entry would be qualified with a footnote limiting the e.i.r.p. as is currently shown with the existing WP 8A text. The necessary text to support this new method is shown in the Attachment.

Attachment:

- A. Modifications to Draft CPM Text for Agenda Item 1.15.

Modifications to Draft CPM Text for Agenda Item 1.15

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5/1.15 Agenda item 1.15

"to consider a secondary allocation to the amateur service in the band 135.7-137.8 kHz"

5/1.15/1 Issue (A)

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5/1.15/1.1 Background

In the period 1994-2004, more than 20 administrations have given domestic amateur allocations or have authorized experimental amateur communications in the low-frequency range including 73 kHz, 135.7-137.8 kHz, and 160-190 kHz.

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In 1997, amateurs in Europe were given formal authority to operate in an LF band pursuant to the European Conference of Postal and Telecommunications Administrations (CEPT) Recommendation 62-01 E (Mainz 1997), which pertains to the use of the band 135.7-137.8 kHz by the amateur service. Currently, amateurs are active in the band 135.7-137.8 kHz in more than 25 European countries. Operation in [the Russian Federation](#) has been authorized in both the European and Asiatic parts of the Federation.

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In Region 3 New Zealand has granted an allocation to the amateur service in this band, and Australia has authorized some experimental communication.

In Region 2, a number of South American countries have authorized amateur use of the 135.7-137.8 kHz band, and Canadian and American amateurs have been conducting communications under experimental licences. With the approval of the CEPT Recommendation in Europe, France has also authorized the use of the band 135.7-137.8 kHz by St. Pierre and Miquelon, Martinique and Guadeloupe.

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5/1.15/1.2 Summary of technical and operational studies, and relevant ITU-R Recommendations

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The use of digital processing to recover very weak signals permits long distance communications at a low transmitted e.i.r.p. This fact, combined with a high atmospheric noise level, and the propagation characteristics of the 135.7-137.8 kHz band greatly reduces the potential of interference to other services.

An allocation of an LF band to the amateur service would be in accordance with *recommends* 1 and 3 of Recommendation ITU-R M.1044-2.

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5/1.15/1.3 Analysis of the results of studies

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No cases of interference to other services from amateur service operations in the frequency band 135.7-137.8 kHz have been reported.

With a secondary allocation, amateur stations are obliged not to interfere with stations operating in accordance with the Table of Frequency Allocations, including Nos. **5.64** and **5.67**.

Deleted: The use of digital processing to recover very weak signals permits long distance communications at a low transmitted e.i.r.p. This fact, combined with a high atmospheric noise level, and the propagation characteristics of the 135.7-137.8 kHz band greatly reduces the potential of interference to other services.

5/1.15/1.4 Methods to satisfy the agenda item,

5/1.15/1.4.1 Method A

Addition of a footnote to the Table of Frequency Allocations to allow for the use of the band 135.7-137.8 kHz by the amateur service in all three Regions on a secondary basis, with a maximum radiated power limit of 1 W (e.i.r.p.).

The following is an example of a possible modification to the Article 5 Table of Frequency Allocations.

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Frequency allocations

MOD

110-255 kHz

Allocation to services		
Region 1	Region 2	Region 3
130-148.5 FIXED MARITIME MOBILE 5.64 5.67 ADD 5.XXX	130-160 FIXED MARITIME MOBILE 5.64 ADD 5.XXX	130-160 FIXED MARITIME MOBILE RADIONAVIGATION 5.64 ADD 5.XXX

NOC

5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

NOC

5.67 *Additional allocation:* in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-97)

ADD

5.XXX *Additional allocation:* The band 135.7-137.8 kHz is also allocated to the amateur service on a secondary basis. Stations in the amateur service using frequencies in this band shall not exceed a maximum radiated power of 1 W (e.i.r.p.). (WRC-07)

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Reasons: A secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz would harmonize on a worldwide basis the use of this band.

Advantages

A secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz would:

- be in harmony with similar allocations that have been approved or are being sought in North America, Europe, Australia, New Zealand and part of Asia;
- provide radio amateurs with the opportunity to participate in and contribute to a new aspect of radio communications and which would be consistent with the basis and purpose of the amateur service and would further the self-training in the radio art that is a principal obligation of the amateur service;
- provide an opportunity for experimentation with equipment, techniques, antennas and propagation phenomena in an interesting frequency band heretofore unavailable to the amateur service;
- provide an opportunity for experimentation of potential benefit to other services in keeping with the amateur service's tradition of contributing to the development of radio communications techniques and practices; and

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- recognize the value of experimentation in attracting young people to the amateur service

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Disadvantages

- None foreseen.

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5/1.15/1.4.2 Method B

Addition of a new entry to the Table of Frequency Allocations to allow for the use of the band 135.7-137.8 kHz by the amateur service in all three Regions on a secondary basis, with a footnote limiting the maximum radiated power to 1 W (e.i.r.p.).

The following is an example of a possible modification to the Article 5 Table of Frequency Allocations.

ARTICLE 5

Frequency allocations

MOD

110-255 kHz

Allocation to services		
Region 1	Region 2	Region 3
<u>130-148.5</u> <u>135.7</u> FIXED MARITIME MOBILE 5.64 5.67	<u>130-160</u> <u>135.7</u> FIXED MARITIME MOBILE 5.64	<u>130-160</u> <u>135.7</u> FIXED MARITIME MOBILE RADIONAVIGATION 5.64
<u>135.7-137.8</u> FIXED MARITIME MOBILE ADD Amateur ADD 5.XXX 5.64 5.67	<u>135.7-137.8</u> FIXED MARITIME MOBILE ADD Amateur ADD 5.XXX 5.64	<u>135.7-137.8</u> FIXED MARITIME MOBILE RADIONAVIGATION ADD Amateur ADD 5.XXX 5.64
<u>137.8-148.5</u> FIXED MARITIME MOBILE 5.64 5.67	<u>137.8-160</u> FIXED MARITIME MOBILE 5.64	<u>137.8-160</u> FIXED MARITIME MOBILE RADIONAVIGATION 5.64

NOC

5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

NOC

5.67 Additional allocation: in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-97)

ADD

5.XXX Stations in the amateur service using frequencies in this band shall not exceed a maximum radiated power of 1 W (e.i.r.p.). (WRC-07)

Reasons: A secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz would harmonize on a worldwide basis the use of this band.

Advantages

A secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz would:

- same as Method A; and
- in order to simplify the Radio Regulations and halt the proliferation of footnotes, the Voluntary Group of Experts concluded that world wide allocations should be by Table of Allocation entry rather than by footnote.

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Disadvantages

None foreseen.

5/1.15/1.5 Regulatory and procedural considerations

The effective date of the footnote allocation (Method A) or Table of Frequency Allocation (Method B) could be immediately after close of the conference.

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