



COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY DEBATES



**THE SENATE**

**QUESTIONS ON NOTICE**

**Australian Communications  
and Media Authority**

**QUESTION**

**2915**

**Tuesday, 28 September 2010**

BY AUTHORITY OF THE SENATE

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## QUESTION

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**Questioner** Ludlam, Sen Scott  
**Speaker**

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**Responder** Conroy, Sen Stephen  
**Question No.** 2915

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### Australian Communications and Media Authority

**Senator Ludlam** (Western Australia) asked the Minister for Broadband, Communications and the Digital Economy, upon notice, on 30 June 2010:

- (1) In addition to its statement alerting major stakeholders to the review, what measures were put in place by the Australian Communications and Media Authority (ACMA) to solicit responses to the discussion paper *The way ahead – Decisions and implementation options for the 400MHz band* from those who operate within the Citizens Band Radio Service (CBRS) UHF 476.4125 to 477.4125 MHz.
- (2) Why has the ACMA decided to allocate further channels to this service by reducing existing channel bandwidths from 25 kHz to 12.5 kHz (Wide-band to Narrow-band) spacing, thus increasing to 80 channels overall.
- (3) What investigation work was undertaken by the ACMA to support its decision.
- (4) Did the ACMA's Field Operations section provide assistance to determine the level of congestion; if so, (a) how many officers were involved in this process; and (b) were any monitoring stations or mobile field units used.
- (5) Given that the 400MHz band is congested, how many complaints received were from operators within the CBRS.
- (6) What additional information supported the inclusion of the CBRS as part of the major restructuring of the UHF waveband.
- (7) Given that costs will be incurred by a majority of users and also taxpayers, when considering government usage of this band, why are costs to be imposed on all users within the CBRS (either via modification of existing radio sets or the purchasing of new radios) and the owners of CBRS repeaters having to undertake modification.
- (8) How many licensed repeaters are there in: (a) Australia; and (b) each of the states and territories.
- (9) With reference to information available on the ACMA's website which states, 'In September 2008, the ACMA established a Working Group for the Review of the 400 MHz band under the guidance of the Radiocommunications Consultative Committee [RCCC] to: assist as appropriate with the review of the 400 MHz band; provide advice on issues related to the ACMA's ongoing review; and operate as a forum for in-depth consultation, as required, with major industry stakeholders on future arrangements for the frequency band 403–520 MHz (the 400 MHz band)': (a) how many times has the working group met since September 2008; (b) how does the working group reflect the majority of users excluding government services; (c) noting that the working group has received guidance from the RCCC, what information, if any, has been provided to it to assist it with its task; and (d) are there any plans to disband the working group.
- (10) What additional reforms, if any, are being considered by the ACMA for the CBRS UHF [Ultra High Frequency] section, and does this include a switch to digital transmitters.
- (11) Can the ACMA clarify its position on the operation of channels 22 (telemetry) and 23 (telecommand).
- (12) Are channels 22 and 23 currently used for voice communications; if so, how widespread is this usage.
- (13) What measures are being taken to ensure that these channels are not used for voice communications.

- (14) With reference to the CBRS UHF emergency channels 5 and 35: (a) what information is available on the level of interference being generated on these channels in Melbourne, Brisbane and Sydney; (b) will the level of interference increase considerably on these channels during the transition period; (c) how does the ACMA define 'non-emergency' traffic; (d) how many complaints been received from operators and emergency groups who provide a service on these channels; and (e) is the ACMA aware of issues relating to the activity by some operators on these channels in the Brisbane area and across the federal electorate of Longman to the north of Brisbane, and with this as an example, what is the ACMA doing to ensure that operators are aware of their obligations not to engage in non-emergency traffic on the emergency channels.
- (15) With reference to existing UHF CB [Citizen Band] equipment standards, is there a need for these standards to be amended to resolve ongoing problems across all input repeater channels.
- (16) Within the Radiocommunications (Citizen Band Radio Stations) Class Licence 2002, is there a provision which allows operators to use all channels, excluding emergency channels 5 and 35, if they are not within range of an operation repeater.
- (17) How many CBRS UHF repeaters are currently licensed: (a) across Australia; and (b) in each of the states and territories.
- (18) When considering that there are channels within the VHF [Very High Frequency] Maritime Mobile band and the CBRS (such as VHF 16 and 67 and CBRS UHF 5 and 35) specifically designed for emergency communications that remain under increasing pressure from users, what additional measures are being considered to resolve this issue.

**Senator Conroy** (Victoria—Minister for Broadband, Communications and the Digital Economy)—The answer to the honourable senator's question is as follows:

The Australian Communications and Media Authority (ACMA) is responsible for the regulation of spectrum. I have received the following advice from ACMA in relation to the question:

- (1) The ACMA review of the 403-520 MHz band (including the UHF Citizen Band) has been ongoing since April 2008. Consultation on this review has been extensive and has involved the publication of website material, the release of three discussion papers (made available on the ACMA website – [www.acma.gov.au](http://www.acma.gov.au) – and also emailed to known interested parties), media releases, conference and meeting attendances and the use of twitter and Facebook. Additionally, licensees have been advised via a letter sent around June/July 2010 and also via a note attached to their licences, which are renewed annually, that the band is under review.

#### **Formal Discussion Papers**

On 18 April 2008 the ACMA released the discussion paper, Spectrum Options 403–520 MHz: Initial consultation on future arrangements for the 400 MHz band (the Options Paper). This was the first formal step in a review of spectrum management arrangements in the 400 MHz band. The purpose of that discussion paper was to stimulate discussion and gather information from stakeholders to assist the ACMA to develop future arrangements for the 400 MHz band. A media release accompanied the publication of the paper.

Seventy five responses were received to the Options Paper, with several comments on UHF CB issues.

Subsequent analysis of the responses and additional work carried out by the ACMA resulted in the development of the refined options and proposals set out in the Spectrum Proposals: 403-520 MHz - Proposals for future arrangements in the 400 MHz band (the Proposals Paper) released on 2 April 2009. This paper was also sent via email to respondents to the previous paper and to other known interested parties. A media release also accompanied the publication of the paper. Sixty-one responses were received by the ACMA to the Proposals paper again including responses from the UHF CB community. The ACMA also updated its website material on the 400 MHz review and released a summary of the responses received to the Proposals paper to provide stakeholders with a broad insight into the submissions received.

Key outcomes of the review were released on 30 April 2010 in the ACMA paper The Way Ahead – Decisions and Implementation Options for the 400 MHz Band. This paper was also sent via email to respondents to the previous papers and to other known interested parties. A media release and web material also accompanied the publication of that paper.

#### **Conferences and meetings**

ACMA staff have attended several meetings with commercial, government and other stakeholder and have presented on the review at:

- RadComms 08;
- 400 MHz Review Briefing (before RadComms 09);
- RadComms 09;
- Radiocomms Connect 2008;
- Radiocomms Connect 2009; and
- Mining Automation and Communication Conference, 2010.

Additionally, updates on the progress of the review have been provided to the ACMA's Radiocommunications Consultative Committee (RCC). A working group of the RCC was formed to consider issues associated with the review of the 400 MHz band. This group has met four times (details below) and consists of members representing a range of users in the 400 MHz band – a member of this group represents the interests of UHF CB users.

The ACMA has also consulted with Citizen Band equipment manufacturers and individual CB users during the review process.

The ACMA has also held a series of “tune-ups” on the 400 MHz review in July/August 2010, visiting all capital cities and Townsville. Changes to the UHF CB arrangements were discussed at these events.

- (2) The ACMA has decided to allocate further channels in the UHF Citizen band by reducing existing channel bandwidth because additional spectrum is not available for the UHF Citizen Band service to expand into if the current channel bandwidth arrangements were maintained. Therefore the only option available to increase the number of channels is to add new channels in the spectrum opened up by reducing the existing channel bandwidth. This mirrors the approach used throughout the broader 400 MHz band.
- (3) The ACMA analysed trends in use of the 400 MHz band, surveyed international trends in use, conducted a survey of frequency assigners and employed a consultant to engage with CB equipment manufacturers and CB users on the proposed changes to arrangements. Feedback from frequency assigners was that it had become difficult to find frequencies in the 400 MHz band in high and medium density areas to assign new services. The consultant examining use of the UHF Citizen Band found that in high and medium density areas the demand for UHF CB repeater licences is constrained by the current arrangements and that many new applications were not able to be accommodated. Demand in rural and remote areas was not constrained. The demand for UHF CB repeaters arises from pastoral and mining industries, Shire Councils, Aboriginal Communities and Emergency Services.
- (4) An organised regime of spectrum monitoring was not used to quantify use of the UHF Citizen Band. The ACMA has conducted monitoring in other areas of the 400 MHz band and the results of that work show that monitoring of use does not correlate well with licence availability.
- (5) The ACMA has received sporadic complaints about congestion in the UHF Citizen Band over the years: precise information on how many is not available as this feedback takes on many forms and is received by a number of areas of the ACMA. It should be noted that the review of the UHF Citizen Band was largely driven by a desire to increase the utility of the band by offering additional channels and not solely by a need to relieve congestion. Feedback on the proposal to increase the number of channels has been overwhelmingly positive.
- (6) The UHF Citizen Band is part of the 400 MHz band – when considering changes to the 400 MHz band to increase its utility the ACMA concluded that similar measures should be applied to the UHF Citizen Band.
- (7) The ACMA believes that the costs to users will be minimal or zero in many cases as the timeframes given to transition to the new arrangements align with the typical lifecycle of equipment. The ACMA also believes that the overall benefits offered by the new arrangements will be attractive to UHF CB users, leading to a desire to upgrade equipment. The ACMA has also discussed with equipment manufacturers the possibility of upgrading existing UHF CB equipment to render it compatible with the new arrangements. They have responded positively to this and have indicated that this service may be offered on some equipment models.

- (8) The following table shows the number of UHF Citizen band repeaters in Australia and each of its states and territories as of 1 July 2010. There are no HF Citizen band repeaters.

ACT	0
NSW	160
NT	79
Qld	370
SA	114
Tas	13
Vic	52
WA	158
TOTAL	946

The following table shows the number of licensed assigned VHF Maritime Mobile band repeaters in Australia and each of the states and territories as at 23 July 2010 (as recorded in the 'register of radiocommunications licences').

ACT	0
NSW	26
NT	7
QLD	38
SA	11
TAS	13
VIC	8
WA	34
TOTAL	137

It should be noted that the above list of maritime mobile repeaters does not show any repeaters that are licensed under non-assigned licensing arrangements. The non-assigned licensing arrangements authorise licensees to operate on a range of frequencies, including repeater frequencies, but do not require that the use of the frequencies is recorded in the 'register of radiocommunications licences'. It is, in any case, understood that the numbers of repeaters used under the non-assigned arrangements will be low by comparison with the number of assigned repeaters.

- (9) The working group has met three times since September 2008 (8 October 2008, 5 January 2009, 19 October 2009) and at a workshop attended by the working group and around 50 other interested parties held on 28 April 2009.

- (b) Membership and scope of representation of the working group is as follows:

Industry Sector	Scope of Representation
Australian Radio Communications Industry Association (ARCIA)	commercial users
Wireless Institute of Australia (WIA)	the amateur community and citizen band users
Australian Tetra Forum (ATF)	TETRA
Telstra	large commercial user
Vertel	large commercial user
National Coordinating Committee for Radiocommunications (NCCGR)	Government government users
Australasian Railways Association (ARA)	the rail sector
Department of Defence	
Ergon Energy	power utilities
Spectrum Engineering	Frequency Assigners
Radspec	Frequency Assigners
Motorola	Manufacturers
Australian Communications and Media Authority (ACMA)	

(c) Updates on the progress of the 400 MHz working group have been provided to the RCC from time to time when requested.

- (c) Updates on the progress of the 400 MHz working group have been provided to the RCC from time to time when requested.
- (d) The RCC 400 MHz group will be disbanded when the outcomes of the 400 MHz review are settled and the review moves into its implementation phase.

- (10) Additional reforms currently in train for the UHF citizen band service are:

1. Relaxing the duty cycle restriction for telemetry and telecommand transmissions on UHF channels 22 and 23 from "3 seconds in any period of 60 minutes" to "10 seconds in any period of 60 minutes";

2. Permitting the transmission of electronic station identification and position information;
3. Prohibiting the indirect linking of CBRS Repeater Stations;
4. Prohibiting the retransmission of signals from a repeater station; and
5. Prohibiting the transmission of non-traditional citizen band equipment such as, 'baby monitors.'

The additional reforms mentioned above are proposed to be implemented through variations to the Radiocommunications (Citizen Band Radio Stations) Class Licence 2002.

Reforms 1 and 2 above reflect recent changes made to the UHF citizen band equipment standard (AS/NZS 4365:2002) that authorise the respective new features to be included in citizen band equipment.

Reform 3 above reflects the need to close a legislative loophole that is allowing individual citizen band operators to circumvent an ACMA policy that generally precludes repeaters from being linked together. This policy, which is implemented to prevent congestion and interference, allows linking, justified on a case by case basis, where congestion and interference will not occur.

Reform 4 above is intended to prevent 'local' citizen band operation from being interfered with by individuals 'importing', via the internet, the high traffic volumes of repeaters elsewhere; even overseas.

Reform 5 above is intended to prevent citizen band operation from being interfered with by the operation of stations that are unable to comply with operational practices applicable to the harmonious use of shared frequencies i.e, wait until the frequency is clear before transmitting.

The ACMA is not currently considering a switch to digital transmitters in the UHF Citizen band channels used for voice communications.

- (11) Telemetry is the process of obtaining measurements and relaying them, for recording or display, at a distant point. Telecommand is the electronic remote control of equipment.

Examples include:

- monitoring water levels in dams;
- controlling equipment such as irrigation pumps; and
- opening and closing gates.

The class licence authorises the use of telemetry and telecommand applications on UHF channels 22 and 23.

- (12) The Citizen band class licence prohibits the use of voice communication on the current UHF Citizen band channels 22 and 23. No complaints on the use of voice communications on channels 22 and 23 have been received in the period July 2009 to June 2010.

- (13) Since the introduction of telemetry and telecommand applications in 2002, the citizen band equipment standard provides only for equipment that does not permit voice communications on channels 22 and 23. The ACMA informs users of the appropriate use of channels through information on its website and information included with CB equipment. If interference is reported appropriate compliance action is taken.

- (14) (a) Misuse of the emergency channels in Melbourne, Brisbane and Sydney varies sporadically from hour to hour and hence it is difficult to quantify. The principal issue the ACMA receives complaints about with regard to the emergency channels 5 and 35 is that operators using channel 35 unknowingly trigger a repeater on channel 5. When issues of misuse are reported to the ACMA the channels are monitored to determine whether the issue is still ongoing. If it is, the user is located and advice on the correct use of the channel is provided. Once found and advised users generally move to a more appropriate channel.

- (b) The level of interference to emergency channels 5 and 35 is expected to diminish as additional repeater channels become available for use. The level of interference will also diminish as operators purchase new equipment and commence to use the new channels (including repeater channels).

- (c) While non-emergency traffic is not directly defined, the Radiocommunications (Interpretation) Determination 2000 defines 'emergency signal' as:

a) a request for assistance; or b) a signal of distress; or c) a message that is related to a request for assistance or a signal of distress.

- (d) In the last 12 months, the ACMA has received 3 complaints (2 Newcastle, 1 Rockhampton) about interference on UHF channels 5 and 35 that contained sufficient information to commence a field investigation.

However in 2008 the ACMA dealt with a number of complaints, mainly from one individual, concerning interference to UHF channels 5 and 35 in the Brisbane area.

- (e) The ACMA website provides information about licensing the operation on the citizen band. The ACMA FACT Sheet 'Citizen band radio', includes specific information about the use of UHF emergency channels 5 and 35. However, the ACMA's response to interference to the emergency channels is largely complaint driven and tailored to the individual circumstances of the complaint. Responses include making educational announcements over the air through to the use of direction finding equipment to identify stations causing the interference. As a first step, individuals that are identified as causing interference are provided with advice about appropriate operation.

In respect to the Brisbane problems referred to in part (d) above, the interference on UHF channels 5 and 35 was caused by many different individuals associated with major construction activities. In this case the ACMA resolved the situation through discussions with the prime contractors.

- (15) The relevant UHF CB equipment standard is being updated to provide for changes in equipment specifications and performance. The standard mandates equipment specifications and performance and cannot prohibit users from initiating problematic use of repeater channel inputs. The standard does, however, provide for information on use of the equipment to be included in the packaging of new CB equipment, to educate users on the correct use of repeater input channels.

- (16) Yes.

- (17) The following table shows the number of UHF Citizen band repeaters in Australia and each of its states and territories as of 1 July 2010. There are no HF Citizen band repeaters.

ACT	0
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- (18) (a) The World Radio Conference to be held in 2012 is expected to consider the introduction of additional channels in the VHF Maritime Mobile band. Australia through the ACMA and the Australian Maritime Safety Authority participate in these processes.

The allocation of additional channels is expected to alleviate inappropriate use of emergency channels 16 and 67. The ACMA is separately investigating reported congestion and misuse of VHF Maritime Mobile channels in Australian waters. One potential outcome of this investigation is the allocation of additional channels for use by the recreational maritime community.

- (b) The ACMA commenced a review of operator qualification arrangements for VHF radio use on recreational marine vessels with the release of a public discussion paper in September 2009. Earlier advice from the National Marine Safety Committee (NMSC) indicated that there were concerns about declining standards in the operation of marine VHF radio and low compliance with operator certification. NMSC survey data suggests the level of certification to be around 50%. The ACMA understands the compliance level is significantly lower than this. The review is nearing completion and the ACMA is considering options to best support its spectrum management objectives and to increase VHF radio users' awareness of correct channel usage and radio protocols. This review is planned to be completed by the end of 2010.

- (c) The proposed introduction of additional channels, including repeater channels, into the UHF citizen band is expected to alleviate inappropriate use of the citizen band emergency channels 5 and 35.