



Citizen Band Radio Services

Consultation Paper

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Executive Summary

This consultation document discusses proposals to change;

- the Radiocommunications Regulations (General User Radio Licence for Citizen Band Radio) Notice 2003; and
- the engineering rules published in Public Information Brochure 38 (PIB 38) for licensing UHF Public Radio Service (PRS) repeaters.

This consultation document also invites submissions from interested parties on those proposals.

The changes proposed to the General User Radio Licence will;

- expand the HF Citizen Band (CB) frequency allocations by allocating use of the international 27 MHz band (as used in Australia) and to permit current equipment to continue to be used in the current New Zealand 26 MHz band allocations; and
- double the number of channels available in the Ultra-High-Frequency Personal Radio Services (UHF PRS) band by allowing use of both 12.5 kHz and 25 kHz channel bandwidths.

The use of the 27 MHz band for CB services will require those services to share frequencies with Local Radio Paging licensed services. However, interference between the services is likely to be minimal because;

- both have limited coverage areas;
- there are only a small numbers of users in each service;
- both services tend to be used on an intermittent basis; and
- Local Radio Paging services are designed to allow band sharing by transmitting data in infrequent short bursts and using sophisticated receiver techniques.

The changes to the UHF PRS services are planned to coincide with changes to the Australia/New Zealand standard for UHF Radiocommunications Citizen Band Services, AS/NZS 4365.

The proposed changes to both HF CB and UHF PRS bands will enable New Zealand to improve its TTMRA coordination objectives of facilitating trade without requiring current CB and PRS users to replace or modify their equipment.

The change proposed to the PIB 38 rules for licensing UHF PRS repeaters is to reduce the minimum distance permitted between repeaters from 20 km to 5 km. This change will permit more fixed repeaters to be established.

Submissions to this consultation paper will close 4 February 2011.

Proposed changes to the Citizen Band Radio and Personal Radio Service

1. Purpose

- 1.1 This consultation paper has been prepared by the Ministry of Economic Development (the Ministry) to invite submissions from interested parties on changes proposed to:
 - (a) the Terms, conditions and restrictions of the Radiocommunications Regulations (General User Radio Licence for Citizen Band Radio) Notice 2003 (CB GUL); and
 - (b) the engineering rules for the licensing of UHF Public Radio Service (PRS) repeaters published in Public Information Brochure 38 (PIB 38).
- 1.2 The changes proposed to the CB GUL are to:
 - (a) expand the HF Citizen Band (CB) frequency allocations to allow use of both the current New Zealand 26 MHz band and the international 27 MHz band used in Australia and elsewhere; and
 - (b) allow use of both 12.5 kHz and 25 kHz channel bandwidths in the Ultra-High-Frequency Personal Radio Services (UHF PRS) band.
- 1.3 The change proposed to the UHF PRS engineering rules in PIB 38 is to reduce the distance required for the spacing for PRS fixed repeaters from 20 km to 5 km. This will allow use of more PRS repeaters.

2. Introduction

- 2.1 The Ministry's Radio Spectrum Management (RSM) and Radio Spectrum Policy and Planning (RSPP) groups regularly meet with the Australian Communications and Media Authority (ACMA), as part of its Trans-Tasman Mutual Recognition Agreement (TTMRA) commitments. Those meetings discuss ways of harmonising spectrum usage and equipment standards, that will reduce compliance and manufacturing costs, for the benefit of spectrum users in both countries.
- 2.2 A new version of AS/NZS 4365, the UHF CB equipment standard, has recently been developed through discussion between New Zealand and Australia regulatory and industry groups, and is due to be approved for manufacturing and supply purposes in both countries in 2010.
- 2.3 As a consequence, the Ministry proposes to regulate for the use of the new standard, when new equipment is supplied, and to modify the CB GUL by the addition of the channelling requirements identified in the new AS/NZS 4365.
- 2.4 The Ministry also proposes and modify the CB GUL to extend the frequency bands available for HF CB to include the use of the 27 MHz band used by Australia and other countries. New Zealand originally adopted a 26 MHz CB service to ensure there was no degradation to (analogue) television services using frequencies around 50 MHz. With the discontinuation of such use, there is no longer any need to operate in a unique band requiring special equipment designs.

- 2.5 The CB use of the 27 MHz band will require band sharing with:
- licensed HF Local Radio Paging services; and
 - equipment operating in the General User Licence for Short Range Devices (SRD GUL) band 26.95 MHz to 27.3 MHz.
- 2.6 Use of the 26 MHz CB service is understood to be low, but there is no particular alternative use envisaged for that spectrum at this time. It is therefore proposed to continue to licence usage and equipment existing prior to a specific date. This would effectively limit new 26 MHz equipment supply and provide for a long term transition.
- 2.7 Consultancy for changes to PIB 38 engineering rules are normally conducted as part of the consideration of wider changes to those rules. The Ministry is seeking submissions on the changes to the PRS PIB 38 rules for the use of PRS fixed repeaters with the CB GUL consultation to allow CB users who would not normally be part of the PIB 38 consultation process to consider the rule change and submit their views.

3. Background

- 3.1 HF CB Radio and UHF PRS provide short-distance personal voice communications between users under a General User Radio licence.
- 3.2 The CB GUL, permits every person in New Zealand access to the HF CB and UHF PRS radio frequency allocations without the need for payment of fees or registration. The only requirement for use of the GUL is that users must comply with the terms, conditions and requirements included therein.
- 3.3 The current CB GUL Terms, conditions and restrictions can be viewed at <http://www.rsm.govt.nz/cms/licensees/types-of-licence/general-user-licences/citizen-band-radio>. Those conditions include 10 kHz bandwidths allocations in the HF band (26.325 MHz – 26.775 MHz) and 25 kHz bandwidth allocations in the UHF band (476.4 MHz – 477.425 MHz).
- 3.4 CB radio in Australia uses the HF band, 26.960 MHz – 27.410 MHz, and the UHF band, 476.4 MHz – 477.425 MHz.
- 3.5 In 2006, the Ministry developed an internal discussion paper on the proposal to relocate the HF CB frequency range to harmonise with Australia. As result of that paper, work was undertaken to move some Local Area Paging and HF point to point services from the 26.960 MHz – 27.410 MHz band.
- 3.6 That paper also identified a possibility of harmonising New Zealand communications for inshore boating radio services with those operating in the band 27.86 MHz – 27.98 MHz in Australia. Subsequent, discussions with the Maritime Safety Authority identified that radio services for New Zealand boating band were well managed using the VHF maritime band and that duplication of the service using the 27 MHz band would be a costly and unnecessary duplication of the VHF services. As a consequence there has been no further consideration given to the harmonising of inshore boating radio services with those of Australia.

4. HF Citizen Band and Radio Paging sharing aspects

- 4.1 The proposal to allow CB use of the 26.960 MHz – 27.410 MHz will require HF CB operators to operate share frequencies with 18 licensed Local Area Paging services.
- 4.2 PIB 38 rules for the licences require paging services to share with other paging services.
- 4.3 Many of the paging services provide monitoring, paging and two way voice communication services that are critical to patient care and/or efficient business management. Those services often operate with multiple paging transmitters within the required coverage area to achieve the reliability required.
- 4.4 Frequency sharing by radio paging and CB services is considered realistic because:
- radio paging equipment is normally high quality and specifically designed for sharing spectrum with other intermittent services. The protection from interference is achieved through the use of the transmission of repeated short bursts of digitally encoded frequency modulated signals and receivers designed with sophisticated error detection.
 - radio paging services are already sharing frequencies with users of the General User Radio Licence for Short Range Devices in the band 26.95 MHz to 27.3 MHz, which have a transmit power of 1 Watt e.i.r.p., without reports of interference to the paging services;
 - HF CB emissions are intermittent voice communications services that involve low levels of transmitter power and of limited range;
 - monitoring of the HF CB band has indentified that the call rates are low. The rates are also thought to be reducing as new users tend to use the more popular UHF PRS; and
 - CB users, who regularly receive paging transmissions on particular CB radio channels, will use other channels to avoid the interference.
- 4.5 GUL have the restriction that transmissions shall not cause interference to licensed services. When regular instances of interference are reported, the Ministry will investigate and can require the GUL operator to change frequency, reduce transmit power or cease transmission. The Ministry operates a Business Centre that is open 8:30 to 5:00 on business days that can be contacted on 0508 RSM INFO 0508 776463. Further information on interference regulation is available at <http://www.rsm.govt.nz/cms/consumers/reception-problems>.
- 4.6 To avoid causing interference, HF CB operators can identify the locations of licensed paging services using the SMART frequency register at <http://www.rsm.govt.nz/smart-web/smart/page/-smart/WelcomePage.wdk>. A SMART licence search, using the frequency range 26.965 MHz – 27.405 MHz, will provide a schedule of all licensed paging services. Assistance on the use of SMART is available on the RSM web site at <http://www.rsm.govt.nz/cms>.

Question 1: Do you agree with the allocation of the band 26.960 MHz – 27.410 MHz for CB services. If not, why not?

5 UHF Personal Radio Services Band Changes

- 5.1 The Ministry proposes to allow the use of both 25 kHz and 12.5 kHz channel bandwidths in the UHF PRS band to align with AS/NZS 4365, Table 1 Nominal Carrier Frequency plan. The UHF PRS frequency range remains unchanged.
- 5.2 The use of 12.5 kHz bandwidth has the potential to double the number of channels available.
- 5.3 The use of both 25 kHz and 12.5 kHz channel bandwidths is likely to reduce the quality of communications between equipment using different bandwidths.
- 5.4 The proposed UHF PRS GUL channel plan and associated Terms, conditions and restrictions are included in Appendix – The Proposed CB GUL.
- 5.5 Note that the restrictions indicated in the AS/NZS 4365 Table 1 regarding channels 03, 04, 06, 41, 44, 47, 48, 61, 62, and 63 do not apply in New Zealand.
- 5.6 The Ministry proposes that existing 25 kHz equipment and new 12.5 kHz equipment would operate in the band without any specific date limitation on the 25 kHz use. Such use would, however be limited to equipment in use or sold before a specific date and would effectively limit the supply of new 25 kHz equipment and provide for a long term transition. Users in any area would need to select appropriate channels, much as they do now, to ensure the quality of communications they seek.

Question 2: Do you agree with the adoption of the PRS frequency plan identified in Schedule 2 of Appendix – The Proposed CB GUL, and the ongoing use of both 25 kHz and 12.5 kHz bandwidths? If not, why not?

Question 3: Do you consider the Ministry proposal to allow continued use of 25 kHz equipment in use by CB operators on or before 30 June 2011 is satisfactory? If not, why not and what date do you recommend?

6 UHF Personal Radio Services Fixed Repeater changes

- 6.1 The current requirements for PRS fixed repeaters can be viewed at <http://www.rsm.govt.nz/cms/licensees/types-of-licence/citizen-band-prs>. Those requirements include a need for each PRS repeater to have an individual radio licence and that the repeaters conform to the requirements published in [PIB 20](#).
- 6.2 PIB 20 will be replaced when the new PIB 38 (Radio Licence Certification Rules) and the new PIB 59 (Policy Rules for Mobile and Fixed Services) are published during 2011.
- 6.3 The Ministry proposes to change the licensing rules for PRS repeaters to:

- enable all approved radio certifiers and engineers to engineer and certify the individual radio licences required for a PRS repeater; and
 - reduce the minimum spacing of PRS repeaters from 20 km to 5 km.
- 6.4 The proposed new licence engineering and certification requirements will align PRS repeater licensing processes with the RSM processes already in place for most other radio licence types.
- 6.5 The proposal to reduce the distance spacing between PRS repeater services will allow a moderate increase in use of the repeater facility to provide extended range for PRS transmissions in larger urban areas. The change is planned to take effect on the new PIB 38 and PIB 58 are published. (The use of a limitation on the spacing between repeaters is used to limit the number of repeaters that can be used in a particular area.)
- 6.6 The Ministry proposes to maintain the minimum co-channel separation distance between repeaters at 100 km.
- 6.7 Consideration is being given to reserving UHF PRS repeater channels for repeater use only.

Question 4: Do you agree with the proposal to reduce the minimum separation distance between repeaters from 20km to 5km?

Question 5: Have you any other concerns with the contents of the proposed CB GUL or other aspects of the proposals? If so, what are they and why are they of concern?

7 Submissions

- 7.1 Submissions can also be emailed to radiospectrum@med.govt.nz, noting "Citizen Band/PRS GUL Submission" in the subject line (preferred option).
- 7.2 Written submissions should be posted to:
- Citizen Band/PRS GUL Review
Radio Spectrum Policy and Planning
Ministry of Economic Development
PO Box 1473
WELLINGTON, 6140
- 7.3 Submissions should be received no later than 11 February 2011.
- 7.4 The Ministry intends to publish a summary of submissions and all submissions on the RSM website at www.rsm.govt.nz.
- 7.5 The Ministry will consider you to have consented to the publication of your submission, unless you have clearly specified otherwise.
- 7.6 Submissions received will be subject to the Official Information Act 1982. If a respondent considers that there are grounds for The Ministry to withhold key information in a submission, this information should be clearly marked and the relevant reason stated so that the Ministry can determine whether withholding may be justified under the Act.

- 7.7 The Privacy Act 1993 establishes certain principles with respect to the collection, use and disclosure by various agencies including the Ministry, of information relating to individuals and access by individuals to information relating to them held by such agencies. Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry in conjunction with considerations of matters covered by this document only. Please clearly indicate in your submission if you do not wish your name to be included in any summary the Ministry may prepare for public release on submissions.

8 Summary of questions

- Question 1: Do you agree with the allocation of the band 26.960 MHz – 27.410 MHz for CB services. If not, why not?
- Question 2: Do you agree with the adoption of the PRS frequency plan identified in Schedule 2 of Appendix – The Proposed CB GUL, and the ongoing use of both 25 kHz and 12.5 kHz bandwidths? If not, why not?
- Question 3: Do you consider the Ministry proposal to allow continued use of 25 kHz equipment in use by CB operators on or before 30 June 2011 is satisfactory? If not, why not and what date do you recommend?
- Question 4: Do you agree with the proposal to reduce the minimum separation distance between repeaters from 20km to 5km?
- Question 5: Have you any other concerns with the contents of the proposed CB GUL or other aspects of the proposals? If so, what are they and why are they of concern?

9 Next Steps

9.1 On receipt of submissions in response to this paper, the Ministry will:

- consider those submissions;
- determine which proposals are to be implemented;
- plan for their implementation,
- publish a report on the submissions;
- Gazette a new CB GUL; and
- report to government.

9.2 The new CB GUL is planned to come into effect on 11 March 2011.

Appendix – The Proposed CB GURL

Radiocommunications Regulations (General User Radio Licence for Citizen Band Radio) Notice 2011

Pursuant to regulation 9 of the Radiocommunications Regulations 2001 ('the regulations') made under section 116(1)(b) of the Radiocommunications Act 1989, and acting under delegated authority from the Chief Executive, I give the following notice:

Notice

1. Short title and commencement

- (1) This notice is the Radiocommunications Regulations (General User Radio Licence for Citizen Band Radio) Notice 2011.
- (2) This notice comes into force on 1 March 2011.

2. General User Radio Licence

A general user radio licence is granted for the transmission on any frequency specified in the licence by means of radiocommunication transmitters known as 'Citizen Band Radio', 'CB Radio', 'UHF CB Radio' or 'Personal Radio Service', in accordance with the terms, conditions, and restrictions of this notice.

3. Terms, conditions and restrictions

- (1) The frequencies, transmitter powers, and emission designations for transmitters operating in the 26.325 MHz – 26.775 MHz and 26.960 MHz – 27.410 MHz bands are those prescribed in the First Schedule to this notice.
- (2) The frequencies, transmitter power and emission designations for transmitters operating in the 476.4 MHz – 477.425 MHz band are those prescribed in the Second Schedule to this notice.
- (3) Transmitters must conform to technical standards as prescribed in notices made under Regulation 32 (1)(b) of the Regulations.
- (4) Frequency use is on a shared basis and the Chief Executive does not accept liability under any circumstances for any loss or damage of any kind occasioned by the unavailability of frequencies or interference to reception.
- (5) Should interference occur to services licensed pursuant to a radio licence or a spectrum licence, the Chief Executive reserves the right to require and ensure that any transmission pursuant to this General User Radio Licence changes frequency, reduces power, or ceases operation.
- (6) All persons engaging in radiocommunications under this licence must, during transmission, clearly identify themselves.
- (7) The Chief Executive may, on request of an operator, allocate a callsign.
- (8) This licence does not apply to transmitters that may be installed, operated or used in an automatic re-transmission mode (also known as a 'repeater').
- (9) Except for tones generated for the purpose of selective calling, non-speech transmissions are not permitted, except on channels 22 and 23 of the Second Schedule.
- (10) Transmissions must not be relayed over telecommunication networks, an activity sometimes known as 'auto-patching'.

4. Consequential revocation of licences

(1) The Radiocommunications Regulations (General User Radio Licence for Citizen Band Radio) Notice 2003 dated 26 May 2003 is revoked on XXXXXXXXXXXX 2011.

(2) Notwithstanding the revocation of the notice under subsection (1), subject to section 3, every transmitter compliant with the requirements of that notice on the XXXXXXXXXXXX 2011 is deemed to be compliant with the requirements of this notice.

FIRST SCHEDULE:

Channel	Frequency MHz	Channel	Frequency MHz
1	26.330	21	26.580
2	26.340	22	26.590
3	26.350	23	26.620
4	26.370	24	26.600
5	26.380	25	26.610
6	26.390	26	26.630
7	26.400	27	26.640
8	26.420	28	26.650
9	26.430	29	26.660
10	26.440	30	26.670
11	26.450	31	26.680
12	26.470	32	26.690
13	26.480	33	26.700
14	26.490	34	26.710
15	26.500	35	26.720
16	26.520	36	26.730
17	26.530	37	26.740
18	26.540	38	26.750
19	26.550	39	26.760
20	26.570	40	26.770
1A	26.965	21A	27.215
2A	26.975	22A	27.225
3A	26.985	23A	27.255
4A	27.005	24A	27.235
5A	27.015	25A	27.245
6A	27.025	26A	27.265
7A	27.035	27A	27.275
8A	27.055	28A	27.285
9A	27.065	29A	27.295
10A	27.075	30A	27.305
11A	27.085	31A	27.315
12A	27.105	32A	27.325
13A	27.115	33A	27.335
14A	27.125	34A	27.345
15A	27.135	35A	27.355
16A	27.155	36A	27.365
17A	27.165	37A	27.375
18A	27.175	38A	27.385
19A	27.185	39A	27.395
20A	27.205	40A	27.405

Designations of Emissions:

2K80J3EJN SSB (Single-sideband,
suppressed carrier); or
2K80R3EJN DSB (Double-sideband,
reduced carrier); or
6K00A3EJN DSB (Double-sideband)

Maximum Power:

SSB - 12 watts peak envelop power (p.e.p)

DSB - 4 watts carrier power (pZ)

SECOND SCHEDULE:

Channel	Frequency MHz	Channel	Frequency MHz
01	476.4250	21	476.9250
41	476.4375	61	476.9375
02	476.4500	22	476.9500
42	476.4625	62	476.9625
03	476.4750	23	476.9750
43	476.4875	63	476.9875
04	476.5000	24	477.0000
44	476.5125	64	477.0125
05	476.5250	25	477.0250
45	476.5375	65	477.0375
06	476.5500	26	477.0500
46	476.5625	66	477.0625
07	476.5750	27	477.0750
47	476.5875	67	477.0875
08	476.6000	28	477.1000
48	476.6125	68	477.1125
09	476.6250	29	477.1250
49	476.6375	69	477.1375
10	476.6500	30	477.1500
50	476.6625	70	477.1625
11	476.6750	31	477.1750
51	476.6875	71	477.1875
12	476.7000	32	477.2000
52	476.7125	72	477.2125
13	476.7250	33	477.2250
53	476.7375	73	477.2375
14	476.7500	34	477.2500
54	476.7625	74	477.2625
15	476.7750	35	477.2750
55	476.7875	75	477.2875
16	476.8000	36	477.3000
56	476.8125	76	477.3125
17	476.8250	37	477.3250
57	476.8375	77	477.3375
18	476.8500	38	477.3500
58	476.8625	78	477.3625
19	476.8750	39	477.3750
59	476.8875	79	477.3875
20	476.9000	40	477.4000
60	476.9125	80	477.4125

Designations of Emissions:

10K0F3EJN or For voice telephony
10K0G3EJN
10K0F2EJN or For selective calling
10K0G2EJN

Maximum Power:

5 watts carrier power (pZ)
8.3 watts E.I.R.P

Dated at Wellington on.....

SANJAI RAJ, Manager Business Services, Radio Spectrum Management, Ministry of Economic Development.

Explanatory Note

(This note is not part of the notice, but is intended to indicate its general effect).

This notice prescribes that, pursuant to regulation-making powers of the Radiocommunications Act 1989, a General User Radio Licence is granted for the transmission of radio waves for the purpose of the Citizen Band Radio Service (CBRS), also known as “CB Radio”, or “Personal Radio Service (PRS)”, in accordance with the terms, conditions and restrictions of this service. This notice comes into force on **XXXXXXXXXX** 2011