



14 January 2005

Mr. Larry Shaw  
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Telecommunications Policy Branch  
Industry Canada  
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Ottawa, Ontario  
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Director -  
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Dear Mr. Shaw:

Subject: Bell Wireless Alliance Comments in Response to Revisions to Spectrum Utilization Policies in the 3-30 GHz Frequency Range and Further Consultation, *Canada Gazette* – Part 1, Notice No. DGTP-008-04, dated 1 October 2004

1. Bell Mobility, on behalf of the Bell Wireless Alliance (BWA), is pleased to submit the attached comments in response to the above captioned consultation.
2. If there are any questions concerning these comments, please do not hesitate to contact the undersigned.

Yours truly,

Attachment

Canada Gazette Notice No. DGTP-008-04

Revisions to Spectrum Utilization Policies in the 3-30 GHz  
Frequency Range and Further Consultation

Published in the *Canada Gazette*, Part 1  
dated 2 October 2004

Bell Wireless Alliance  
Comments  
on behalf of

Aliant Telecom Inc.,  
Bell Mobility Inc.,  
Northwestel Inc.,  
Saskatchewan Telecommunications  
and  
TBayTel

14 January 2005

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## 1.0 INTRODUCTION

1. The Bell Wireless Alliance (BWA) is pleased to provide the following comments in response to the further consultation initiated in Notice No. DGTP-008-04 - *Revisions to Spectrum Utilization Policies in the 3-30 GHz Frequency Range and Further Consultation*, as published in the Canada Gazette, Part 1, dated 2 October 2004 (the Consultation). For the purposes of this submission the BWA consists of Aliant Telecom Inc., Bell Mobility Inc., Northwestel Inc., Saskatchewan Telecommunications and TBayTel.

2. The BWA notes that by separate submission, dated 2 November 2004, it has expressed its agreement with the provisional changes also announced in the Consultation.

3. Concerning the matters for further consultation raised in the Consultation paper, the BWA comments are limited to the following specific issues:

- Priority to DSRC in 5850-5925 MHz Band;
- Local Multipoint Communications Systems (LMCS) Rural Use;
- 3650-3700 MHz Band for Licence-exempt Use;
- 71 81 92 GHz Bands;
- 21.2-23 GHz Band; and
- Broadband Spectrum Cap Review.

### 1.1 Executive Summary

4. The BWA supports the addition of a domestic footnote **C16X** in the band 5850-5925 MHz as proposed, whereby Dedicated Short Range Communications (DSRC) systems in the Fixed Service (FS) and Mobile Service (MS) will have priority over Fixed- Satellite Service (FSS) operations.

5. To facilitate broadband access in rural areas, the BWA supports the policy that some 28 GHz LMCS spectrum should be made available on a first-come, first-served as well as on a technology-neutral, flexible spectrum policy basis. The BWA further supports the proposed definition of rural areas based on population density not exceeding 400 people per square kilometre as measured by the latest Statistics Canada Census Report.

6. The BWA recommends that Industry Canada (Industry Canada or the Department) undertake a consultation in the 3650-3700 MHz band for which would consider the licence-exempt use of the band subsequent to the Federal Communications Commission's (FCC) determinations in its related proceeding.

7. The BWA recommends that the Department undertake a consultation for the efficient use of the 71-76 GHz, 81-86 GHz and 92-95 GHz bands in view of the complex issues involved in the questions raised by the Department and noting the extensive deliberations by the FCC in its proceeding for this band.

8. The BWA believes that the Department's proposal for opening a portion of the 21.2-23.6 GHz spectrum for licence-exempt operation would cause interference to incumbents in adjacent bands. Therefore, the BWA requests instead that the Department review the SP 23/38 GHz with a view to accommodating the fixed systems operating under SRSP-318.5 in the band 18.3-19.3 GHz that will be displaced under the provisions of transition in the SP 3-30 GHz.

9. Finally, the BWA supports the Department's assessment that the broadband spectrum cap in the 24, 28 and 38 GHz frequency bands is no longer required and should be removed.

## **2.0 COMMENTS ON SPECIFIC ISSUES RAISED FOR DISCUSSION IN THE FURTHER CONSULTATION - KEYED TO THE SECTIONS IN THE CONSULTATION PAPER**

10. In the following sections, the BWA provides its comments on certain of the specific matters posed for further consultation in the Department's Consultation document. For convenience, the BWA has encapsulated the Department's question preceding its comments.

### **Section 3.4 – Priority to DSRC in 5850-5925 MHz Band**

***The Department is therefore proposing to establish by domestic footnote that DSRC systems in the FS and MS services will have priority over FSS operation:***

***C16X - In the band 5850-5925 MHz the use of the fixed and mobile services has priority over the use of the fixed-satellite service. The use of the fixed-satellite service in this band shall be limited to applications that pose minimal constraints on the deployment of fixed and mobile service systems. An example of such an application would be the use of a small number of large aperture earth stations, taking into account existing and potential service areas for ubiquitous deployment of fixed and mobile service systems.***

***Comment is sought on the proposal for a domestic footnote to ensure that DSRC systems in the FS and MS services have priority over FSS operations in the band 5850-5925 MHz.***

11. The BWA notes that in the revisions to the SP 3-30 GHz policy the Department has added a mobile allocation to the band 5850-5925 MHz and also has designated this band for use by DSRC systems to support Intelligent Transportation Systems in the fixed and mobile services. Since there are currently no FSS satellites using the 5850-5925 MHz band in the Department's published *List of Satellites Approved to Provide Fixed Satellite Services (FSS)* in Canada, the BWA supports the Department's proposal that it would be timely to add a domestic footnote C16X as proposed whereby DSRC systems in the FS and MS services will have priority over FSS operation.

#### **Section 5.3.7 - Rural Use in 27.35-28.35 GHz LMCS Band**

***In order to facilitate access in rural areas, the Department proposes to divide the spectrum in the band 27.35-28.35 GHz into smaller blocks such as three paired blocks of 150+150 MHz separated by a common go-return spacing of approximately 550 MHz.***

***The Department also proposes to make licences to use this spectrum available on a first-come, first-served basis in rural areas where it is evident that there is more spectrum than demand.***

***The Department seeks comment on these proposals as well as on the following:***

***(1) The suitability of defining rural areas as those areas for which the population density does not exceed 400 people per square kilometre as measured by the latest Statistics Canada Census Report.***

***(2) The designation of a buffer zone and/or other conditions to avoid encroachment on the eventual use of this spectrum in urban areas.***

***(3) The block pairing accommodates frequency division duplex systems. Are there measures which should be introduced or other accommodations which should be made for time division duplex systems (TDD) such as guard bands between the blocks, or dedicated spectrum for TDD use?***

12. The BWA notes that the 28 GHz LMCS spectrum licences comprised of 1 GHz of spectrum have all been returned to the Department over the years. While some 28 GHz spectrum should be made available to facilitate broadband access in rural areas, the BWA believes that a technology-neutral, flexible spectrum policy would be preferable to take advantage of the evolving technology, and therefore the selection of block size should best be

left to the discretion of licensees. However, the BWA supports the Department's proposal to make the licences available on a first-come, first-served basis in rural areas.

13. The proposed definition of "rural areas" as "those areas for which the population density does not exceed 400 people per square kilometre as measured by the latest Statistics Canada Census Report" would appear to be reasonable considering that it is also simple to administer. It should be noted that in a related proceeding, the FCC had reviewed some eight potential definitions for rural areas and settled on a figure of 100 persons per square mile or less for establishing a baseline definition of rural area (equals about 270 persons or less per square kilometre).

14. The BWA supports the establishment of an appropriate buffer zone and other conditions similar to those adopted in SP 3400-3700 MHz, to avoid encroachment on the eventual use of this spectrum in urban areas.

15. While the use of Frequency Division Duplex (FDD) systems is likely to be prevalent in the LMCS band, it would be desirable to adopt a technology-neutral policy allowing flexibility for the use of both FDD and Time Division Duplex (TDD) systems.

#### **Section 6.4 – Licence-exempt Use in 3650-3700 MHz Band**

***The Department seeks comment on whether to make the band 3650-3700 MHz available for license-exempt applications. Comment is also requested on the types of systems and services that could be implemented in the band, and noting the availability of licensed spectrum in the adjacent bands, whether there is a requirement to continue the designation for licensed services in the band.***

***The Department also seeks comment on the measures which should be introduced for the treatment of incumbent licences in the band, noting the existing policy for the accommodation of FWA services in the band 3500-3650 MHz.***

***(1) Are there measures which could be introduced for the operation of licence-exempt devices which would ensure the protection of existing licensed systems?***

***(2) How could such measures be enforced?***

***(3) Should existing licenses be grandfathered indefinitely or should a sunset period apply?***

16. The BWA has referenced the FCC Notice of Inquiry (FCC NOI 02-328) referred to under this issue. This NOI was released on 20 December 2002 to examine the possibility of permitting

unlicensed devices to operate in additional frequency bands below 900 MHz and in the 3 GHz band. Since then the FCC has initiated a rulemaking proceeding in their Notice of Proposed Rule Making (NPRM) (FCC-04-100), released on 23 April 2004, to foster the introduction of wireless broadband operations in the 3650-3700 MHz band. The FCC has made several proposals in the NPRM, including the following:

- allowing unlicensed devices to operate in some or all of the 3650-3700 MHz band with higher power than currently authorized under Part 15 Rules for unlicensed devices, but subject to smart or cognitive technology safeguards, including features, such as;
  - Fixed unlicensed devices would be subject to a professional installation requirement to ensure that certain criteria are met so that operation at a particular location and higher power level would not cause interference to incumbents.
  - Fixed unlicensed devices using sectorized, scanning spot-beam, or other antenna types with multiple beam capability be required to limit the EIRP in any direction to no more than 25 Watts.
  - Non-fixed unlicensed devices would be required to employ a dynamic frequency selection (DFS) like "listen-before-talk" mechanism for detecting any incumbents sharing the band,
  - Non-fixed unlicensed devices would also be required to emit standardized identification signal.
- options that would allow for licensed operations in this band by fixed and mobile services, or segmenting the band to provide a combination of unlicensed and licensed terrestrial services. Licensed services could use cognitive technologies similar to those proposed for unlicensed devices to avoid interference to existing FSS earth stations.

17. The BWA believes that the harmonization of unlicensed devices with the United States (US) is in the best interest of Canadians. Therefore, subsequent to the FCC's finalization of the above NPRM proceeding, the BWA requests the Department to undertake a consultation which would address the efficient utilization of spectrum in the 3650-3700 MHz band. During that



consultation it would be more appropriate to address the issues in the three questions raised by the Department for this band.

### **Section 6.5.2 – 71-76 GHz, 81-86 GHz and 92-95 GHz Bands**

***The Department seeks comment on the framework, including technical and operational rules which would be required to open the bands 71-76 GHz 81-86 GHz and 92-95 GHz for fixed service operation on a licensed, non-exclusive basis.***

***(1) What are the technical and operational limits which should be established to facilitate co-existence:***

***(a) among licensees within the fixed service***

***(b) with future implementations of co-primary services (FSS, BSS and MS services as applicable)***

***(2) What are the characteristics, data elements and access requirements for a database which could establish rights within an area based on date and time registration?***

***(3) Are there propagation models which could be readily incorporated to develop interference contours and increase sharing efficiencies?***

18. The BWA notes that the FCC had held a public forum in July 2000 to address possible new uses of the 92-95 GHz band.

19. In September 2001 the FCC received a petition requesting the establishment of service rules for the licensed use of the 71-76 GHz and 81-86 GHz bands. In response to these developments, the FCC proposed rules in their NPRM (FCC 02-180; released on 28 June 2002) to allow the use of the 71-76 GHz, 81-86 GHz and 92-94 GHz and 94.1-95 (92-95) GHz bands for a broad range of new fixed and mobile services and sought comment on those proposals. Those proposals included allocation changes to the bands as well as provisions to ensure that new non-Federal Government operations can share the available frequencies with Federal Government operations in the 71-76 GHz, 81-86 GHz, 92-94 GHz and 94.1-95 GHz bands and protect operations in adjacent bands.

20. Subsequently on 16 October 2003 the FCC adopted service rules in their R&O (FCC-03-248; released 4 November 2003) for the 71-76 GHz, 81-86 GHz and 92-95 GHz bands to promote the development of an additional broadband deployment platform. In the same Order, the three bands were allocated to both Federal Government and non-Federal

Government users on a co-primary basis, excepting the 94.0-94.1 GHz portion which was allocated for exclusive Federal Government use.

21. In view of the complex issues involved in the questions raised by the Department for the efficient utilization of these bands, and noting the extensive deliberations by the FCC in its proceeding for these bands, the BWA recommends that the Department undertake a consultation similar in scope of the above mentioned FCC proceeding for the development of efficient spectrum utilization and licensing policies for these bands.

#### **Section 6.5.4 – Licence-exempt Applications at 21.2 – 23.0 GHz**

***The Department is seeking comment on the level of interest in opening a portion of this spectrum for license-exempt operation.***

***(1) Would spectrum within the point-to-point designation or the point-to-multipoint designation be more appropriate?***

***(2) What technical rules would be required to facilitate co-existence with fixed services as well as other co-primary allocated services in the band?***

***(3) How would cross-border interference/coordination be managed with the US?***

***(One possibility would be to only authorize entities capable of becoming radiocommunication carriers to operate license-exempt equipment in the band. Rules could then be established which would avoid the possibility of cross-border interference).***

22. The BWA believes that while the Department's proposal for designating a licence-exempt (LE) band adjacent to a licensed fixed service band might be advantageous to operators for the rapid implementation of their networks, the proposal would more likely cause interference to incumbents in adjacent bands, as may be seen from the FCC's deliberations (ET Docket No. 98-156) for designating the 24.05-24.25 GHz band for unlicensed fixed point-to-point operations.

23. Consequently, the Department's specific proposal for designating the 21.6-21.8 GHz and 22.8-23.0 GHz paired bands (currently under "reserved" status) for licence-exempt operations would be impractical from adjacent-band interference considerations as well as from cross-border coordination considerations with the US.

24. It should be noted that the FCC has fully channelized the 21.2-23.6 GHz band for point-to-point licensed fixed service operations with the prime objective of accommodating displaced fixed systems, such as the 2 GHz fixed systems displaced by PCS systems, and also for accommodating the growth of back-hauls for cellular/PCS systems.

25. Considering the need to accommodate the fixed systems operating under SRSP-318.5 in the band 18.3-19.3 GHz that will be displaced, as discussed under the provisions for transition in Section 5.0 of SP 3-30 GHz, and considering the significant use of the 21.8-22.4 GHz/23.0-23.6 GHz bands under the provision of SRSP-321.8, where some 1400 1-way links currently operate and which are heavily used for back-hauls by cellular/PCS service providers, the BWA would request the Department for the review of SP 23/38 GHz with the view to harmonize the entire 21.2-23.6 GHz band with the FCC rules to the extent feasible for the licensing of point-to-point systems on a first-come, first-served basis.

#### **Section 6.9 – Review of Broadband Spectrum Cap Applicable to the Bands 24, 28 and 38 GHz**

***The Department seeks comments, with supporting rationale, on the proposal to rescind the spectrum cap for the bands 24, 28 and 38 GHz.***

26. The BWA notes the minimal roll-outs of wireless broadband facilities using the 24 GHz and 38 GHz spectrum resources since the auctioning of these spectrum three years ago. Further, the BWA also notes the returning of the 28 GHz LMCS spectrum licences to the Department.

27. The BWA agrees with the Department's assessment that the present limited use of the spectrum in the bands 24, 28 and 38 GHz together with the recent availability of additional spectrum in the bands 2.3 GHz, 2.5 GHz and 3.5 GHz for the purpose of wireless broadband and local wireless access facilities, would appear to make ample spectrum available for the provision of such facilities. Therefore, the BWA supports the Department's assessment "that there now exists an opportunity for competition and delivery of a choice of services and that the spectrum cap is no longer required".

### **3.0 CONCLUSION**

28. The BWA appreciates the opportunity to participate in the Department's Consultation on the 3-30 GHz frequency range.

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