

**Canada Gazette Notice No. DGTP-001-05**

**Consultation on a Renewed Spectrum Policy Framework for Canada  
and Continued Advancements in Spectrum Management**

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**Bell Wireless Alliance Comments  
on behalf of**

**Aliant Telecom Inc.**

**Bell Mobility Inc.**

**NMI Mobility Inc.**

**Northern Tel Mobility**

**Saskatchewan Telecommunications**

**and**

**Télébec Mobility**

**7 September 2005**

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## 1.0 INTRODUCTION

1. Bell Mobility, on behalf of the Bell Wireless Alliance (BWA), is pleased to provide the following comments in response to Notice No. DGTP-001-05: *Consultation on a Renewed Spectrum Policy Framework for Canada and Continued Advancements in Spectrum Management*, as published in the *Canada Gazette*, Part 1 dated 14 May 2005 (the Consultation). For the purposes of this submission, the members of the BWA include Aliant Telecom Inc., Bell Mobility Inc., NMI Mobility Inc., Northern Tel Mobility, Saskatchewan Telecommunications and Télébec Mobility.

2. Industry Canada (Industry Canada or the Department) states that the intent of the Consultation is to invite comments on a proposal to modify the *Spectrum Policy Framework for Canada* (the Framework) so that it will continue to provide a sound basis for the ongoing modernization of the Canadian Spectrum Management Program (the Program). The Consultation further notes that this action responds to the Minister of Industry's initiative to modernize Canada's telecommunication and radiocommunication policy and regulatory regimes.

3. Noting that the Framework was last revised in 2002, Industry Canada further states that its April 2004 Departmental document, *Strategic Directions – Spectrum/Telecom Program* (Strategic Directions) identified a number of external drivers that would impact the Program, including new and rapidly changing technology and market demand, globalization and heightened concerns surrounding security issues. Industry Canada indicates that these external drivers have led to the decision to initiate a public consultation to make further changes to the 2002 Framework.

4. The Department's Consultation paper is organized into two sections. Part A contains Industry Canada's proposed core objectives and policy guidelines. These objectives and guidelines are intended to provide the policy basis for the management of Canada's radio frequency spectrum. In Part B, the Department advances a number of spectrum management proposals as well as specific questions, for comment, which are intended to facilitate the discussion of potential enhancements to the Program. The Department notes that the issues raised in Part B, which range from augmenting spectrum harmonization and flexibility of use of frequency allocations to matters concerning the enhancement of licensees' spectrum privileges and facilitating communications in rural areas, may be the subject of further consultations in the future.

5. To facilitate the Department's use of these comments, the BWA's response will address both sections of the Department's Consultation, including related issues, in the order of their presentation in the document. For increased clarity, the Proposed Core Objectives and Policy Guidelines, in Part A, as well as the Department's spectrum management proposals and specific questions, in Part B, are captioned in our submission in italics, followed by the BWA's comments.

6. The BWA also notes that it participated in the development of and, where they are not contrary to the views outlined in this submission, supports the comments of the Radio Advisory Board of Canada (RABC) submitted in response to the Consultation.

7. The BWA is pleased to provide the following comments in response to Industry Canada's Consultation and looks forward to working with the Department as future consultations, related to these matters, are issued.

## **PART A – REVISION TO THE SPECTRUM POLICY FRAMEWORK FOR CANADA**

### **2.0 PROPOSED CHANGES TO THE FRAMEWORK**

#### **2.1 Core Objectives**

8. At page 2 of its Consultation, the Department states that where feasible, it will seek to maximize reliance on market forces and economic incentives while continuing to facilitate access to spectrum for societal needs that would not be achieved by economic factors alone. The Department recognizes, at page 4 of its Consultation, that globalization elevates the need to ensure that Canada's spectrum/telecommunications management regime provides a regulatory environment conducive to the efficient assignment of spectrum among competing uses. In this regard, the Department indicates that it must study spectrum management reform underway in other countries to benefit from their experiences as Canada moves forward with its review.

9. The Department's Consultation paper lists eight Proposed Core Objectives for comment. The Department notes that in managing the radiofrequency spectrum pursuant to the powers conferred by the *Radiocommunication Act* and with regard to the objectives of the *Telecommunications Act* and related legislation, the Department will adhere to the following

core objectives and policy guidelines in establishing policies, procedures, regulations and technical standards. The following section reviews the Core Objectives proposed by the Department followed by the BWA's comments concerning the revised objectives.

### **Proposed Core Objective 1**

***To promote and support the orderly development and efficient operation of radiocommunication systems and services to provide economic, social and cultural benefits for Canadians.***

#### **BWA Comments**

10. The BWA concurs with Proposed Core Objective 1. The BWA notes that wireless services are acknowledged as comprising a significant economic enabler for virtually all other sectors of the Canadian economy. Similarly, the availability of wireless services confer significant benefits on individual Canadians in the form of enhanced personal security and connectivity with family and friends. It is important therefore to ensure that this limited resource is developed and deployed in an orderly and efficient manner.

### **Proposed Core Objective 2**

***To promote economically efficient resource allocation and reliance on market forces and economic incentives to assign the spectrum.***

#### **BWA Comments**

11. The BWA concurs with Proposed Core Objective 2. In this regard, the BWA notes that other international administrations are also in the process of increasing their reliance on market forces and economic incentives to assign and manage spectrum.

12. The United States Federal Communications Commission (FCC), in its *Second Report and Order In the Matter of Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, released 2 September 2004, noted that:

"As with the underlying *Report and Order*, these actions take us further down the path toward greater reliance on the marketplace, thus expanding the scope of available wireless services and devices and enabling more efficient and dynamic use of spectrum to the ultimate benefit of consumers throughout the country."

13. Similarly, in the United Kingdom, the Office of Communications (Ofcom) in its *Spectrum Framework Review (SFR): Implementation Plan*, dated January 2005, concluded at page 12 that:

"As proposed by Ofcom in the Trading Consultation Document and subsequently in the SFR, Ofcom considers that the management of the radio spectrum can be carried out more effectively if market forces are harnessed to a significantly greater degree than in the past."

14. Ofcom also noted, at page 12, that this movement toward increased reliance on market forces was widely evident throughout the world when it observed that:

"This has been an international phenomenon. Other countries, in particular the US, Australia and New Zealand have already taken significant steps towards a more market based approach. In Europe, considerable attention is being given to spectrum trading and liberalization."

15. The BWA notes that the Department states that its objective in this review is to create a policy framework which will have the greatest likelihood of accommodating future requirements including responding to rapidly evolving technological advancements as well as changes in the market. Other national administrations have recognized that reliance on market forces, to the greatest extent practical, will enable their spectrum management regimes to respond quickly to technological and marketplace changes. The BWA therefore recommends that the principle of increased reliance on market forces to assign and manage spectrum, to the greatest extent practical and in accordance with good spectrum management practices, should be a central and overarching principle of the Department's revised core objectives.

16. The BWA believes that this should include the facilitation of secondary markets for spectrum and the avoidance of those policies, for example new entrant set-asides, which are contradictory to the principle of an increased reliance on market forces and economic incentives to assign and manage the spectrum resource.

### **Proposed Core Objective 3**

***To ensure that radiofrequency spectrum is available to support Canadian sovereignty, security and public safety needs.***

#### **BWA Comments**

17. While the BWA concurs with the spirit of Proposed Core Objective 3, we note that commercially available solutions are capable of economically meeting many of these needs including addressing the critical requirement for system interoperability. Consequently, and since commercially available solutions would be a more cost effective use of public funds, the BWA submits that commercially available solutions should be used wherever possible to meet these requirements.

### **Proposed Core Objective 4**

***To regulate wisely and only when required.***

#### **BWA Comments**

18. The BWA concurs with Proposed Core Objective 4. The BWA believes, in this regard, that regulation should be resorted to only where necessary, where its benefits clearly outweigh its costs and, where these criteria are met, should be implemented in the least obtrusive manner possible.

### **Proposed Core Objective 5**

***To facilitate the implementation of advanced communications technologies and services to benefit all Canadians.***

#### **BWA Comments**

19. The BWA concurs with Proposed Core Objective 5 and notes that for many Canadians, especially those in unserved and underserved regions, wireless technology is likely the only way they will ever obtain access to broadband services. The BWA submits that in the interests of bridging the digital divide and benefiting all Canadians, government policy should encourage those services providers who are willing to invest substantially and thus make commercial solutions available to Canadians residing in such areas.

### **Proposed Core Objective 6**

*To facilitate the use of spectrum in rural and remote communities and regions.*

#### **BWA Comments**

20. The BWA notes that, given the mobile nature of Personal Communications Services (PCS) and cellular wireless services, it may be difficult to ensure that the impacts of policy initiatives targeted toward rural and remote areas are in fact contained within those areas. The BWA recommends therefore that the Department consult with the industry on any proposed policies that it is considering with regard to the achievement of this objective.

### **Proposed Core Objective 7**

*To advance Canadian spectrum interests internationally*

#### **BWA Comments**

21. The BWA concurs with Proposed Core Objective 7.

### **Proposed Core Objective 8**

*To consult widely and on a regular basis on matters affecting the Program.*

#### **BWA Comments**

22. The BWA concurs with Proposed Core Objective 8.

## **2.2 Policy Guidelines**

23. Industry Canada's Consultation contains a set, sixteen in all, of policy guidelines that comprise the basic policy direction of the program. In addition, for the purposes of this review, Industry Canada notes that it has established four broad themes for the future direction of the Canadian Spectrum Management Program and that the proposed modified policy guidelines are organized to respond to these themes. The four themes are:

- facilitating access to spectrum for all Canadians;

- making spectrum available to meet priority requirements and societal needs;
- improving the utilization of the spectrum resource; and
- delivery of the Canadian Spectrum Management Program.

24. In the following sections, the BWA provides its comments on the proposed New Policy Guidelines. To facilitate the use of these comments the New Policy Guidelines are captioned preceding the BWA's comments. The New Policy Guidelines and the BWA's comments are organized according to the above four headings.

### ***Theme 1 - Facilitating Access to Spectrum for all Canadians***

#### **BWA Comments**

25. The BWA notes and supports the Department's acknowledgement that it is important to provide licensees with the flexibility and adaptability enabling them to respond to changing technological and market factors. Increasingly, the continued suitability of the traditional "command and control" approach to spectrum management is being questioned in other international jurisdictions, e.g. the U.S and the U.K., and is being replaced by an approach which places increased reliance on market forces. The BWA believes that an approach which incorporates a greater reliance on market forces will be strategic in enabling these countries to respond faster to unforeseen technological and market developments. It is important that Canada adopt a similar approach if it is to remain competitive and keep pace with other countries. We therefore support the Department's stated intention to maximize reliance on market forces and economic incentives to determine spectrum use.

#### ***New Policy Guide 1 – Allocation of Frequency Bands to Radio Services***

***Bands of radiofrequency spectrum are allocated in Canada to particular radio services to accommodate radiocommunication systems with generally compatible coexistence characteristics in order to maximize the utilization of the spectrum and mitigate potential interference.***

***The Department will generally facilitate the greatest degree of flexibility in the use of allocated spectrum, within the bounds of promoting orderly and efficient use and also adhering to sound technical considerations. While striving to best meet Canadian requirements, the Department will generally advocate, internationally, spectrum allocations that are harmonized on as broad a basis as possible.***

## **BWA Comments**

26. The BWA agrees with New Policy Guideline 1, and in particular, supports the Department's intention to facilitate the greatest degree of flexibility in the use of allocated spectrum. The BWA also supports the Department's suggestion that it will generally advocate spectrum allocations that are harmonized, internationally, on as broad a basis as possible. At the same time, the BWA notes that given our proximity to the United States, and considering the significant influence of that market on standards development, equipment selection as well as the requirement for Canada – U.S. frequency coordination and the need to support seamless North American roaming, that harmonization on a North American basis should, for the foreseeable future, be a primary objective.

### **New Policy Guideline 2 – Designation of Spectrum to Usage**

***In order to promote efficient and optimal utilization of the spectrum resource by grouping together systems of similar characteristics, spectrum may also be designated on the basis of use as a further precision of the allocation. The spectrum designations are intended to accommodate a diversity of applications and users. The Department will provide licensees the flexibility to adapt their service offerings to meet changing demands within the practical limits of the allocation and designation.***

## **BWA Comments**

27. The BWA agrees with New Policy Guideline 2, and in particular, strongly supports the proposal to provide licensees with maximum flexibility to adapt their service offerings to meet changing demands within the practical limits of the allocation and designation. A high degree of flexibility will be critical to enabling licensees to innovate and respond to changing demands in light of the tremendous pace of technological development in the wireless sector.

### **New Policy Guideline 3 – Radio Systems or Services Displacement**

***The Department will reallocate spectrum, which could result in displacement of existing services or systems from a particular band, only where necessary. A reasonable period of notice will be given to existing spectrum users, including any conditions or circumstances associated with a displacement to make spectrum available for new services. The release of reallocated spectrum will be based on the timelines for implementing new services, to the extent practical.***

***The Department will not be responsible or liable to financially compensate spectrum users who become displaced.***

## **BWA Comments**

28. The BWA notes that Industry Canada's current Policy Guideline 7 (see Consultation, Appendix B) only requires the displacement of existing services or systems from a particular band, when there is a compelling requirement to do so, such as a national security related requirement. It is most important is for the Department to maintain consistency in the application of its policy. In this regard, service providers require certainty if they are to continue to make the multi-million dollar investments required to provide Canadians with advanced wireless services. The BWA strongly believes that the concept of a 'compelling requirement' as a precondition for displacement should be retained and continue to be reflected in New Policy Guideline 3.

29. Concerning financial compensation, the BWA submits that in the event that a licensee was displaced from spectrum which was awarded through a competitive auction, then the Department should be prepared to reimburse the associated auction fees to any licensees who have been displaced, even if such displacement was required for compelling reasons.

### **New Policy Guideline 4 – Economic Principles of Spectrum Management**

***The Department will strive to maximize the benefits to society, generated by the use of the radiofrequency spectrum, through economically efficient resource allocation and to rely as much as possible on market forces and economic incentives to determine who uses spectrum, how they use it, and how much they pay for it. The Department will capture economic rents for the public where rents exist and recover spectrum management costs where rents do not exist. The Department will endeavour: to avoid taking action that may create artificial spectrum scarcity; to establish rules that ensure that competition for spectrum resources is fair and effective; and to create and maintain a stable environment for spectrum users.***

## **BWA Comments**

30. The BWA strongly supports, as previously noted, the Department's proposal to rely as much as possible on market forces and economic incentives to determine who uses spectrum, how they use it and how much they pay for it. This trend toward increased reliance on market forces and economic incentives in spectrum management is evident in the current spectrum policy reform initiatives of a number of national administrations as discussed above.

31. In terms of determining of who uses spectrum, the BWA strongly recommends that the Department not thwart its reliance on market forces by subsequently adopting policy measures,

such as new entrant set-asides, which, in the BWA's view, are contrary to the principles proposed in New Policy Guideline 4.

32. Concerning economic rents, the Department must recognize that the very existence of an advanced wireless infrastructure, in and of itself, creates positive externalities, in the form of a significant economic enabler, for Canadians and Canada as a whole. The BWA believes that the existence of such positive externalities should be taken into account when determining economic rents.

33. Finally, the BWA notes that creating and maintaining a stable environment for spectrum users is not only essential for those users but is also crucial to the achievement of the goals of the *Telecommunications Act*.

#### **New Policy Guideline 5 – Licensing Process**

***The Department will continue to select the appropriate licensing process for different spectrum resources. The First-Come, First-Served licensing process will be employed where the Department believes spectrum supply is adequate to meet demand.***

***A competitive licensing process, either an auction or a comparative review, will be used when the Department believes that the demand may exceed the supply. An auction will be used when government policy objectives can be fully met through the various means available and where reliance on market forces to select licences is deemed to be in the public interest.***

#### **BWA Comments**

34. The BWA agrees with New Policy Guideline 5 and encourages the Department to rely on market forces to select licensees in those instances where demand exceeds supply. The BWA submits that competitive licensing processes, such as spectrum auctions, should preclude the use of policy initiatives such as new entrant set asides. Such initiatives are not only contrary to a reliance on market forces but can also distort competitive licensing processes and spectrum auctions in particular. The BWA notes that wireless telecommunications is a business which requires significant financial resources and technical capability, not only to acquire licences but to subsequently build out and deploy the spectrum to its fullest potential. It is not clear to the BWA that policy instruments such as new entrant set-asides would result in the licensing of entities that would ultimately provide services to the public. Simply put, if an entity does not

have the financial wherewithal to participate in an auction, it likely does not have the financial capability to deploy the spectrum on a regional or national basis.

35. The Department must also ensure that the ownership & control review process is handled expeditiously. A key objective of government policy should be to ensure that spectrum is put to use as efficiently as possible. This objective is defeated if bottlenecks within government cause inordinate delays in achieving that result. While Industry Canada is improving this process, the BWA urges it to take any steps necessary, including the diversion of a portion of future spectrum auction proceeds, to address any internal resource roadblocks which prevent it from handling the ownership & control review process in an expeditious manner.

#### ***New Policy Guideline 6 – Facilitating the Use of Spectrum***

***In order to allow for licensees and other players in the telecommunications industry to maximize the benefit derived from the use of the spectrum, the Department will provide opportunities for secondary market trading where appropriate. Furthermore, the Department will endeavour to provide as much certainty as possible under the circumstances in order to allow licensees to plan for the long term.***

#### **BWA Comments**

36. The BWA agrees with the Department's proposal to provide opportunities for secondary market trading where appropriate. The BWA believes that the development of secondary markets for spectrum will facilitate the movement of spectrum to those who value it most and will use it most efficiently, thereby maximizing the benefits to the Canadian economy of this resource. The BWA further notes that the development of secondary markets is consistent with the Department's objective to rely on market forces and economic incentives to promote efficient resource allocation.

37. The BWA also agrees with the Department's intention to provide licensees with as much certainty as possible thus enabling them to plan for the long term. The BWA further recommends that, if secondary market trading is to be successful, any process governing such transactions has to be voluntary, simple, expedient and, to the greatest extent possible, driven by commercial rather than bureaucratic considerations. We believe that such an approach will be readily and easily adaptable to changing market and technological requirements and will support innovative commercial arrangements between parties.

### **New Policy Guideline 7 – Timely Release of Spectrum**

***The Department will release spectrum for use on a licensed, and a licence–exempt basis, in a timely manner so that it can be used to produce benefits for all Canadians. Spectrum will not be withheld, except where necessary to satisfy specific policy issues.***

#### **BWA Comments**

38. The timely release of spectrum is of critical importance to the Canadian wireless industry. The BWA notes that the timely release of spectrum, in its view, means making spectrum available when it is actually needed by the market place. The BWA notes that the significant up-front financing cost to carriers to participate in spectrum auctions makes it particularly critical that spectrum is not auctioned prematurely. The BWA submits that close collaboration and consultation between the industry and the Department is the best way achieve the objective of this guideline.

39. The statement to the effect that spectrum will not be withheld "except where necessary" raises cause for concern given that the Department has not specified the circumstances or provided examples under which spectrum would be withheld. The BWA submits that the Department should be prepared to provide a suitable explanation for this caveat or it should be removed.

### ***Theme 2 - Making Spectrum Available to Meet Priority Requirements and Societal Needs***

#### **BWA Comments**

40. The BWA recognizes that a degree of government intervention may be required to ensure access to spectrum for security, sovereignty and public safety. As noted above, however, the BWA strongly submits that commercial solutions should be afforded equal consideration as viable alternatives to meet these critical needs. Among other things, for example, issues related to system interoperability would likely be minimized if commercial solutions were used to meet these needs.

### **New Policy Guideline 8 – Priority Communication Services**

***Radiocommunication systems vital to sovereignty and national security, National Defence, law enforcement, public safety and emergency response will be granted high priority and support in the access and use of the radiofrequency spectrum. The Department will encourage service interoperability among communication systems as required.***

#### **BWA Comments**

41. The BWA supports New Policy Guideline 8 in principle but also notes that commercially available solutions are a cost-effective means of meeting the requirements for priority communication services.

### **New Policy Guideline 9 – Availability of Advanced Communication Services for all Canadians**

***The Department will facilitate access and use of the radiofrequency spectrum for the development of communication systems to meet societal needs that would not otherwise be achieved by market forces alone, such as communication services in rural and remote areas.***

#### **BWA Comments**

42. The BWA agrees, in principle, with the intent of New Policy Guideline 9 if and only if there is evidence that market forces will not achieve the identified needs and that any measures ultimately adopted are designed to respond to the requirements of users to the extent that competitive market outcomes will not likely achieve such requirements.

### ***Theme 3 - Improving the Utilization of the Spectrum Resource***

#### **BWA Comments**

43. The BWA agrees with the overall theme of improving the utilization of the spectrum resource. The Department notes, in this regard, that evolving technologies, e.g. software-defined and cognitive radio, as well as certain evolving concepts related to spectrum management, e.g. the noise temperature concept, may enhance spectrum utilization. Realizing that the impact of some of these technologies may still be some years away and recognizing that certain approaches to spectrum management remain controversial and subject to continuing debate as to their merits, the BWA encourages the Department to continue to

monitor these developments. The BWA further notes that actual market place experience can differ dramatically from radiofrequency (RF) design theory. Noise and interference caused, for example, by buildings or the requirement to receive signals indoors can all have a dramatic affect on actual RF performance in the field. Consequently, certain applications may not actually achieve the RF performance which appears to be theoretically possible. In any event, the BWA recommends that the Department consult with the industry before introducing any policies that utilize these technologies or concepts.

### **New Policy Guideline 10 –Facilitating Advances in Technology**

***The Department will facilitate the deployment of advanced technologies that augment the use of the radiofrequency spectrum and/or provide new services to Canadians. The Department will authorize radiocommunication system trials and new technology experiments where warranted.***

***As research and development supports the development of advanced technologies, the Department will continue to establish radiocommunication R&D requirements for certain licensees, in consultation with industry, whenever appropriate.***

### **BWA Comments**

44. In general, the BWA supports New Policy Guideline 10 but questions the appropriateness of attaching R&D Condition of Licence (CoL) requirements to those licences that are acquired through competitive licensing processes. The BWA suggests that, as an alternative, R&D CoL could be applied only to those licences acquired through the first come, first-served processes. As a general comment, the BWA also submits that government has to be cognizant of the cumulative effect of mandatory commitments imposed on licensees of which the R&D CoL is only one. Taken together all such requirements, e.g. R&D, roll out, licence fees, auction payments, etc., all have a significant effect on the financial results of carriers operating in the industry.

### **New Policy Guideline 11 - Radiocommunication Standards**

***Conformance to common standards and the use of conformity assessment procedures are required in certain instances to ensure orderly development, to avoid harmful interference and to facilitate operational compatibility of radio systems. They should include only those requirements which can be demonstrated to be necessary for good spectrum management. Coexistence of multiple standards in certain frequency bands may be permitted. The Department will strive to obtain harmonization of Canadian standards and conformity assessment procedures with international standards to the greatest extent possible.***

## **BWA Comments**

45. The BWA supports New Policy Guideline 11 but notes that harmonization with North American standards should be assigned a high priority.

### **New Policy Guideline 12 – Increasing Spectrum Utilization**

***In the development of spectrum management policy and practice, due regard will be given to promoting the utilization of the spectrum by the use of spectrum efficient techniques and frequency sharing among radio services.***

***As well, once radio systems have been authorized, the Department may ensure that these systems are implemented within a reasonable time and radio frequencies are utilized efficiently. In order to ensure that the radio system is implemented in a timely fashion, the Department may establish as a condition of licence a reasonable period for radio station installation to take place and service to begin within a certain time period.***

## **BWA Comments**

46. The BWA supports the principle of the efficient use of spectrum. The BWA strongly questions, however, the continued appropriateness or necessity of imposing implementation or commencement of service requirements in an environment in which, as per New Policy Guideline 4, the Department intends to increase its reliance on market forces and economic incentives in spectrum management. The BWA notes that reliance on economic incentives, in an environment where licensees have paid millions of dollars for spectrum, will ensure that the spectrum is used efficiently. As a result, the BWA recommends the deletion of the second paragraph of New Policy Guideline 12.

### **New Policy Guideline 13 - Interference Mitigation and Frequency Coordination**

***The Department will strive to ensure that the effects of interference are minimized or managed to acceptable limits. Coordination will normally be required for licensees to permit service availability to users in adjacent service areas or in adjacent spectrum. The Department generally encourages the holders of area licences and certain site-specific licences to coordinate amongst themselves.***

## **BWA Comments**

47. The BWA agrees with New Policy Guideline 13.

***Theme 4 - Delivery of the Canadian Spectrum Management Program***

***New Policy Guideline 14 - New Approaches for Policy and Practice in Spectrum Management***

***The Department will assess new approaches to policy and practice in spectrum management on a continuing basis and implement these new approaches where warranted.***

**BWA Comments**

48. The BWA supports New Policy Guideline 14 and, as previously stated, notes that other national administrations are increasingly relying on market forces and economic incentives to manage their spectrum resources. The BWA notes that this trend toward increased reliance on market forces and economic incentives is demonstrated by the current activity, in the U.S. and the U.K. for example, with respect to the development of secondary markets for spectrum.

***New Policy Guideline 15 - Public Consultation***

***The Department will continue to use the most modern means to collect and disseminate information and ensure that appropriate mechanisms are in place to allow interested parties to provide input to the Department on spectrum matters.***

**BWA Comments**

49. The BWA supports New Policy Guideline 15.

***New Policy Guideline 16 – Advancing Canadian Interests Internationally***

***The Department will continue to exercise leadership and commitment to Canadian involvement in regional and international spectrum matters.***

**BWA Comments**

50. The BWA supports New Policy Guideline 16.

### 3.0 **PART B – CONSULTATION ON ADVANCING THE CANADIAN SPECTRUM MANAGEMENT PROGRAM**

51. In this section of its Consultation paper, Industry Canada addresses, under a number of headings, specific issues related to further potential enhancements to Canada's spectrum management program. Under each heading, the BWA has captioned the associated proposals and questions, advanced by the Department in its Consultation, followed by the BWA's comments.

#### ***11.1 Harmonized Use of the Radiofrequency Spectrum***

##### ***Proposal***

***Canada should continue to identify the necessary steps to promote the harmonization of the use of radiofrequency spectrum on a regional and global scale.***

##### **BWA Comments**

52. The BWA supports the RABC's recommendation that the proposal should be amended, with the addition of a final phase, to read:

**Canada should continue to identify the necessary steps to promote the harmonization of the use of radiofrequency spectrum on a regional and global scale, while promoting the maximum flexibility consistent with good spectrum management.**

53. The BWA reiterates its view however that, for the reasons stated above, for the foreseeable future harmonization on a North American basis should be a primary objective.

##### ***Questions***

**(1) *What steps can Canada take to further harmonize spectrum allocations, policies, standards and regulations to the greatest extent possible?***

54. The BWA agrees with the RABC's comment to the effect that most harmonization, and the most effective harmonization, is driven by the needs of users, on the one hand, and vendors' responses to them, on the other. The BWA notes that the partnership between government and the industry, e.g. through the RABC among other means, is unique to Canada and has been very successful. This partnership should continue to be supported by Industry Canada.

**(2) *How can Canadian interests be further advanced in the international fora responsible for developing standards and regulations for new wireless technologies and services?***

55. The BWA supports the view that Canada needs to maintain a high profile within the International Telecommunication Union (ITU) as well as in other regional and international organizations such as the Inter-American Telecommunication Commission (CITEL) by consciously striving to play a leading role. This approach will require the on-going support of government and the industry by ensuring that the appropriate resources, human and financial, are made available to achieve this objective.

### **11.2 Licence-exempt Spectrum**

#### **BWA Comments**

56. Concerning the scenario outlined in the Department's Consultation, the BWA agrees with the Department's view that the Canadian market is not large enough, in most instances, to be able to support the design, manufacture and deployment of products for unique Canadian licence-exempt (LE) bands. Nevertheless, the BWA believes that Canada needs to assess the introduction of license-exempt devices and services judiciously, taking into account Canadian policy and the current usage of licensed spectrum. Hence, Industry Canada should consult broadly on any proposed licence-exempt devices and services. As has been the case with many other services, the Canadian adopted solution may not necessarily align completely with regulations in the United States or elsewhere.

57. Notwithstanding the above comment, the BWA identifies the following concerns regarding the opening of new bands or frequencies for licence-exempt operations:

- "Tragedy of the commons" effect – i.e. that specific bands of LE spectrum may become more and more unusable over time as the result of a common, unregulated resource being inefficiently exploited by the actions of individuals. For example, there are concerns, in this regard, with respect to the 2.4 GHz band. If this problem materializes, most likely only in urban areas, there is a concern that consumers may have been misled into investing in technology, equipment or products that they reasonably felt they could use over the longer term, but can no longer do so. The BWA questions whether or not such a result would be in the public interest. Furthermore, if this problem does materialize and the spectrum becomes virtually unusable then this becomes an inefficient and wasteful

use of this public resource. Even worse, it may also create public pressure to allocate additional LE spectrum to alleviate the difficulties created for these consumers which could potentially lead to a vicious cycle as the new band itself is then exposed to the dangers of over use and over crowding.

- Economic distortion and unfairness – newer technologies and interference management techniques are assisting in reducing the need for exclusive spectrum to implement certain services. It remains to be seen however, whether this is just pushing the tragedy of the commons impact out further in time, as noted above, or will indeed minimize interference on an ongoing basis. In this regard, there are Canadian wireless service providers who have and are making significant investments for exclusive spectrum either through spectrum auctions or through annual licence fees. Conversely, LE spectrum, from which Industry Canada is not recovering any economic rents, is being used to compete with or offer services similar to those offered in exclusively licensed spectrum. This undermines those business models based on exclusive use spectrum and creates an economic distortion and may well undermine the ongoing investment in the use of licensed spectrum. Industry Canada should find a way to offset this imbalance and collect economic rent for LE spectrum (reduced appropriately to allow for the fact it is non-exclusive) or alternatively preclude the use of this spectrum from creating undesirable economic distortion as described above.
- The BWA notes that managing spectrum has always involved merging the interests of incumbents with the needs of new entrants. Licence-exempt spectrum is extremely attractive because it allows vendors to bring new products to market quickly and economically. On the other hand, licence-exempt spectrum usage is not amenable to remedial action by the Department in the event that interference problems are uncovered once the licence-exempt devices are authorized and in use. It is therefore incumbent upon the Department to exercise extreme care to apply *a priori* technical standards to licence-exempt devices that will ensure that licensed spectrum users sharing the band or in adjacent bands are protected.

### **Proposal**

***The Department will continue to monitor the need for licence-exempt bands or frequencies and make them available for use on a timely basis, consistent with adequate protection for licensed services.***

***An important area that the Department is currently addressing is ultra-wideband (UWB) technology and its applications (See discussion in Section 11.7). The matter of future implementation in Canada is raised in the Revisions to Spectrum Utilization Policies in the 3-30 MHz Frequency Range and Further Consultation, released in October 2004. Also, new spectrum in the 5 GHz range was identified for licence-exempt products, and international regulations put in place, at the ITU WRC-03. The implementation in Canada was the subject of public consultation in Gazette Notice DGTP-005-04.***

## **BWA Comments**

58. The BWA agrees, subject to the above comments and caveats including the proposed modification to the above proposal, with the Department's intention to monitor the need for licence-exempt spectrum and to make such spectrum available on a timely basis subject to prior industry consultation.

### **Questions**

***The Department has adopted an accelerated approach to opening new spectrum for consumer products developed for the US and broader markets, in order to take advantage of the mass market and the economies of scale.***

**(3) *What additional spectrum should the Department make available for licence-exempt devices and what regulatory and technical provisions should be adopted for their use? Does this include consideration of currently licensed spectrum, and if so, what provisions could be adopted to facilitate transition to licence-exempt operation or band sharing between licensed and licence-exempt operation? Would a device registration process provide sufficient safeguards to licensed operations?***

## **BWA Comments**

### ***Additional Spectrum for licence-exempt devices***

59. The following lists the additional spectrum bands in which, in the BWA's view, the Department should undertake separate public consultations with regard to making such specific spectrum available on a licence-exempt basis:

#### **(i) TV Channels 2 to 59 for Advanced Communications in Remote Rural Regions**

60. In the policy document SP-746 MHz on "Mobile Service Allocation Decision and Designation of Spectrum for Public Safety in the Frequency Band 746-806 MHz", released in October 2004 under *Gazette Notice DGTP-002-04*, the Department sought comments on the types of advanced broadcasting and telecommunications services that could be extended to Canadians in rural and remote communities using unused/unallotted TV broadcasting spectrum in channels 2 to 59. Based on the comments received, the Department should consider undertaking a public consultation for the use of unused TV channels 2 to 59 in remote rural communities.

**(ii) 3650-3700 MHz Band**

61. The BWA notes that in *Gazette Notice DGTP-008-04* issued in October 2004, the Department raised a number of new spectrum issues for public comment, including the opening of the 3650-3700 MHz band for licence-exempt operations. The BWA notes that the RABC commented that the Department should undertake a public consultation in the 3650-3700 MHz band for licence-exempt operations, subsequent to the FCC's finalization of rules in its related proceeding. It should be noted that the FCC, in its Report and Order released on March 16, 2005, has adopted final service and licensing rules for the 3650-3700 MHz band under Part 90. Under the rules, new terrestrial stations will be licensed on a nationwide, non-exclusive basis, with all licensees registering their fixed and base stations in a common data base. Further, to ensure efficient and cooperative shared use of this spectrum, all terrestrial operations will be required to use technology that includes a contention based protocol. Since the rules appear to be complex, and since there appear to be concerns for inadequate interference protection to in-band and adjacent band operations, it is understood that the FCC has received several petitions for reconsideration of its rules for this band. The BWA recommends that the Department monitor the FCC activities for any possible revision to its final rules for this band, and subsequently, to undertake a public consultation for similar use of this band in Canada.

**(iii) 21.2-23.6 GHz Band**

62. The BWA further notes that in the aforementioned *Gazette Notice DGTP-008-04* issued in October 2004, the Department sought comment on its proposal to open a portion of the 23 GHz spectrum band on a licence-exempt basis. The BWA notes that the RABC commented that in view of the need to accommodate the fixed systems operating under SRSP-318.5, that would be displaced under the provisions of the revised SP 3-30 GHz policy, the Department should instead consider the review of the SP 23/38 GHz policy with a view to maximize the harmonization of the entire 21.2-23.6 GHz band with the FCC rules so that additional 23 GHz spectrum would be made available for the licensing of point-to-point systems on a first-come, first-served basis.

**(iv) 71, 81 and 92 GHz Bands**

63. The BWA also notes that in *Gazette Notice DGTP-008-04* issued in October 2004, the Department sought comment on its proposal to open the bands 71-76 GHz, 81-86 GHz, and

92-95 GHz for fixed service operations on a licensed, non-exclusive basis. The BWA notes that the RABC commented that in view of the complex issues involved in the questions raised by the Department for the efficient utilization of these bands, the RABC urged the Department to undertake a more comprehensive consultation for the development of efficient spectrum utilization and licensing policies for these bands.

### **Regulatory and technical provisions, transition and device registration issues**

64. The BWA submits that in bands where there are no incumbent licensed users, license-exempt operations in such bands would generally require the use of a few measures, such as user protocols and etiquette, power and emission limits, to permit the efficient use of the spectrum and to minimize interference to in-band and out-of-band users. However, in the case of the abovementioned bands involving the use of currently licensed spectrum, licence-exempt type operations would then require the use of additional measures, such as operation with minimum regulation, device registration, band managers, transition of incumbents, etc., in order to minimize interference to in-band and adjacent band licensed users. Each of these bands would require the consideration of the aforementioned measures that can be best addressed during its consultative process. For example, in bands used for mission-critical services the Department may want to restrict band sharing with licence-exempt operations.

**(4) *Would it be realistic to open some of the FCFS fixed microwave spectrum as licence-exempt operations where it may not align with the US market (e.g. some of the reserved 23 GHz band)? How could these installations be controlled so they do not interfere with US-licensed services along the border?***

65. Further to the BWA's comment under the Question (3) above on the 21.2-23.6 GHz band, it should be noted that opening a portion of the 23 GHz band for license-exempt operations would require the use of guard bands to minimize interference to licensed 23 GHz systems, thereby adversely affecting the efficient use of the 23 GHz spectrum. Furthermore, the use of license-exempt 23 GHz systems along the U.S. border would be problematic due to interference considerations as the entire 23 GHz band is channelized in the U.S. for licensed operations. Therefore, in the BWA's view it would be impractical to consider the opening of a portion of the 23 GHz spectrum for license-exempt operations. Instead, the Department is urged to harmonize the entire 23 GHz band with the U.S. so that the additional 23 GHz channels could be used to accommodate the displaced fixed systems from the 18 GHz band.

**(5) What means could be developed to ensure that licence-exempt consumer equipment in the field operates within established limits (e.g., e.i.r.p., antenna directivity, channel bandwidth, out-of-band emissions) and what flexibility should be permitted?**

66. The BWA believes that it is essential that technical standards be established for licence-exempt consumer equipment that protects licensed services in the same or other bands. Compliance with these standards needs to be confirmed through testing of sample units prior to their being offered for sale in Canada. Such equipment should also be designed so that alteration of technical characteristics (e.g. increasing the power levels) by the end-user is made difficult. Proposed changes to the technical standards applicable to licence-exempt devices should be studied carefully by the Department and subject to public consultation if the proposed changes increase the potential for interference.

67. In order to ensure a higher level of oversight than manufacturer's self-approval (Declaration of Conformance or Verification), due to a high risk of non-compliance, the FCC in their R&O (FCC 05-56) for the 3650-3700 MHz band has specified the requirement for the certification of all transmitter equipment by the FCC under the Part 90 rule. The rule also specifies that Telecommunications Certification Bodies (TCBs) are not permitted to certify equipment in the 3650-3700 MHz band.

68. In the BWA's view, a similar equipment certification requirement could be specified for certification by the Department if only to minimize the potential to create significant interference to other in-band and adjacent band operations.

**(6) Should the Department consider existing or new licence-exempt bands with a view to facilitating longer communications ranges for licence-free devices or system applications unique to the Canadian environment, such as rural and remote broadband fixed wireless access?**

69. In the BWA's view, the Department should endeavour to harmonize, to the extent practicable, with similar FCC rules for facilitating longer communication ranges for licence-exempt operations in a rural/remote environment.

### **11.3 Increased Spectrum-Usage Flexibility in the Domestic Allocation of Spectrum and Spectrum Policies**

#### **Proposal**

**To continue to provide additional flexibility in the use of the spectrum while taking the licensing regime into account. Strive to achieve the appropriate balance between flexibility in the use of spectrum for new, as well as existing, licences while still meeting legal requirements and other policy objectives.**

#### **Questions**

**(7) For which services and in which situations should greater flexibility of spectrum use be afforded?**

70. The BWA supports and refers the Department to the response of the RABC with respect to this question.

**(8) Under what situations and criteria would it be appropriate to consider extending this greater flexibility to existing licences?**

71. The BWA submits that this question is best addressed on a case-by-case basis, taking into account the merits of the specific case under review.

### **11.4 Enhanced Spectrum-Usage Privileges**

#### **Proposal**

**The Department will be determining whether, and if so, how and under what conditions licensees with transferability and divisibility privileges may provide access to third parties following the outcome of a forthcoming consultation on third party access to spectrum licences. Further consultations are also anticipated to discuss the possibility of applying longer terms of licence and transferability and divisibility privileges to a wider range of radio authorizations.**

#### **Questions**

**(9) Should the Department extend transferability and divisibility privileges to other licensees? If so, which should be considered the highest priority and what timing would be appropriate?**

72. The BWA believes that the Department should extend transferability and divisibility privileges to other licensees. As a principle, whenever possible, the highest priority should be accorded to extending the transferability and divisibility privileges to spectrum where contiguous blocks may be available.

**(10) Are the current privileges associated with both spectrum and site licences sufficiently defined (this may include technical and operation parameters) to facilitate access to spectrum, the ease of trading the spectrum and the flexibility to offer a range of advanced wireless services?**

73. The BWA believes that the current privileges associated with both spectrum and site licences are sufficiently defined to facilitate access to spectrum, ease of trading spectrum and the flexibility to offer a range of advanced wireless services.

### **11.5 Streamlining the First-Come, First-Served Licensing Process**

#### **Proposal**

**To pursue the feasibility of further streamlining the FCFS licensing process and making other appropriate changes for future use, such as accelerated licence approvals for applications near the Canada/US border.**

**There are some frequency bands where only a few licences have been awarded and a large number of frequency channels are available. In some cases, certain channels could be awarded through large-area, long-term spectrum licences. Applications could be considered on an FCFS basis.**

**It is expected that the Department will continue to rely on the FCFS licensing process for a significant portion of its licensing regime.**

#### **Questions**

**(11) In which areas do you see the Department further improving the FCFS process?**

74. The BWA supports and refers the Department to the response of the RABC with respect to this question.

**(12) Are there other principles such as non-exclusivity, which can be applied to the FCFS process for authorization of spectrum on an area basis in situations where it would be normally anticipated that a competitive process would be required?**

75. *The BWA supports and refers the Department to the response of the RABC with respect to this question.*

### **11.6 The Roll-out of Licensed Radio Systems – Putting Spectrum to Use to Serve Canadians**

#### ***Proposal***

***To continue the use of a regime which requires that the spectrum resource is developed over a reasonable period of time.***

#### **Questions**

**(13) *Is there a need to review and improve the current practice of placing roll-out requirements on licensees?***

76. The BWA submits that roll-out requirements are inconsistent with an environment where the Department's intent is to increasingly rely on market forces and economic incentives to award and manage spectrum and should not be applied at least in the case of competitively assigned spectrum. The BWA submits that the significant amounts paid for spectrum will be sufficient incentive for licensees to either deploy or to transfer the spectrum to a user who values it more.

**(14) *Should the Department expand the use of mechanisms to make available unused spectrum, like it did with the new party cellular policy given in RP-019, which enables an entity to obtain a licence for otherwise unserved or underserved areas?***

77. In 2004, the Department converted the then existing site specific radio licences for cellular and non-auctioned PCS spectrum in to spectrum licences. Under spectrum licensing, unlike the site specific approach, licensees pay licence fees whether or not the spectrum is actually in use. The BWA submits that the use of mechanisms such as RP-019 are not appropriate, in the case of spectrum licensing, and should be rescinded.

**(15) *Given the increased usage privileges offered to licensees, should the Department continue to include deployment requirements as a condition of licence or, alternatively, rely on market forces to ensure that the spectrum moves to the highest valued use and user?***

78. No. As indicated in the BWA's response to New Policy Guideline 12 and to Question 13, the Department should not continue to include deployment requirements as a condition of

licence but should instead rely on market forces to ensure that spectrum moves to the highest valued use and user.

### **11.7 Implementation of New Technologies and New Spectrum Management Concepts**

#### **Proposal**

***The Department will continue to implement new spectrum management measures, where feasible, in order to increase spectrum utilization in congested frequency bands and enhance the communications capacity of spectrum in bands, such as VHF/UHF, by adopting measures to encourage the use of new technologies, where feasible.***

***Many of the topics discussed in this section will be the subjects of more detailed consultation papers.***

#### **Questions**

***The Department invites comment and views on the development of new technologies and new spectrum management concepts and their potential impact on the use of spectrum and spectrum management.***

#### **(16) *Which technologies have the most promise of facilitating the use and management of the radiofrequency spectrum?***

79. The BWA notes that Ultra-wideband (UWB) as well as cognitive radio and software defined radio technologies have the potential to facilitate the use and management of the radiofrequency spectrum.

80. With regard to UWB however the BWA has considered the potential advantages and difficulties associated with the introduction of unlicensed UWB devices and has submitted detailed comments to the Department in response to SMSE-002-05 – *Consultation Paper on the Introduction of Wireless Systems Using Ultra-wideband (UWB) Technology (SMSE-002-05)*.

81. UWB raises the issue that overlaying other users on top of currently licensed spectrum is problematic. Consequently, over and above the technical issues already outlined in the BWA's response to SMSE-002-05, if Industry Canada does take such an approach, this move should trigger significant rebates of auction fees and reductions in license fees for the no longer exclusive spectrum.

82. With respect to other technologies mentioned in this Consultation, such as cognitive radio and software defined radio, the BWA notes that these are emerging technologies whose efficacy and interference potential remain unproven. The BWA urges the Department to carefully monitor developments in these technologies and to provide the industry, in a future consultation, an opportunity to provide detailed comments on any policies and/or technical standards that the Department may propose to adopt relating to them.

**(17) *Are there other technologies or technical issues that the Department should be investigating?***

83. The BWA supports and refers the Department to the response of the RABC with respect to this question. In addition, as noted in its response to Question 16, the BWA urges the Department to carefully monitor developments in these technologies and to provide the industry, in a future consultation, an opportunity to provide detailed comments on any policies and/or technical standards that the Department may propose to adopt relating to them.

**(18) *Which technologies seem the most appropriate in meeting the challenge of accommodating additional mobile and wireless access users in the VHF/UHF bands?***

84. The BWA supports and refers the Department to the response of the RABC with respect to this question.

## **11.8 *Fostering Advanced Communication Services in Rural Canada***

### ***Proposal***

***To adapt departmental policy and procedures to further facilitate the provision of communications in rural and remote areas. For example:***

- ***determine an appropriate definition of "rural" for the purpose of describing areas with unserved and underserved communications;***
- ***modify the policy General Information Related to Spectrum Utilization and Radio Systems Policies (SP-Gen) to clearly delineate favourable provisions for the development of communication services in rural (and remote) areas;***
- ***facilitate the use of contiguous unused spectrum below 1 GHz for the deployment of lower-cost, broadband radio systems in rural (and remote) areas; and***

- ***relax the technical standards of communication systems, where feasible, in rural (and remote) areas to help reduce wireless infrastructure costs and to promote greater use of the spectrum.***

### **Questions**

***The Department seeks input on the following questions related to further clarifying spectrum policies and procedures, and establishing incentives to promote the extension of communication services to rural markets.***

- (19) Should the definition of "rural" (and "remote") to describe areas with unserved or underserved communications, be based on population density as measured by Statistics Canada? What would be a practical approach for implementation?***

85. The BWA supports and refers the Department to the response of the RABC with respect to this question.

- (20) What policy and regulatory treatment would create conditions that best promote the extension of modern communication services to rural (and remote) areas?***

86. The BWA suggests that, at a minimum, licence fees could be waived in those areas which qualify under the definition of "rural and remote areas". If adopted, such a policy should only apply to the spectrum actually used in rural and remote areas by wireless carriers.

- (a) For example, should spectrum policies vary by geographic area according to the relative level of spectrum congestion or the demand for spectrum?***

87. The BWA supports and refers the Department to the response of the RABC with respect to this question

- (b) In what manner should the technical and/or operational parameters for spectrum management policies and standards for wireless installations be relaxed in rural (and remote) areas?***

88. The BWA supports and refers the Department to the response of the RABC with respect to this question.

### **11.9 Access to Spectrum for Public Safety Services**

#### ***Proposal***

***To establish an objective associated with the release of new spectrum for public safety that would seek the development of highly integrated and interoperable national/regional networks which can progressively accommodate common public safety requirements.***

### **Questions**

- (21) ***Should the Department require that the licensing process for public safety systems consider the needs of the broader public safety community over larger geographical areas?***
- (22) ***Should the Department adopt standards which include the aspect of interoperability of public safety mobile systems?***
- (a) ***Should these standards be open standards to ensure that equipment from various vendors can operate on the same system?***
- (b) ***Should the Department, through its regulations or licensing process, ensure that interoperability is included as an aspect of the design of public safety systems?***
- (23) ***Should the Department identify common spectrum in the VHF and UHF bands (i.e., common to both Canada and the United States) to be used and shared in border areas for interoperability purposes, recognizing that currently spectrum in the VHF band is not aligned and that spectrum in both the VHF and the UHF bands is highly congested in densely populated areas?***

89. While the BWA supports, in general, the response of the RABC with respect to questions 21 through 23 inclusive, it also notes its view, previously stated above, that the use of commercially available solutions to meet public safety requirements would address many of the availability and interoperability issues while at the same time likely resulting in a more efficient use of public financial resources in addressing the needs of this critical sector.

### **4.0 CONCLUSION**

90. The BWA appreciates the opportunity to assist in the development of a renewed Spectrum Policy Framework for Canada and looks forward to participating in the future consultations that will flow from this process.

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