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RABC Response to DGTP-007-03 “Consultation on Spectrum for Advance Wireless Services and Review of the Mobile Spectrum Cap Policy”

Introduction

The Radio Advisory Board of Canada commends the Department for the timely release of *Canada Gazette* notice DGTP-007-03; the Board is pleased to offer the comments which follow.

The comments follow the layout of the original IC document and section numbering.

Summary

The RABC broadly agrees and supports the proposals in DGTP-007-03. We believe that the term "AWS" is ambiguous and suggest "IMT-S" as an alternative label. The RABC agrees that large-scale deployment of IMT-2000 requires ubiquitous operations throughout the Americas and globally and believe that the frequency allocation should be 1710-1770/2110-2170 MHz in the longer term with the upper band being base-transmit.

The RABC agrees that a radio license does not confer ownership or continued right to a particular radio frequency and that reasonable notice of displacement should be given. Although we support the one / two year displacement notice, we note a slight inconsistency / conundrum with the date of April 1, 2007 and the one / two year displacement notice. We believe that spectrum block sizes should be in units of 5+5 MHz. Some members believe that the timeframe may be beyond 2005 / 2006. In the 1910-1920 MHz LE-PCS band, we would urge caution in narrowing the PCS center gap.

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Specific RABC Comments

The comments follow the layout of the original IC document and section numbering.

1. Intent

The RABC agrees that the definition of Advanced Wireless Services (AWS) should include services such as mobile, fixed, multi-media, wireless high-speed internet, video services, high-speed mobile data and entertainment.

The RABC agrees that the current spectrum cap policy should be reviewed and potentially modified as a precursor to spectrum competitive licensing processes for AWS.

The RABC agrees that promotion of advanced mobile telephony services in rural Canada is needed.

2. Background

2.1 Advanced Wireless Services

The RABC notes the introductory material in section 2.1. We have a concern that the "Advanced" in AWS is ambiguous - most services and technologies (even AMPS, Advanced Mobile Phone Service) at deployment-start claim to be "advanced". We would therefore prefer something slightly more specific. We believe that all the services (including PCS) identified at the end of section 2.1 are generically contained within the anticipated service set for IMT-2000. We therefore suggest that a better acronym may be "IMT-S" i.e. International Mobile Telecommunications - Services. The Department can then EXPLICITLY define all the included services.

2.2 Canadian Initiatives to Allocate Spectrum

The RABC supports the various domestic and international activities that the Department has taken in support of IMT-2000 spectrum. The RABC agrees that for large-scale commercial deployments of IMT-2000 networks, it is essential to ensure ubiquitous operations throughout North America and globally, and concurs with the Department's promotion of these bands (especially 1 710-1 850 MHz and 2 110-2 150 MHz) internationally. In the longer term, the bands should be 1710 - 1770/2110- 2170 MHz for global harmonization where the upper band is for downlink. There may be a requirement for additional spectrum to accomplish continental harmonization.

2.3 US Initiatives to Allocate Spectrum for Advanced Wireless Service (AWS)

The RABC noted and commented on the FCC Report and Order giving a primary allocation to mobile and fixed services and designating spectrum for AWS in the bands 1 710-1 755 MHz and 2 110-2 155 MHz.

The RABC has noted the recent FCC consultations on the possible implementation of AWS in the 2 500-2 690 MHz range and the related activities in the bands 1 910-1 920 MHz 1 990-2 000 MHz, 2 020-2 025 MHz and 2 165-2 180 MHz.

2.4 Principles Applicable to MSS Spectrum and Return Spectrum for MCS/MDS

The RABC agrees that the MSS spectrum allocations should be harmonized over the North American market to ensure the economic viability of the service.

3. Proposed Changes to the Canadian Table of Frequency Allocations

The RABC has reviewed the proposed changes to the *Canadian Table of Frequency Allocations* in support of AWS. We generally support the proposed changes and have the following specific comments:

3.1 Bands 1 710-1 755 MHz and 2 110-2 155 MHz

The Department seeks comments on the proposed changes to the Canadian Table for the bands 1 710-1 755 MHz and 1 755-1 850 MHz. The Department seeks comments on the proposed changes to the Canadian Table of Frequency Allocations for the band 2 110-2 155 MHz.

The RABC supports the proposed changes in this section. We support the band pairing with 400MHz separation. We support a one/two year displacement notice (as per section 6.5) for the current fixed stations, similar to that which was used for other transition policies. Some RABC members note that in major urban areas and along highways a one year displacement period is acceptable. However as AWS competitive licensing processes may occur later than 2005, we believe that this priority status date should be relative to the date of the competitive licensing process and not an absolute date. The RABC notes that if auctions occur prior to April 2006, then in urban areas, fixed service displacement and mobile service start may be requested by auction winners prior to April 1, 2007 however, existing users may find this unacceptable. Industry Canada needs to address this conundrum. As a consequence we suggest that CXYZ be stated as:

ADD CXYZ (CAN-03) In the bands 1 710-1 755 MHz and 2 110-2 155 MHz, existing fixed stations will have priority over the mobile service until ~~April 1, 2007~~ one year¹ after AWS competitive licensing process commences, but not later than 1 April 2007. After this date, specific fixed stations will need to be displaced where necessary to enable the implementation of Advanced Wireless Services (AWS). The displacement of fixed stations as well as the implementation of AWS systems will be governed by a spectrum utilization policy. The earliest mandatory date for fixed service frequency assignment, that may be subject to displacement, will be after the mobile service has co-primary status. In the longer term, the bands should be 1710 -1770/2110-2170 MHz for global harmonization where the upper band is for downlink.

3.2 Bands 1 850-1 990 MHz, 1 990-2 025 MHz and 2 160-2 200 MHz

3.2.1 Band 1 850-1 990 MHz

The Department seeks comments on the proposed changes to the Canadian Table of Frequency Allocations in the band 1 850-1 990 MHz.

The RABC supports the proposed adoption of the international IMT-2000 footnotes.

In regard to draft footnote CZZZ, the Board notes that the FCC has yet to decide on the frequency range and as the Board generally supports continental harmonization it suggests that it is premature for Industry Canada to do so.

3.2.2 Bands 1 990-2 025 MHz and 2 160-2 200 MHz

The Department seeks comments on the proposed changes to the Canadian Table of Frequency Allocations in the bands 1 850-1 990 MHz, 1 990-2 025 MHz and 2 160-2 200 MHz.

The RABC supports the establishment of harmonized spectrum for North American mobile-satellite services and terrestrial wireless services. The RABC notes that the US has decided to re-allocate the MSS spectrum in the bands 1990-2000 MHz, 2020-2025 MHz and 2165-2180 MHz to the mobile and fixed services and thus the RABC supports similar action in Canada.

¹ Some RABC members note that in major urban areas and along highways a one year displacement period is acceptable.

In regard to draft footnote, CYYY the Board notes that the FCC has yet to decide on the frequency range and as the Board generally supports continental harmonization it suggests that it is premature for Industry Canada to do so.

3.3 Band 2 155-2 160 MHz

The Department seeks comments on the proposed changes to the Canadian Table of Frequency

The RABC supports the consideration of the band 2155-2160 MHz for AWS paired with 1755-1760 MHz and thus supports use of future spectrum utilization policies for this band and the proposed actions. In the longer term, the bands should be 1710 -1770/2110- 2170 MHz for global harmonization where the upper band is for downlink.

4. Proposals for Spectrum Utilization Policies

The RABC supports the intention to license additional PCS or AWS spectrum in order to permit the wireless industry to plan for new mobile services as well as for technological development.

4.1 Proposal for the Bands 1 710-1 755 MHz and 2 110-2 155 MHz

The Department seeks comments on the proposed spectrum policy to designate the paired bands 1 710-1 755 MHz with 2 110-2 155 for Advanced Wireless Services, including 3G.

The Department seeks preliminary comments and suggestions on the size of spectrum blocks and the pairing and combination for the channelization of the paired bands which would best advance the Canadian wireless infrastructure and serve the public interest.

As noted in our response to Section 3.1, the RABC believes that the date for mobile co-priority status with fixed systems should be within one year of the date that AWS competitive licensing processes commence² but not later than the proposed fixed date of April 1, 2007. The RABC agrees with the transition policy in section 6.5.

The RABC supports the Department's intent of flexibility to innovate in technology and service applications which can be supported within the fixed and mobile service allocations and international and domestic regulations as well as harmonization of the North American public wireless infrastructure. We agree

² Some RABC members note that in major urban areas and along highways a one year displacement period is acceptable.

that this should help facilitate economies of scale and roaming benefits to subscribers, service providers and manufacturers.

The RABC endorses the proposal to designate the band 1 710-1 755 MHz to support mobile terminal transmit paired with the band 2 110-2 155 MHz for base station transmit for the provision of Advanced Wireless Services. We believe that spectrum blocks should be an integer multiple of 5 MHz in the 1710 MHz band paired with a corresponding block 400MHz higher i.e. units of 5+5 MHz or multiples thereof. We believe that these block sizes will be capable of supporting all of the identified international IMT-2000 technologies.

The RABC supports the use of a competitive licensing process, however, some members believe that the appropriate timeframe may be beyond 2005 / 2006.

4.2 Proposal for a Spectrum Utilization Policy in the Bands 1 910-1 920 MHz and 1 990-2 000 MHz

The Department seeks comments on the interest and need to designate the bands 1 910-1 920 MHz and 1 990-2 000 MHz for the extension of the band 1 850-1 990 MHz for PCS or AWS. The Department is seeking views on whether a new designation for this band would best serve the public interest and put the spectrum to the best and highest use.

While the RABC welcomes the possibility for more PCS / AWS spectrum, we would urge caution as:

- The narrower duplex band separation of only 10MHz may cause interference problems (e.g. emissions from base transmitter at 1930 MHz into base receiver at 1920 MHz) unless extra filtering is deployed at the 1920 and 1930 MHz band edges.
- Annex 3 of ITU-R Rec M.1036-2 (06/03) indicates that "**minimum centre gaps of 20-30 MHz seem achievable in the future.**" The RABC would urge caution in modifying the PCS minimum gap to be less than 20 MHz.
- Existing PCS mobiles would be unable to access this extra band causing potential roaming issues.

The Board notes that the FCC has yet to decide on the frequency range and as the Board generally supports continental harmonization it suggests that it is premature for Industry Canada to do so.

4.3 Proposal for the Bands 2 020-2 025 MHz and 2 155 - 2 180 MHz

The Department seeks comments on the interest and need to designate the bands 2 020-2 025 MHz and 2 155-2 180 MHz to particular terrestrial services or applications.

The RABC supports a future designation of the 2155-2180 MHz band paired with the 1755-1780 MHz band and thus agrees that these bands should be the subject of future spectrum utilization policy for the introduction of AWS. The bands should be 1710 -1770/2110- 2170 MHz for global harmonization where the upper band is for downlink. There may be a requirement for additional spectrum to accomplish continental harmonization.

5. Review of the Mobile Spectrum Cap Policy

5.1 Background

Noted.

5.2 Measures Introduced by Other Countries to Oversee Spectrum Concentration

Noted.

5.3 Overview of the Mobile Wireless Industry in Canada

Noted.

5.4 Spectrum Cap Policy Review

The RABC agrees that in light of future AWS licensing processes, it is important that the current Spectrum Cap Policy be reviewed and potentially modified as a precursor to commencement of the AWS competitive licensing process.

6. Proposed Transition Policy for Dealing with Incumbents

6.1 General Principles when Re-assigning Spectrum

The RABC agrees that a radio licence does not confer ownership or continued right to a particular radio frequency, and that reasonable notice should be given to users who are impacted by any displacement of their services or systems to other bands.

6.2 Current Situation in the Band 1 710-1 755 MHz

In light of the 1999 Spectrum Utilization Policy 1-3 GHz, which discouraged further licensing of microwave systems in this band in view of international IMT-2000 developments, the RABC supports a moratorium on the licensing of any new fixed microwave stations in the band 1 710-1 755 MHz.

6.3 Current Situation in the Band 2 110-2 150 MHz

The RABC supports continuing the moratorium imposed January 21, 1995 on any further licensing of new fixed microwave stations in the bands 1 990-2 010 MHz and 2 110-2 200 MHz in order to facilitate the possible introduction of AWS.

6.4 Current Situation in the Band 2 150-2 155 MHz

The RABC supports the notification period applied to incumbents in the band 2110-2 150 MHz should apply to this band.

6.5 Proposed Transition Policy for Displacement of Fixed Assignments The Department invites comments on the proposed spectrum transition policy for the displacement of incumbents in the bands 1 710-1 755 MHz and 2 110-2 155 MHz.

The Department also welcomes views from microwave licensees or other existing service providers on which bands could best meet their service requirements for the future.

The RABC supports the proposed one / two year displacement notice and transition provisions which were used for PCS and outlined in section 6.5. However if auctions occur in the 2005 / 2006 timeframe (as suggested in section 6.5), we note that auction winners may wish to deploy in urban/major highway areas after a one year notice, which could occur before the proposed April 1 2007 priority designation date. The RABC suggests that Industry Canada address this inconsistency.

7. Measures to Promote Advanced Mobile Telephony Services in Rural Canada

The Department invites comments on:

- 1. The proposal to afford preferential commercial roaming arrangements to small rural carriers with national and regional cellular and PCS carriers where the rural carriers;***
 - a. do not compete in the same serving territories having network facilities, and***

b. operate solely in an unserved or underserved area.

2. The mechanisms that may best implement this proposal.

7.1 Background

Noted

7.2 Discussion

Noted



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