

Radio Advisory Board of Canada

Conseil consultatif canadien de la radio

June 15, 2009

Director,
Spectrum Management Operations,
Radiocommunications and Broadcasting Regulatory Branch,
Industry Canada, 300 Slater Street,
Ottawa, Ontario, K1A 0C8.

Subject: Canada Gazette, Part I, March 14, 2009, Notice No. DGRB-005-09 —
Consultation on Transition to Broadband Radio Service (BRS) in the Band
2500-2690 MHz

Introduction

The Radio Advisory Board of Canada is pleased to respond to Gazette Notice No. DGRB-005-09 — Consultation on Transition to Broadband Radio Service (BRS) in the Band 2500-2690 MHz

The Board's response, prepared by a Joint Working Group, is attached.

This response was balloted to Board members. Fifteen of the RABC's 21 members responded as follows: 7 approved, 2 approved with comments, 6 abstentions and 0 disapprove ballots.

The Sponsor Member's comments (which form an integral part of the RABC's response) are:

Comments from Bell:

Bell does not agree with the RABC's comments with respect to the following issues.

We do not agree that the Manitoba School Boards should be eligible for new BRS licences. We believe that it would be inappropriate for non-commercial entities to be licensed with globally harmonized spectrum that will be used for commercial mobile services. It would be more appropriate for the Manitoba School Boards to be subject to a transition policy and to be displaced from the band on an as required basis to facilitate the introduction of mobile services by BRS licensees. If necessary, the Department should consider funding the displacement of the School Boards using proceeds from the upcoming auction of available and liberated spectrum in the BRS band.

We believe that the Department should award BRS licences using Tier 2 service areas in cases where only one MDS or site-specific MCS operator is authorized within the same Tier 2 service area. Tier 2 service areas are more appropriate than smaller areas for licensing spectrum that will be used for wide area, high mobility services such as BRS.

Comments from Rogers:

Rogers does not agree with the RABC's comments with respect to the following issues.

We do not agree that the Manitoba School Boards should be eligible for new BRS licences. We believe that it would be inappropriate for non-commercial entities to be licensed with globally harmonized spectrum that will be used for commercial mobile services. It would be more appropriate for the Manitoba School Boards to be subject to a transition policy and to be displaced from the band on an as required basis to facilitate the introduction of mobile services by BRS licensees. If necessary, the Department should consider funding the displacement of the School Boards using proceeds from the upcoming auction of available and liberated spectrum in the BRS band.

We believe that the Department should award BRS licences to MDS operators using Tier 2 service areas in cases where only one MDS operator is authorized within a given Tier 2 service area. Tier 2 service areas are more appropriate than smaller areas for licensing spectrum that will be used for wide area, high mobility services such as BRS.

Yours truly,

Original signed by R. Poirier

Roger Poirier
General Manager

Canada Gazette Notice DGRB-005-09
Consultation on Transition to Broadband Radio Service (BRS) in the Band
2500-2690 MHz

Response of the Radio Advisory Board of Canada

Introduction

The RABC has reviewed DGRB-005-09 and we offer responses to the specific questions raised by the Department in the Consultation Paper. The RABC has also commented on other areas of the Consultation Paper where input was deemed appropriate. The numbering corresponds to the sections in the Consultation Paper.

Our specific recommendations are summarized as follows and developed in more detail in the specific sections:

- Use a firm BRS transition date of March 31, 2011 for both MCS and MDS operators.
- In remote or non-urban areas or in areas where limited BRS spectrum is utilized allow incumbents to maintain their existing systems as much as possible while still allowing the rollout of new BRS systems.
- In urban areas, encourage incumbents to transition to a BRS-compatible band plan.
- Support the creation of draft new RSS-199 and GL-08 for BRS.
- Recommends that Tier 3 licences be issued for BRS spectrum. However, we kindly request that Industry Canada reconcile an open question pertaining to the definition of "given area" versus a Tier "X" area or a CRTC market area.
- Supports the proposed "Basic model of the band plan" highlighted in Figure 2 of the Department's Consultation Paper. The band 2500 – 2690 MHz has been identified by ITU-R as an IMT band and currently has the potential to be the only globally harmonized band for both downlink and uplink.
- Recommends that licence blocks be no smaller than 10 MHz contiguous spectrum including the possibility of having 20+20 MHz spectrum blocks. We recommend that the Department adopt a transition plan that would facilitate implementation of such an arrangement.
- Has identified two alternative band plans (ITU-R plan and FCC plan) employed by other administrations and have identified some criteria to help with a band plan selection.

The RABC is ready and willing to provide advice on any future consultations related to this band.

3. Consultation on a Firm Transition Date

The Department is seeking comments on its proposal to adopt a firm transition date to BRS rather than renew MCS and MDS licences.

Should a firm transition to BRS be adopted, the Department is proposing March 31, 2011, as the transition date to BRS, as it coincides with the end of licence term for the current MCS licences.

The RABC prefers to have a firm BRS transition date of March 31, 2011 for both MCS and MDS operators rather than renew MCS and MDS licences. Nonetheless, there is a concern that a firm transition date of March 31, 2011 may impact the MDS operators as the broadcast licence expiry is August 31, 2011 and CRTC hearings on the MDS band may continue past March 31, 2011. As a consequence, the Department will need to clarify its policy with respect to the 5-month (plus) period beyond March 31, 2011 facing the MDS operators.

RABC requests that the Department provide flexibility on the implementation and transition schedule to allow for operational concerns that may arise with the incumbents. In some cases, plans for a proper transition by the incumbents to a new band plan, without disruption to existing services and/or interference to other incumbents, could be complex, and may require an extended period of time to complete.

A number of Manitoba MCS licences have an expiry date of March 31, 2010. In the interest of aligning all MCS/MDS licences for a common transition date it is recommended that if the licence is extended under the same terms and conditions that the extension should be for a period of one year with an expiry of March 31, 2011.

4. Consultation on Criteria to be Used when Issuing BRS Licences

4.2.1 MCS Licences in Manitoba

The Department seeks comments on the options that should be applied to the Manitoba school boards and the commercial MCS licensee:

- Option 1 – Eligible for conversion to BRS;
- Option 2 – Subject to a transition policy; or
- Option 3 – Grandfathered

All MCS licensees in Manitoba should become eligible for new BRS licences once the band plan is finalized. Recognizing the limited budgets of educational institutions, consideration should be given to grandfathered school boards located in remote areas, or in non-urban areas where limited BRS spectrum is utilized, that decide that it is not in their best interest to convert to BRS licences, and allow them to maintain their existing distance education and ITV systems as much as possible while still allowing the rollout of new BRS systems. Further, in cases where large blocks of spectrum are used by the school boards, or for smaller blocks used in or near urban areas, these incumbents should be encouraged to transition to a BRS-compatible band plan.

4.2.3 CRTC-Licensed MDS Broadcasting Stations

Industry Canada invites comments on which component(s) (i.e. CRTC Decision, Industry Canada broadcasting certificate, and CRTC licence) should be required for licensed MDS in order to qualify for conversion to BRS in a given area.

Should MDS stations that do not meet the eligibility criteria be protected through a transition policy (notification period prior to displacement) in the event that a firm transition date to BRS is adopted?

The Board was unable to reach consensus on eligibility criteria in response to the Department's Consultation Paper.

However, the Board requests that Industry Canada reconcile an open question pertaining to the definition of "given area", versus a Tier "X" area or a CRTC market area.

Since wireless broadband interface technologies support video and other broadband transmissions, the RABC supports the creation of draft new RSS-199 and GL-08 being developed for BRS. Service providers who wish to continue operating as a BDU would still require CRTC approval and licences.

4.2.4 CRTC Licence-Exempt Broadcasting Stations in Rural Areas

Comments are also sought on whether CRTC licence-exempt systems that serve small, rural and remote communities having small populations should be treated differently from the CRTC-licensed systems.

Should these undertakings not be eligible for conversion and a firm transition date to BRS is adopted, the Department seeks comments on what would constitute a suitable notification period for these stations to retune to available frequencies or cease operating. Notification would be given only if the MDS station would prevent the deployment of a BRS system.

The RABC acknowledges that there are three grandfathered, non-standard systems listed in Appendix A of the Consultation Paper, which may require special attention by the Department. The Board believes that these systems should be grandfathered on a no-protection, no-interference basis. These systems should be subject to displacement to avoid interference with licensed BRS systems, on an as required basis. A notification period of 6 months would be appropriate, in light of the fact that these systems are licence-exempt and relatively small.

4.3 Geographic Service Areas

4.3.2 MDS Authorizations

Industry Canada seeks comments on whether Tier 3 or Tier 4 licence areas are the most appropriate for the conversion of site-specific MCS licences to BRS spectrum licences, where applicable, and for conversion of MDS authorizations, including Industry Canada spectrum licences issued in the 2596-2690 MHz band.

The RABC recommends that Tier 3 licences be issued for the conversion of site-specific MCS licences and MDS authorizations to BRS spectrum licences. Tier 3 is the smallest licence area awarded in the recent AWS auction and serves as a practical area size for coordination efforts between different carriers.

The Board requests that Industry Canada reconcile an open question pertaining to the definition of “given area” versus a Tier “X” area or a CRTC market area.

A Tier 3 licensing structure will not lead to any territorial conflicts between the different MDS operators. The Manitoba and Saskatchewan operators are isolated, as the Tier 3 boundaries for this region do not cross provincial borders. As for the Quebec licences, Look Communications serves the city of Québec and should be considered for service area 3-09 (Québec). This area has no overlap with the authorization granted to Câblevision TRP-SDM Inc. to serve the communities of Rivière-du-Loup, Trois-Pistoles, Saint-Fabien, Rimouski, Mont-Joli and Matane, Quebec. All six communities fall within service area 3-08 (Bas du fleuve/Gaspésie).

Tier 4 licences may be required in special cases to better fit the spirit of the CRTC authorization. Of particular interest is the YourLink licence for Lloydminster, Alberta. YourLink is authorized to serve various communities in Saskatchewan, but the city of Lloydminster is unique as this community sits on the Saskatchewan-Alberta border and operates as a single city. To better fit the spirit of the CRTC authorization for this special case it is recommended to consider granting YourLink service area 4-129 (Lloydminster, Alberta) in addition to service area 3-43 (on the Saskatchewan side) and possibly more area in Alberta depending on the coverage contour, assuming the Lloydminster system meets the eligibility criteria.

6. Licence Conditions

Industry Canada seeks comments on these licence conditions proposed for voluntarily converted BRS licences.

The RABC requests that the Department clarify the need for, and role of, broadcast certificates following the issuance of BRS licences.

6.2 Licence Transferability and Divisibility and Subordinate Licences

The RABC concurs with the Department’s proposal.

6.5 Radio Station Installations

The RABC concurs.

6.6 Provision of Technical Information

The RABC concurs.

6.8 Technical Considerations

The RABC supports the creation of draft new RSS-199 and GL-08 being developed for BRS. Further, the RABC recommends that licence blocks be no smaller than 10 MHz contiguous spectrum in order to maximize spectrum efficiency in this band.

6.9 International and Domestic Coordination

The RABC concurs.

6.13 Mandatory Antenna Tower and Site Sharing

The RABC concurs.

8. Stakeholder Proposal Development on a Band Plan for BRS

The RABC supports the proposed "Basic model of the band plan" highlighted in Figure 2 of the Department's Consultation Paper. The sub-bands 2535-2568 MHz and 2657-2690 MHz identified for mobile service in the Department's 2006 Spectrum Policy Provisions issued under Gazette Notice DGTP-002-06 are no longer suitable once the new BRS band plan is adopted for the reasons given below.

The band 2500 – 2690 MHz has been identified by ITU-R as an IMT band and has the potential to be the only globally harmonized band so far for both downlink and uplink. For information, RABC has identified two alternative band plans employed by other administrations (see reference list in Annex 1). Even though the two alternatives look similar on a high level, they are different in detail. It is important that the Department decide on which plan should be implemented for the Canadian scene recognizing that a compromise arrangement between the two plans will not be in the public interest.

The RABC recommends a band plan that provides the following important criteria:

- *Economies of scale and global roaming:* The band plan should facilitate spectrum holders in their selection of technologies that are widely available and widely used in the global market. This will ensure lower possible price points for both consumers and operators alike.
- *Spectrum efficiency:* The band plan should minimize the need for guard bands and coordination between operators.
- *Regulatory certainty:* The band plan should provide the spectrum holder with clear knowledge of when and how the licences could be put in service and therefore, a clear understanding of the spectrum value based on their business plan.

To provide regulatory certainty, RABC recommends that the Department avoid a band plan with a variable amount of paired and unpaired spectrum and adopt a band plan with a fixed amount of paired and unpaired spectrum so that potential spectrum users would be able to assess the value of the spectrum based on their business plans.

Licences should be awarded in as large blocks as possible up to 20 MHz in multiples of 5 MHz starting with 10 MHz. Commonly known wireless broadband technologies have the same structure of multiple 5 MHz channel bandwidths. Block sizes different than multiple of 5 MHz would result in wasted valuable spectrum resources.

If time domain duplexing (TDD) operation is permitted in the paired spectrum, the RABC believes that TDD operation should be consistent with the technical rules for frequency domain duplexing (FDD) deployment, including the use of lower transmit power limits in the lower band as this will reduce the possibility of interference between operators.

Some RABC members have indicated that guard bands would be required between TDD and FDD carriers and between unsynchronized TDD carriers leading to less efficient use of some parts of this valuable spectrum resource.

In Canada, the BRS band plan will start at 2500 MHz. The first alternative would be based on the “New Band Plan” set by the FCC for BRS shown in Figure 1 below, and adjusted for a 2500 MHz start.

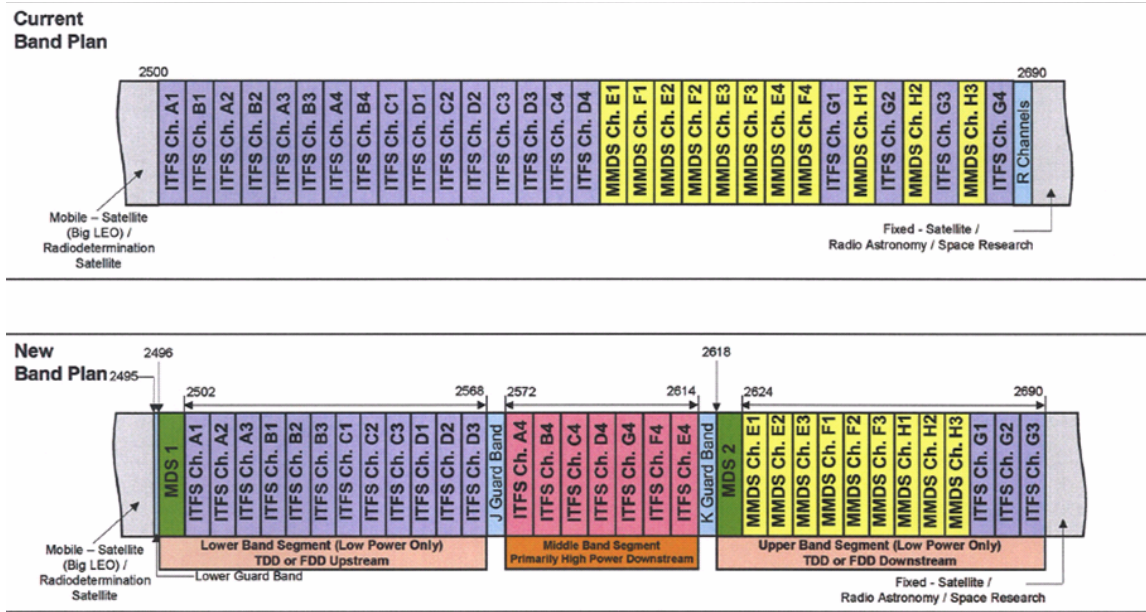


Figure 1: FCC BRS Band Plan

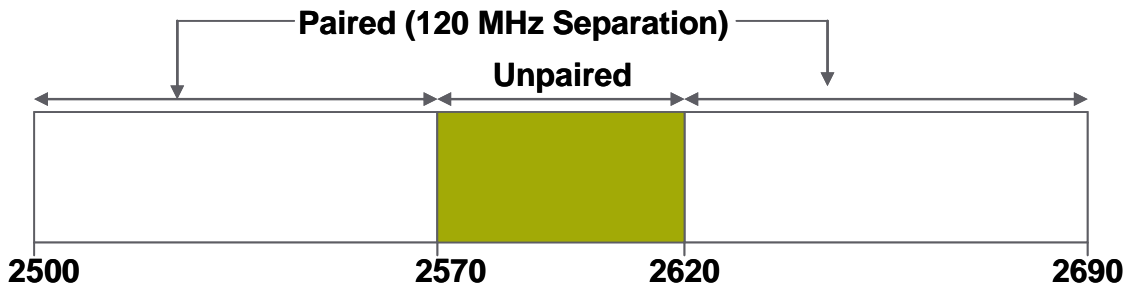


Figure 2: ITU-R, CITEL and EU Band Plan

The second alternative is a band plan (Figure 2) compatible with Recommendation ITU-R M.1036, CITEL Recommendation PCC.II/REC. 8 (IV-04) and the current European Union band plan. The band plan would have two paired blocks (specifically 2500-2570 MHz, 2620-2690 MHz) and a single unpaired block (2570-2620 MHz). If FDD technologies are deployed in the paired blocks, then a 120 MHz duplex spacing should be specified and the upper block should be used for the FDD base station transmitter.

Licences should be awarded in multiples of 5 MHz blocks (multiples of 5+5 MHz for paired spectrum), with a minimum contiguous block of 10 MHz.

Annex 1

International References

- FCC Rules: FCC 04-135 "REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING" July 29, 2004.
- Recommendation ITU-R M.1036 "Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications-2000 (IMT 2000) in the bands 806-960 MHz, 1 710-2 025 MHz, 2 110-2 200 MHz and 2 500-2 690 MHz".
- CITEL Recommendation PCC.II/REC. 8 (IV-04) "FREQUENCY ARRANGEMENTS FOR IMT-2000 IN THE BANDS 806 TO 960 MHZ, 1710 TO 2025 MHZ, 2110 TO 2200 MHZ AND 2500 TO 2690 MHZ".
- EC Decision 2008/477/EC dated 13 June 2008.
- CEPT Decision (05) 05 dated 18 March 2005.
