



Peace Region Internet Society

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Submission of the Peace Region Internet Society On the Matter of

Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum Canada Gazette, Part I (reference number SMSE-018-10)

Attention: Manager, Mobile Technology and Services, DGEPS,

Industry Canada

300 Slater Street

Ottawa, Ontario K1A 0C8

Introduction

- 1) The Peace Region Internet Society (PRiS), a registered Society in the Province of British Columbia has been providing Internet services to the residents, businesses and organizations of the BC Peace River region since 1993. The Society was originally founded to provide Internet access at a time that no business would undertake to provide the service in this predominately rural region. PRiS continues to provide affordable, state of the art connectivity to date, with a focus on serving those that are underserved due to geographic, socio-economic, or educational constraints. As a Society of members, it is in the relatively unique position of representing the receivers as well as the providers of Internet connectivity.

Summary

- 2) This submission will focus on the questions raised in Section 8: *Promoting Service Deployment in Rural Areas*, as this is the primary focus of the Society's current activities. The management of the 700 Mhz spectrum is strongly linked to the expansion of Broadband capacity in the rural and remote regions of Canada due to the inherent physical characteristics of this frequency.

- 3) This submission is based on the following principles:
 - a. That the process of *auctioning* spectrum is fundamentally different in concept than that of *licensing* its use at a prescribed fee, and that 10 Mhz of the available spectrum should be licensed rather than auctioned, in a manner similar to that used in the release of the 3.65 Ghz spectrum.
 - b. That, due to geographical and vegetative limitations, there is a significant proportion of rural residents and businesses that do not have access to any sort of broadband, even in areas that are identified as 'connected' using existing wireless services, and that the 700 Mhz spectrum is ideally suited to augmenting service to these areas by existing providers of wireless broadband connectivity.
 - c. That current trends in mobile wireless deployment by incumbents continue to *not* meet the needs of rural and remote residents. Speeds away from urban centers rarely come close to those advertised, and data traffic limitations or UBB strictly limit their usefulness for primary residential or business connectivity.
 - d. That the allocation of spectrum should be considered in a long term time frame, as decisions in this regard are difficult to reverse. Hence such decisions should not give undue weight to current technological limitations, which will surely be overcome.
 - e. That the ability to meet market demand for commercial mobile spectrum need not be compromised by the allocation of portions of the 700 Mhz band for connectivity improvement in defined underserved rural areas.
 - f. That one recognizes that there are elements of validity to the assertion that spectrum belongs in the public domain, and that this deserves consideration in its management.

g. That, just as public service functions are best handled by a mix of federal, regional and local governments, spectrum can best be managed by having some, but not all, portions of it controlled at a local level, with a granularity exceeding even that defined as Tier 4

h. That, while there is a long-term goal of a common interoperable band for public safety applications, and 10 Mhz should be set aside for that, public safety needs in the short run may be best met by allocating an additional 10 Mhz to commercial providers, with the proviso that within that band preferential treatment be given to public safety needs at times and locations where it is required.

i. That the 4.9 Ghz band, being underutilized, and being inappropriate for public safety needs, should be released for license on a non-exclusive basis to Internet Service Providers in a manner similar to that used in the release of 3.65 Ghz spectrum, where it is not currently in use.

- 4) The Peace Region Internet Society is a member of the British Columbia Broad-band Association (BCBA), and supports the goals presented in their submission.

*** END SUMMARY ****

4-1. What is the general need for additional commercial mobile spectrum at this time and what do you anticipate the future needs to be?

- 5) It is fair to say that the demand for commercial mobile spectrum will continue to grow in an unbounded fashion. It is equally fair to say that the need for this spectrum will indefinitely be less in rural and remote regions than in metropolitan areas. Provided that spectrum is managed to meet the demands of metropolitan areas, identical policies in rural areas will lead to a surplus. Hence, the set-aside of some of the 700 Mhz spectrum to meet the unique needs of rural citizens is appropriate, and would not compromise the need for additional commercial mobile spectrum in metropolitan areas.

4-5. Provide comments on the extent to which alternate spectrum access arrangements have been investigated/considered to respond to your need for additional spectrum. In addition, provide specific efficiency measures investigated or implemented for current holdings.

- 6) While rural dwellers can only dream of data transfer limitations that urban citizens have, demand for consistent bandwidth and higher limitations is universal. Local providers are making good use of existing unlicensed frequencies as well as licensed and semi-licensed frequencies in the 3.5-3.65 Ghz range to provide increased capacity using newer technologies.

However there remain pockets of people that remain totally unserved, and the most economical way of providing broadband service is to make use of the better propagation characteristics of 700 Mhz.

While the Incumbents have had access to lower frequencies for some time, their deployments continue to be focussed on more lucrative metropolitan areas, or they have attempted to serve more rural areas with 'stretched out' versions of connectivity from fewer access points. This has led to subscriber disappointment.

It is our contention that providing a portion of low frequency spectrum such as 700 Mhz to enhance the more focussed networks that local providers tend to deploy will better serve Canada's rural broadband objectives.

5-1. Based on the criteria listed above, which of the four band plan options should be adopted in Canada? Why is this option preferred over the other options?

- 7) Band plan options should be harmonized with the US to the greatest extent possible, as this strategy will lead to the earliest, greatest, and most economical availability of equipment. Industry Canada is encouraged to watch for changes in spectrum allocation plans in the US, as they move to include more spectrum in their expanding plans to provide ubiquitous coverage across all rural regions.

5-3. Do public safety agencies need spectrum for broadband applications?

- 8) We encourage the use of one common interoperable network for public safety agencies. As with capacity in general, the needs of rural and metropolitan areas differ significantly. One size does not fit all. The frequency with which high capacity may be required also varies.

Further, it is apparent that some areas will not have the financial capacity nor technical resources to be independent operators of a dedicated network for some time.

We suggest that 10 mhz of spectrum at the appropriate frequency be set aside for the eventual development of a fully inter-operable public safety network.

We suggest that an additional 10 mhz of spectrum be allocated on a non-auction basis for use by other agencies, with the proviso that preferential use be given to meeting the needs of public safety agencies:

- In some cases, this may be needed on a full time basis for additional public safety capacity.
- In other cases, this may be used by a commercial operator to provide various levels of public service on a full time basis, but not with conformance to universal inter-operability criteria.
- In yet other cases it might be used by a commercial operator for ISP services, but with an over-ride in case of need by safety agencies.

5-12. The Department seeks comments on whether the auction of 700 MHz commercial spectrum should be based on uniform tier sizes across all spectrum blocks, or a mixture of tier sizes.

- 9) Just as public service functions are best handled by a mix of federal, regional and local governments, spectrum can best be managed by having some, but not all, portions of it managed at a local level.

In the interest of rural connectivity, we recommend that, while the majority of commercial spectrum can be auctioned as others see fit, 10 mhz of spectrum (two blocks of 5-6 Mhz) be reserved for allocation/management at the Tier 4 level in non-urban areas. See Q 8.

In addition, the secondary 10 mhz of public safety spectrum should also be allocated on a Tier 4 basis.

The reason? Local segmentation leads to greater attention to local conditions, local needs, local innovation, local egalitarianism of access, and uniquely individualized solutions.

8-1. In the above context, the Department seeks comments on challenges and specific problems affecting the deployment of broadband mobile services to low-density rural and remote areas.

8-2. Is there a need for further regulatory measures or changes to existing regulatory rules (e.g. RP-19) to facilitate service deployments in rural and remote areas that remain unserved and/or underserved?

8-3. Should the Department decide that measures are necessary, comments are sought on specific measures that could be adopted within the 700 MHz spectrum auction process to ensure further deployment of advanced mobile services in rural and remote areas (e.g. roll-out conditions, tier structure, etc.).

- 10) No doubt it will have been noted that frequent use has been made of the word ‘allocated’, as opposed to ‘auctioned’. We believe that, if all frequency blocks are auctioned, even at a Tier 4 level, the needs of rural and remote Canadians will not be met. Even at the Tier 4 level, there is usually an attractive urban area that would encourage a bidder to bid up the price of a block, simply for the privilege of serving that urban area to the exclusion of its rural surroundings, or for the purpose of excluding competition. An allocation mechanism must necessarily be more granular than that provided at the Tier 4 level, yet it should not impose so

onerous a penalty that less economically attractive areas are denied service simply because of either a lack of bids, or too high a bid price. This suggests a number of conditions:

- Frequency should be licensed at a set fee, rather than auctioned, in cases where ‘First come first served’ is less likely than ‘Is anybody coming?’
- Frequency should be allocated only on the condition of immediate and specific use. ‘Use it or lose it’
- One should not be forced to apply for the secondment of frequency from a vested party such as an Incumbent (RP-019)

11) Our recommendation is that 10 of the available 108 Mhz be set aside to encourage local providers to meet local broadband needs by one of the following methods, in order of preference:

12) Option 1

- Establishing a pre-qualification process whereby a local body representing the interests of the residents of roughly a Tier 4 area can apply for permission to manage that portion of spectrum: Such a group could be a Regional District government, a First Nations body, or a Non-Profit Society established for such a purpose, and would include representation from bodies such as public safety entities, enclosed municipalities, etc. A successful qualification process would enable that group to vet applications for license, and endorse or reject them as they determine best meets the needs of the community.
 - i. The qualification would need to be renewed annually.
 - ii. Applications for license would have to meet all the ownership, technical, non-interference and installation requirements normally associated with Industry Canada Licenses, and would have to pay an established IC license fee.
- Where a successful governing body is not established for a Tier 4 area, that spectrum would go to auction with a reserve price.
- Failure to meet the reserve bid would place that spectrum block in abeyance until a community body could be successfully be established.

13) Option 2

- Licensing the frequency block in a way that is non-exclusive, contention based, analogous to the 3.65 Ghz block. Appropriate equipment will be on the way soon enough.

14) Option 3

- Auctioning one frequency block in accordance with the bidder qualification protocols set forth in the BCBA submission.

15) Option 4

- Auctioning one frequency block within each Tier 3 area, where a consortium of local providers individually meeting the bidder qualification protocols set forth in the BCBA submission are permitted to bid the area.

Respectfully submitted,

Arvo Koppel

System Administrator

28 February 2011