

**Industry Canada Consultation on a  
Policy and Technical Framework  
for the 700 MHz Band and  
Aspects related to Commercial Mobile Spectrum**

**Comments of Mobilicity  
February 28, 2011**



# TABLE OF CONTENTS

1. Introduction.....	3
2. Executive Summary .....	4
3. Context.....	9
4. Commercial Mobile Services.....	10
4.1 Overview of the Canadian Mobile Market.....	10
4.2 Stakeholder Holdings, Demand and Business Considerations .....	11
Exhibit 5-E: Actions and Timeline to Fulfill 300 Megahertz Goal by 2015.....	26
5. 700 MHz Band Plan Issues and Considerations .....	27
5.1 700 MHz Band Plan Architecture for Commercial Mobile Systems .....	27
5.2 Options for Use of 758-768 MHz Paired with 788-798 MHz for Public Safety and/or Commercial Systems .....	28
5.3 Tier Sizes for 700 MHz Auction of Commercial Spectrum.....	31
5.4 Treatment of Existing Spectrum Users .....	33
6. Changes to Canadian Table of Frequency Allocations.....	34
7. Promoting Competition.....	35
7.1 Possible Need to Promote Competition.....	35
7.2 Specific Mechanisms Applicable to the 700 MHz and 2500 MHz Auctions .....	57
8. Promoting Service Deployment in Rural Areas .....	72
9. Open Access .....	74
10. Auction Timing .....	75

# 1. INTRODUCTION

1. Mobilicity is pleased for the opportunity to comment on Industry Canada's "Consultation on a Policy and Technical Framework for the 700 MHz band and Aspects Related to Commercial Mobile Spectrum" (the "Consultation"). This is an important undertaking not only setting the framework for the 700 MHz auction, but in addressing important policy considerations relating to commercial mobile spectrum use and the competitive wireless environment. The outcome of this consultation will continue the evolution of the Canadian wireless telecom market that commenced with the Advanced Wireless Services (AWS) spectrum auction and the set-aside of 40 MHz of AWS spectrum for new entrants. The AWS auction was an unmitigated success in raising \$4.3 billion for the Government of Canada and in providing more wireless choice for an increasing number of Canadians.

2. On November 30, 2010 Industry Canada issued its 700 MHz Consultation document. In the Policy Objectives, Section 2 of the document, it states that it is "committed to ensuring that Canadian consumers, businesses and public institutions **continue to benefit** from the availability of new, advanced and affordable telecommunications services **in all regions** of the country (emphasis added)."<sup>1</sup>

3. The Consultation document goes on to state that "the Department has acted to encourage a competitive telecommunications marketplace, as it believes that competition stimulates innovation and investment by the industry, which can lead to lower prices, better services and more choice for consumers, businesses and public sector users."<sup>2</sup>

4. The Consultation also considers the Spectrum Policy Framework for Canada ("SPFC") policy objective to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum.<sup>3</sup>

5. These policy objectives can only be met through the establishment of sustainable competition. The AWS licensing framework permitted new entrants to launch services that are resonating with Canadians. However, this is just a start. Large integrated incumbent operators have demonstrated through their behavior, that given the opportunity, they are effective in thwarting competition even where they are mandated to provide services. By way of example, despite mandated conditions of license, site sharing has been a challenge for new entrants and national roaming agreements required negotiating with a monopoly provider with mixed results. The Big Three (Rogers, Bell and TELUS) can inhibit the continued development of competition if new entrant wireless operators are not afforded a reasonable opportunity to acquire additional spectrum, particularly in the 700 MHz frequency range. This scarce public spectrum resource is the basis for future and sustainable growth for "new entrants" (AWS new entrants and 700 MHz new entrants excluding 850 MHz incumbent operators) from which all consumer benefits will endure.

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<sup>1</sup> Industry Canada, Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum (The Consultation), Part 2.

<sup>2</sup> Ibid. Section 2

<sup>3</sup> Ibid. Section 2

## 2. EXECUTIVE SUMMARY

6. Industry Canada believes that competition stimulates innovation, and encourages investment by operators that can lead to lower prices, better services and more choice for Canadian consumers, businesses and public institutions. Promoting competition is about preserving choice for consumers by ensuring that the core, necessary and scarce resource behind any wireless operator, spectrum, is not hoarded by dominant incumbent operators and subsequently made unavailable to new entrants. Mobilicity has achieved a great amount of success in acquiring subscribers since its launch in May 2010. It is Canadian's desire for competitively priced voice, text and in particular data that is driving this growth. However Mobilicity will need spectrum soon to continue the success the government policy of promoting more competition in the wireless sector. Such spectrum will be used to deploy LTE, and meet the continuing demand for additional data that Canadian consumers are expecting quickly as is being demonstrated globally. Without such additional spectrum Mobilicity's business will be capped and the service it is providing to Canadians will be limited. 700 MHz spectrum has very attractive characteristics and will make it much more feasible for new entrants to build rural and suburban areas. The government policy should be to promote competition in all regions, not just cities, and lower frequency spectrum is required to make this possible. Bell, TELUS (who operate a network as affiliates) and Rogers still hold 85% of the 460 MHz of available spectrum on a population weighted basis. To stimulate competition this imbalance has to be corrected going forward.

### **SUMMARY OF MOBILICITY'S RECOMMENDATIONS**

7. To summarize, Mobilicity's recommendations include the following in regards to the 700 MHz auction framework.

- a. A set-aside of all of the 700 MHz spectrum for eligible bidders. In the absence of a full set-aside, a minimum of 56 MHz needs to be set-aside.
- b. Eligible set-aside bidders are:
  - i. Qualifying Canadian entities with less than ten percent of total telecommunications market revenue who are also
  - ii. Not 850 MHz spectrum holders in their incumbent territories. That is to say, for example, MTS Allstream is excluded in Manitoba and SaskTel is excluded in Saskatchewan where they are incumbent 850 MHz spectrum holders.
- c. Spectrum caps need to be established for spectrum in the less than 1000 MHz range (covering 700 MHz spectrum and 850 MHz spectrum) and an additional cap be established for frequencies above 1000 MHz (covering PCS, AWS, 2500 MHz BRS spectrum). The spectrum cap should be 30 MHz per Tier 3 serving area in the less than 1,000 MHz range, thereby preventing new entrants from hoarding significant spectrum. Spectrum

caps remain in place indefinitely but may be subject to review, such as during subsequent auction consultations.

- d. Bidders and affiliates as demonstrated by current practice should be treated as one with respect to the spectrum cap. Bell and TELUS should be treated as one entity for spectrum caps given the shared nature of their national network.
- e. The territories should be defined on a Tier 3 basis in 2 x 5 MHz blocks. Opportunities should be provided to aggregate adjacent blocks.
- f. Public Safety organizations be granted shared and priority access to commercial spectrum in the 700 MHz range.
- g. Provisions to permit expedited relief and the ability to impose administrative and punitive penalties for non-compliance of Licensees with roaming and site sharing regulations.
- h. Due to existing government programs and initiatives and commercial commitments, there is no need to mandate additional rural service deployment measures as part of the 700 MHz auction framework.

### **Canada has been poorly served by the large integrated incumbent operators.**

8. Canadian wireless providers have a poor record in serving the needs of Canadians. This is evidenced by Canada having one of the lowest rates of mobile penetration in the world, Canada having excessive per minute rates when compared to its primary trading partner, and Canadian wireless operators' profits being the highest of 21 developed countries.<sup>4</sup>

9. Canada's weak competitive performance is attributable to the highly concentrated Canadian telecom market. In any given regional market, Canadians typically have had a choice between only two or three operators. In broadband services, which are so critical to Canada's digital strategy, there has been a duopoly with a local cable operator competing with an incumbent telecom operator. The large integrated carriers have over 94% of the market.<sup>5</sup> In wireless, there are three operators with a 95% market share nationally, and strong duopolies are present in all provinces.<sup>6</sup> The top two providers had at least 79% market share in all provinces except Quebec where the top two had 72% of the market.<sup>7</sup> This concentration amongst the integrated telecom providers reduces innovation and creativity, and incents incumbents to keep service pricing high. It is in the interest of the integrated operators to try and maximize the value of core legacy wireline assets and not have wireless perceived as a substitute. This is evidenced by the fact

<sup>4</sup> Peter Nowak, CBC News Report, *Canadian Wireless Firms Still Tops in Profit*, July 19, 2010. <http://www.cbc.ca/money/story/2010/07/19/canada-wireless-profit.html>

<sup>5</sup> CRTC Communications Monitoring Report 2009, pages 137-139.

<sup>6</sup> CWTA Wireless Facts and Figures 2010

[http://www.cwta.ca/CWTASite/english/facts\\_figures\\_downloads/SubscribersStats\\_en\\_2010\\_Q3.pdf](http://www.cwta.ca/CWTASite/english/facts_figures_downloads/SubscribersStats_en_2010_Q3.pdf)

<sup>7</sup> CRTC Communications Monitoring Report 2009, page 159.

that wireless phone substitution for landline phones in Canada was 8% in 2008 and in the U.S. was 22.8% in the first half of 2009.<sup>8,9</sup>

**The AWS auction demonstrated the benefits of Industry Canada's proactive competition framework.**

10. The AWS auction framework set-aside 40 MHz of spectrum for new entrants. There were 24 registered bidders and new entrants paid \$1.6 billion for the spectrum. Overall the auction raised \$4.3 billion and commanded approximately 3 times the price of spectrum in the U.S. AWS auction on a \$/MHz/POP basis.<sup>10</sup>

11. Since the auction, AWS new entrants have made significant investments in building their networks and in employing Canadians. To date, four new entrants have launched service offerings in the AWS or G band with an additional two new entrants expect to launch service within the foreseeable future. In contrast, incumbent operators have simply added AWS to their cache of spectrum, and none have deployed networks in the band.

12. In the major cities in which the AWS new entrants have a presence, Canadian consumers are seeing lower prices for wireless services offered by the AWS entrants and the Big Three's flanker brands. Mobilicity for example, offers unlimited talk and text plans from \$25 per month. Incumbent operators have responded by providing "me-too" offerings, solely in new entrant markets, with their flanker brands. New entrants are also offering unlimited data plans to consumers, an alternative to wireline broadband Internet. These offerings are being embraced by consumers with new entrants adding about 30% of the estimated net new subscriber total in 4Q 2010, which is significant given the early stage of their overall network coverage.<sup>11</sup>

**Incumbent operators do not have a demonstrated need for spectrum.**

13. Per the Seaboard report, "Over the Rainbow: Thoughts on the Canadian 700 MHz Discussion", Canada's Big Three control more spectral assets than any other carriers in the world.<sup>12</sup> As we will demonstrate in this document, based on comparisons with AT&T spectrum utilization in New York, the Big Three operators can handle four times as much traffic in Toronto as they do today, without even using their AWS spectrum assets, let alone needing 700 MHz spectrum. Based on U.S. estimated spectrum needs and adjusted for market differences, Mobilicity believes there is sufficient spectral capacity among the Big Three to meet their needs through beyond 2015. Given the experience with the acquisition of AWS spectrum, the acquisition of 700 MHz spectrum by the Big Three would simply mean additional spectrum would lie fallow for a longer period of time.

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<sup>8</sup> Giganomics Consulting, *Wireless Substitution – More than just voice*, September 20, 2010

<sup>9</sup> Stephen J. Blumberg and Julian V. Luke, Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2009*, page 1.

<sup>10</sup> Michael Hennessey, TELUS, *Spectrum Allocation – Implications for Industry Players, Policy Makers and the Consumer?* International Institute of Communications Telecommunications and Media Forum, Washington DC, November 18, 2008 page 2.

<sup>11</sup> Ian Marlow, The Globe and Mail, *Wireless upstarts score on new subscribers*, December 17, 2010

<sup>12</sup> Seaboard Group, *Over the Rainbow: Thoughts on the Canadian 700 MHz Discussion*, February 2011

14. Given the lack of imminent need for spectrum, Mobilicity recommends that the 2500 MHz auction be held at a later date when there is a demonstrated need for the additional spectrum.

### **700 MHz spectrum is a scarce commodity best put to use by new entrants**

15. The best means to maximize the economic and social benefits that Canadians derive from the use of the 700 MHz frequency spectrum is to make it available solely to non-incumbent operators (AWS new entrants and 700 MHz new entrants, excluding SaskTel and MTS in their incumbent wireless territories). New entrants are underrepresented in overall spectrum holdings. In addition, the AWS spectrum holdings of the winning AWS bidders are not sufficient to support their growing bandwidth needs. Incumbent operators were granted spectrum allotments in prior years that can still be utilized to maintain their subscriber base, but the new operators have no such minimal cost spectrum.

16. In much the same way as not all real estate has equal value, not all spectrum has equal value. For example, spectrum without a reasonable device ecosystem behind it is less valuable than spectrum that has such devices. This was seen in the AWS auction, where AWS spectrum was auctioned for considerably higher amounts than for example, the G Block of the PCS band, which was also part of the same auction process. The 700 MHz band has several desirable qualities: a) superior propagation characteristics that extend coverage range and improve in-building performance (thereby reducing build deployment costs and improving quality), b) an emerging device ecosystem and c) a desire to be deployed by larger international players (which in turn creates the device ecosystem by necessity). New entrants need 700 MHz spectrum for capacity, to potentially enable LTE services and to provide cost effective coverage outside of the core urban markets. Incumbent operators have 850 MHz spectrum which is directly comparable to 700 MHz in terms of propagation characteristics. AWS spectrum is less attractive outside of core urban markets in that cell site coverage is smaller and increases the capital cost by a factor of 3 or 4 or more, depending upon the source cited. Given the historical challenges in getting access to site sharing, having access to attractive spectrum is even more of an imperative for new entrants in offering choice to Canadian consumers outside of large urban core markets.

### **A set-aside of all of the 700 MHz spectrum is required.**

17. Setting aside all of the 700 MHz spectrum is required along with spectrum caps. If there is no set-aside, incumbent operators, in our opinion, will use their market power to forestall competitive entry and they have the financial means and the incentive to do so. They will value spectrum not just based on the use value but also based on foreclosure value, which is a private value gained by preventing rivals from eroding an incumbent's existing business. This foreclosure value does not reflect consumer value, which is the economic and social benefits that are derived from the use of the spectrum per the SPFC policy.

18. While Mobilicity recommends that incumbent operators should be completely excluded from the 700 MHz auction, should Industry Canada find that incumbent operators have some basis for 700 MHz spectrum, our secondary position would be that a minimum of 56 MHz be allocated to non-incumbent operators, and that all bidders be eligible for the remaining open commercial spectrum. With respect to spectrum, incumbents in Canada have an entitlement view that does not align with the real world. It is worth noting that AT&T, in the U.S. 700 MHz auction, was limited to 12 MHz of spectrum in a number of regional markets. T-Mobile in Germany holds 38 MHz of spectrum in total. Per the Consultation, the Big Three have 85% of 460 MHz of the spectrum holdings in Canada in 850 MHz, PCS, AWS and BRS. Clearly they have enough.

19. It is not in the best interest of Canadians for operators to have an unwarranted concentration of spectrum holdings. As an example Rogers' acquisition of Microcell, during an absence of a spectrum cap led to excessive spectrum holdings. To avoid such a recurrence, Mobilicity recommends a spectrum cap be imposed for spectrum in the less than 1000 MHz range since this highly valued spectrum is in limited supply.

20. Giving new entrants the opportunity to acquire the 700 MHz spectrum will provide more choice for consumers. This is in no way advocating a "giveaway". In the AWS set-aside block, bidding was fierce with nine participants winning licenses at a cost of \$1.6 billion. It is merely ensuring follow-through with additional set-aside spectrum being made available to provide sustainable competition.

### **The Framework Requires Additional Follow-through for Sustainable Choice**

21. Building wireless networks requires significant capital, beyond the upfront purchase of spectrum. When new entrants could not share cell sites, capital costs increased and coverage expansion for new entrants was delayed - through the site acquisition and approval process, and due to less capital being available for expansion. While most AWS entrants have already built a good portion of their networks without tower sharing, Mobilicity feels it is essential that the framework and Conditions of License attached to all Licensed spectrum provide for administrative and punitive penalties if incumbent operators are not acting consistent with the framework objectives.

22. Mobilicity also encourages Industry Canada to consider that license payments be made payable over a period of ten years. This permits more of the risk capital required to be deployed immediately in expanding networks and creating jobs.

### **Rural Coverage and Open Access**

23. Mobilicity has been encouraged by the various government initiatives to support rural broadband development, and Barrett Xplore's plans to build a national 4G network. Therefore Mobilicity does not see a need for any further action on the part of Industry Canada with respect to the 700 MHz auction and rural coverage.

## Risks and Opportunities

24. The oligopolistic structure and practices that led Canada to be a laggard in wireless services cannot return. A strong wireless market can only be accomplished by continuing to provide conditions that allow new and emerging entrants to establish sustainable competition. New wireless entrants are making substantial investments in Canada, building new wireless networks, creating high quality employment and delivering new and attractive wireless offerings to Canadian consumers. The early success of Mobilicity and other new entrants in acquiring customers is promising and demonstrative of consumer needs not being met by incumbent providers. However, the emerging benefits brought on by new entrants are still nascent and fragile.

25. In the past, Canadians have experienced the benefits of increased competition and innovation in wireless only to see it disappear. Clearnet Communications with its innovative Mike network was acquired by TELUS in 2000 and Microcell with its CityFido offer was acquired by Rogers. In the years that followed, CityFido's attractive unlimited plans were no longer offered to new customers, and overall pricing in the market became less competitive.<sup>13</sup> It is important that Industry Canada does not permit history to repeat itself as the costs would be even higher due to the increasing importance of wireless broadband services to a productive and prosperous Canada.

26. The policy objectives require follow-through on the AWS licensing framework to ensure long term sustainable success. This is best accomplished through establishing a complete 700 MHz set-aside for new entrants and a spectrum cap for aggregate frequency under 1000 MHz. This framework supported by administrative means to enforce the framework will permit the development of a competitive infrastructure to support Canadian leadership in a global digital economy.

## 3. CONTEXT

### Mobilicity

27. Mobilicity is the consumer brand name of Data & Audio Visual Enterprises Wireless Inc. (DAVE Wireless). For purposes of this submission DAVE Wireless will be referred to as "Mobilicity". The company is controlled by Obelysk, a diversified Canadian holding company, with Quadrangle Capital Partners, a global investor in the telecommunications and media sectors as the principal equity partner.

28. Mobilicity acquired 10 MHz of spectrum covering 16.1 million people in the (AWS) auction which concluded in July 2008. The \$243 million of acquired spectrum includes ten of Canada's thirteen largest metropolitan markets. In May 2010, Mobilicity launched service in the greater Toronto area (GTA). In November 2010 roll-outs followed in Vancouver, Edmonton and Ottawa. On December 17, 2010 Mobilicity announced that it had added over 50,000 new subscribers and was on track to add approximately 10% of

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<sup>13</sup> Comments of MTS Allstream Inc., "Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Services", May 25, 2007, page 13.

the net new wireless subscribers in the fourth quarter of 2010 even though three of the key markets were only offering service for six weeks. Mobilicity is looking forward to expanding service into Calgary and beyond.

## Report Structure

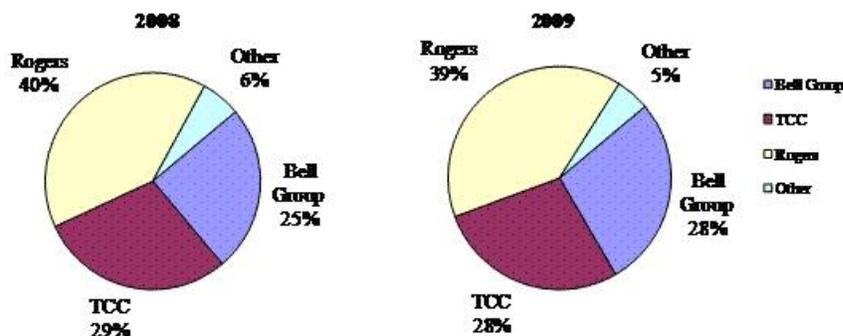
29. For ease of reference, the report is structured from Section 4 through Section 10 with the same headings and sub-headings as the Consultation document. The questions posed by Industry Canada and the corresponding answers will therefore be found in the same sections as those reflected in the Consultation document.

## 4. COMMERCIAL MOBILE SERVICES

### 4.1 OVERVIEW OF THE CANADIAN MOBILE MARKET

30. The Consultation document highlights the need for follow-through on the success of the AWS auction. What currently exists is a highly concentrated market with the Big Three controlling 95% of the market by revenue. In addition, there is a strong duopoly structure in many of the provincial markets that further reduces the competitive intensity at a regional level. In 2009, the top two wireless providers in every province had at least 79% of the total subscribers except Quebec, where the top two providers still had a remarkable 72% share.<sup>14</sup>

Figure 1: Wireless TSPs' revenue market share



<sup>14</sup> CRTC Communications Monitoring Report 2009, page 159

**Table 1: Wireless subscriber market share, by province (2009)**

<b>Province</b>	<b>Bell Group</b>	<b>TCC</b>	<b>Rogers</b>	<b>Others</b>
British Columbia	16%	41%	42%	0%
Alberta	21%	52%	27%	0%
Saskatchewan	7%	4%	13%	76%
Manitoba	5%	11%	30%	55%
Ontario	32%	20%	47%	1%
Quebec	39%	26%	33%	2%
New Brunswick	64%	15%	21%	0%
Prince Edward Island	64%	18%	18%	0%
Nova Scotia	57%	20%	23%	0%
Newfoundland and Labrador	77%	19%	3%	0%
The North	95%	0%	0%	5%

Source: CRTC data collection

31. Per the Consultation, the spectrum holdings are also highly concentrated. The 850 MHz spectrum is all held by the “incumbent operators” (Big Three, SaskTel and MTS) who were granted the initial cellular spectrum. The incumbent operators also control 93% of the PCS (1900 MHz) Spectrum. In the recent AWS auction, incumbent operators acquired 57% of the available spectrum. Of the BRS spectrum issued, incumbent operators control 98% of the spectrum. As such, 87% of the total spectrum is controlled by incumbent operators in the cellular, PCS, AWS and BRS bands. This leads Industry Canada to ask the right question, that is: How much is used and how much is needed? Mobilicity believes the only reasonable answer is that incumbent operators have all the spectrum they need through at least 2015. In contrast, new entrants, need protected access to spectrum to be ensured a reasonable opportunity to provide sustainable competition for the benefit of Canadians. Given the current imbalance, this translates into needing between 2/3rds to 100% of the spectrum being made available in the 700 MHz and BRS auctions. Even if all the said spectrum was acquired by new entrants, the Big Three would still hold almost 2/3 of the available spectrum (64%) and far more than their medium term needs.

## **4.2 STAKEHOLDER HOLDINGS, DEMAND AND BUSINESS CONSIDERATIONS**

**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?**

**There is currently sufficient aggregate spectrum.**

32. There is not an aggregate market need for spectrum in Canada at this time. This is clearly evidenced by the amount of spectrum that lies fallow with the Big Three operators. Although the AWS auction took place in 2008, none of the Big Three has deployed on AWS spectrum, nor have they announced plans to do so. Bell and Rogers

through Inukshuk have substantial spectrum assets in the 2500 MHz range. In addition Inukshuk and TELUS have significant holdings in the 2.3 GHz and 3.5 GHz frequency ranges. What we do have is an imbalance in spectrum holdings that will need to be addressed in order to ensure that consumers continue to realize the benefits that are now starting to flow from new wireless provider entry. A 700 MHz auction in 2012 with a complete set-aside is anticipated to meet the needs in the mid-term.

33. Unquestionably wireless bandwidth demand is growing rapidly and additional spectrum will be one of the key means to satisfy this growth overall, and for some new wireless operators, having access to 700 MHz spectrum will be critical to their viability. It will be the principal resource constraint for their success. Therefore, it is essential that spectrum be made available to operators in a timely manner, based on aggregated market requirements AND new entrant requirements. Industry Canada's Spectrum Policy Framework for Canada (SPFC) policy objective is to maximize the economic and social benefits that Canadians derive from the use of radio frequency spectrum. Mobilicity believes that objective is best satisfied by ensuring reasonable access to spectrum is afforded to new and emerging wireless operators.

34. Although there is not an immediate need for additional commercial mobile spectrum, it is the right time for the consultation process on the policy and technical framework. Having consultations in 2011 for the 700 MHz auction, the 2500 MHz auction and on foreign ownership provides the necessary policy framework for operators to plan for the next three to five years. While Rogers did express the need for an auction as soon as possible, this appears to be driven by a desire to have spectrum auctioned while new entrants are still capital constrained in building networks; and after Bell/TELUS just completed their HSPA+ network investment.<sup>15</sup> Rogers would be a primary beneficiary of an early auction since due to the challenges mentioned above the spectrum may be cheaper and more readily available. Rogers has more 850 MHz spectrum, which is a strong substitute for 700 MHz, and more spectrum period, than any other provider in Canada. The Big Three have not yet deployed any network on its AWS spectrum. One can assume that with its vast spectrum holdings, it is more interested in limiting the availability of spectrum to new entrants to extinguish their growth prospects, as opposed to needing more spectrum for its own deployment purposes.

35. Because spectrum is a bottleneck and scarce resource, its allocation is critical. Spectrum lying fallow does nothing for consumers or Canadian economic growth. In order to determine spectrum requirements going forward, it is important to understand the current spectrum holdings and their utilization. In this process, we can anticipate that most parties will have a bias to overstating growth and utilization, particularly incumbent operators, since that will help support their case for needing additional spectrum. Unfortunately, unless there is mandated provision of spectrum utilization information, including the number and size of carriers in place, we are left to interpolate spectrum utilization and needs. As a result, comparison to other markets becomes important. Mobilicity believes the best comparator market is the United States, which also has the benefit of having relevant information readily available.

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<sup>15</sup> James Sturgeon. *Rogers Wants Airwave Auction Accelerated*, Financial Post, November 4, 2010,

**A comparison of deployed spectrum with major US markets suggests that the Big Three carriers have substantial capacity remaining in their existing spectrum holdings in urban markets.**

36. In 2007, a LeMay Yates study compared the spectrum holdings in major Canadian and US metropolitan markets.<sup>16</sup> While a 2007 study may sound dated, it accurately reflects for this analysis, the spectrum on which networks have been deployed. That is to say that neither AT&T nor the Big Three have deployed on AWS or 700 MHz spectrum in the interim period.

37. The report shows, for example, that in New York, with 18.7 million people, approximately four times the population of Toronto, AT&T has 55 MHz of spectrum.

**Table 2: Canadian mobile spectrum by market (before AWS)**

	Population	Cellular/PCS/ESMR MHz per market		
		Rogers	Bell	Telus *
Toronto	4,883,800	75	55	50
Montreal	3,507,400	85	45	50
Vancouver	2,076,100	85	40	55
Ottawa-Gatineau	1,102,900	85	45	50
Calgary	976,800	85	40	55
Edmonton	961,500	85	40	55

*\* Note - Telus holdings assumes 10 MHz of ESMR in each market*

© Lemay-Yates Associates Inc., 2007

<sup>16</sup> LeMay Yates and Associates, *Canadian and US Mobile Spectrum Holdings*, May 25, 2007 pages 6-7 [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/DGTP-002-07-LYA-Spectrum-holdings-overview-May-2007-AppendixII.pdf/\\$FILE/DGTP-002-07-LYA-Spectrum-holdings-overview-May-2007-AppendixII.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/DGTP-002-07-LYA-Spectrum-holdings-overview-May-2007-AppendixII.pdf/$FILE/DGTP-002-07-LYA-Spectrum-holdings-overview-May-2007-AppendixII.pdf)

**Table 3: US Mobile Spectrum per Market (Excluding AWS and 700 MHz)**

Excluding AWS	Licensed Mobile MHz per market (cellular, PCS, ESMR)					
	Population	AT&T	Verizon	Sprint Nextel	T Mobile	Others
New York	18,747,320	55	65	43	20	0
Los Angeles	12,923,547	65	45	43	20	10
Chicago	9,443,356	65	35	33	30	20
Atlanta	4,917,717	65	35	33	30	20
Boston	4,411,835	65	55	43	20	0
Seattle	3,203,314	65	45	43	30	0
Minneapolis	3,142,779	45	45	43	40	10
Tampa	2,647,658	65	30	28	25	35
Denver	2,359,994	45	45	43	40	10
Sacramento	2,042,283	60	25	43	25	30
Albany NY	848,879	65	45	43	30	0
Albuquerque	797,940	45	35	33	30	40

*Note - Sprint Nextel includes typically 13 MHz ESMR per market*

© Lemay-Yates Associates Inc., 2007

38. By applying New York's 97% penetration rate<sup>17</sup> and a 30.8% national market share, then AT&T had at the end of 2009 over 5.5 million subscribers in the New York metropolitan area. In Toronto, a market of 4.9 Million people in the LeMay Yates report, the Big Three each have similar or larger spectrum holdings with TELUS having 50 MHz and Rogers 75 MHz **before** the addition of their AWS spectrum. Furthermore, AT&T had been the exclusive provider of iPhones (a notoriously data-intensive device) until recently. As of the end of 2008, about 20% of all U.S. iPhone users were estimated to be in New York City or San Francisco.<sup>18</sup> In other words New York is a very data intensive subscriber base for AT&T's 55 MHz of pre AWS spectrum. Although AT&T had some service issues in New York keeping up with the data growth, those issues were addressed by adding another carrier on its 850 MHz spectrum to increase 3G capacity.<sup>19</sup> Since AT&T had just turned up a third carrier (2 x 5 MHz) in mid-2010 they had at least 10 MHz of capacity available at that time or were using a maximum of 45 MHz.<sup>20</sup>

39. The Big Three had 180 MHz of combined spectrum prior to the AWS auction in the Toronto area, and 230 MHz after the AWS auction. In comparison, AT&T had subscribers equal to more than 110% of the population of the **entire** Greater Toronto area on 45 MHz of spectrum. As such, it can be inferred that as of today, TELUS alone, with the least spectrum of the Big Three, could handle all of entire population of Toronto's wireless subscriber needs, and then some, with its 50 MHz of spectrum (excluding AWS). Therefore, with the existing 180 MHz of capacity in 850 MHz cellular and PCS spectrum,

<sup>17</sup> Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Fourteenth Report, May 20, 2010 page 219

<sup>18</sup> *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Fourteenth Report, May 20, 2010 page 130, footnote 636.*

<sup>19</sup> Nilay Patel, AT&T says New York 850 MHz 3G upgrade is complete, voice quality improved 47 percent, Engadget, June 28, 2010.

<sup>20</sup> *Mobile Broadband: The Benefits of Additional Spectrum, October 2010 page 23.*

the Big Three should be able to handle at least 4 times the traffic that they are currently handling, and more than 5 times the traffic with the addition of the AWS spectrum.

40. In contrast, in Toronto, three new AWS license winners share 40 MHz of spectrum and another new licensee has 10 MHz in the G Block. It is not a stretch to infer that 50 MHz of spectrum amongst four Licensees will not be sufficient to meet all of their needs going forward.

41. In the other top five markets, Montreal, Vancouver, Ottawa, Calgary and Edmonton, all of which are less dense than Toronto, the spectrum range for the Big Three varies from a low of 40 MHz to a high of 85 MHz, pre-AWS auction. Clearly given the above example, the Big Three have ample spectrum for growth in these urban markets and the need for 700 MHz spectrum in urban markets is suspect.

42. Later in this paper, we will explain why the 700 MHz spectrum is not the ideal spectrum for the Big Three in major urban markets and it is best preserved for use by the new entrants that currently have limited spectrum holdings.

**Given the excess spectrum capacity that exists among the Big Three in Canada's major metropolitan markets, what is the case for additional spectrum in rural areas?**

43. Outside of the major markets, the spectrum utilization is likely much lower due to lower population density. Per figures 4.1 and 4.2 in the Consultation document, the combined 850 MHz and PCS spectrum for Bell and TELUS which is used in their roaming and resale arrangements is typically in the 85 MHz range on a provincial basis, about the same as Rogers. This is a substantial inventory by any measure. In addition Bell and TELUS acquired 50 MHz of AWS spectrum in every province except Saskatchewan and Manitoba, where they added 40 MHz. Mobilicity believes that, even with exceptional growth rates, the Big Three do not require additional spectrum beyond what they already have in place outside of the major urban markets.

**Mobile data demand is growing rapidly, but with the spectrum added through the 700 MHz and 2500 MHz auctions there will be sufficient capacity to meet aggregate spectrum demand through 2015 and beyond.**

44. Mobile data usage, driven by the demand for high-speed wireless internet access, is growing rapidly. There is increased adoption of smartphones, data sticks and cards along with an ever increasing expansion of mobile applications. The iPhone was released in Canada in 2008, the same year as the AWS auction. Since that date, smartphones have generally become more powerful and more affordable. It is arguable that the iPhone may have triggered a shift in consumer behavior driving demands for wireless data services. Fast forward to today, the recent success of Android based devices and iPhones are strong signals from consumers that they demand high quality wireless data services be provided by wireless operators. If Mobilicity is to stay competitive, the management of data growth will present a challenge due to the constraints in our spectrum holdings. Primarily as a result of this shift in consumer

behavior, Mobilicity will need additional spectrum in order to satisfy growing consumer demand.

45. In the United States, to accommodate the growing demand for wireless services, the National Broadband plan identified the need to make available about 500 MHz of new spectrum for wireless broadband over the next ten years, including 300 MHz between the 225 MHz and 3.7 GHz range for mobile flexible use within five years. This assessment, reflected in an FCC Omnibus Broadband Initiative (OBI) Report was based on an estimate of spectrum utilized and future demand requirements. From the second quarter of 2009 to the second quarter of 2010, U.S. data usage had grown from 98.9 megabytes per line to 201.8. The data growth from 2009 to 2014 based on an average of three independent studies was projected to be 35 times the 2009 baseline.<sup>21</sup> This study factored in the types of devices (feature phones, smartphones and portable high speed internet devices), the usage by device type and their penetration. The study also factored in some modest growth for cell sites (7% per year), and improving network spectral efficiency in determining the spectrum requirements.

46. While the above growth numbers are significant, there are some key points to note. The 35 times increase in data growth only translates into 4.8X spectrum growth. The reason for the much smaller growth multiplier in spectrum, compared to data, is due to the small base from which data was growing. In 2009 it was assumed that 67% of the spectrum was allocated to voice and 33% to data. Voice spectrum capacity is expected to remain flat through 2014. The combined growth rates for voice and data lead to a 4.8X increase in spectrum requirement. The estimate also assumed that capacity utilization was 100%. For every 1 MHz less actually used for data in 2009, the result is an overstatement of 12.5 MHz of capacity required in 2014.<sup>22</sup> If the data capacity utilization was 70% of the 170 MHz of spectrum capacity in 2009 instead of 100% (more realistic since operators upgrade in advance of peak needs) then 40 MHz of data capacity was used instead of 57 MHz. By 2014, this translates into lowering the spectrum capacity requirement by 17 x 12.5 MHz or 212 MHz. This would reduce the spectrum requirement to 612 MHz from the forecast requirement of 822 MHz or a **3.6x multiple of the 2009 baseline**. The highest forecast used in estimating demand (Cisco) was 100% higher than the lowest (Yankee Group), which represents a sizable gap in perspective. In addition, the model assumed that unlimited data plans would continue to be offered through to 2014. As a result, the model reflects between 15GB – 20GB in average portable internet use by 2013, and with its penetration growing at a 61% compound annual growth rate it was a major contributor to data growth estimates. It also doesn't adequately reflect network offload strategies like Wi-Fi or in the future, femtocells. Additionally and importantly, the CEO of Verizon came out and stated, in referring to the National Broadband Plan that "I don't think we'll have a spectrum shortage the way this document suggests we will."<sup>23</sup>

47. The study does indicate that the primary substitute for new spectrum is increasing network density through the addition of cell-sites. The study states that

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<sup>21</sup> FCC Omnibus Broadband Initiative (OBI), *Mobile Broadband: The Benefits of Additional Spectrum*, October 2010, page 9.

<sup>22</sup> Ibid, page 16

<sup>23</sup> Apple Investor, "FCC Takes a Jab at Verizon CEO over Spectrum", April 8, 2010 <http://apple-investor.com/blog/2010/04/fcc-takes-a-jab-at-verizon-ceo-over-spectrum.html>

releasing 275 MHz of spectrum by 2014 saves \$120 billion in capital and operating expenses relative to increasing cell site density.<sup>24</sup> This is based on an assumption of “infill sites” and the *cost of new towers is not included in this estimate*. It is important to note that this trade-off does exist, and incumbent wireless operators will prefer to have access to spectrum if it is relatively cheaper (as expected) than paying for incremental capital builds. As noted earlier, Mobilicity does not believe that spectrum constraints exist for the Big Three, but they can make this capital trade-off argument for budgetary purposes, in an attempt to foreclose new entrants out of the market. A more detailed discussion of this “trade-off” can be found in the confidential Section 4-2 of this consultation..

48. A final comment on the FCC national broadband plan is stated in the National Broadband Report “ ... because there are ways to free up spectrum by delivering existing services more efficiently (rather than eliminating them altogether), the risk of overestimating spectrum needs is much lower than the risk of underestimating them”.<sup>25</sup> This in our view speaks to a bias in the report to overstating the need for spectrum, relative to potential actual needs.

### **Adjusting U.S. demand for the Canadian market**

49. In using the U.S. case above as a baseline, Mobilicity recognized that while there are many similarities between the U.S. market and the Canadian market, there are also many unique differences. For the purpose of this consultation, we have taken a conservative approach on the assumptions we used to adjust for these unique differences. The following are the adjustments we have made when applying for the U.S. case above as a baseline:

50. The U.S. spectrum requirement was 637 MHz by the end of 2013 and 822 MHz by the end of 2014 and 4.8x growth from 2009 – 2014<sup>26</sup> and 3.6X after adjusting solely for capacity utilization. In Canada, with the completion of the 700 MHz auction (assuming 84 MHz) and the 2500-2670 MHz (BRS) auction, there will be 544 MHz of spectrum available per Figure 4.6 of the Consultation. In addition, this excludes the 30 MHz of spectrum auctioned in the 2.3 GHz range and 175 in the 3.5 GHz range, where Inukshuk has national coverage with over 50% of the total population coverage on a MHz/Pop basis.<sup>27</sup> Total spectrum availability including these bands is 749 MHz of spectrum. This is likely sufficient spectrum for Canada well beyond 2015 for a number of reasons. The U.S. National Broadband plan recommends that “the FCC should revise certain technical rules, including the WCS OOB limits, **to enable robust mobile broadband use of the 2.3 GHz WCS spectrum** (emphasis added). It goes on to state ... “the FCC should accelerate efforts to ensure that the WCS spectrum is used productively for the benefit of all Americans” .<sup>28</sup>

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<sup>24</sup> Ibid, page 20

<sup>26</sup> Ibid page 18 Exhibit 10

<sup>27</sup> Industry Canada, List of Current License Holders (as of December 2007) <http://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/it07902.html>

51. Historically, there is a one to two year lag in usage in Toronto relative to New York. The AT&T average voice minutes per user in 1Q 2010 were 660 versus an average of 368 minutes in Canada.<sup>29,30</sup> For the purpose of this consultation, we will assume a similar one to two year lag in data penetration given AT&T has a large iPhone penetration and that New York and San Francisco represented about 20% of all iPhones sold. The average data utilization in 2Q 2010 in the United States was 201.8 MB/line. A one year adjustment off the U.S. numbers reduces the spectrum requirement end point in 2014 from 822 MHz to 637 MHz.

52. The spectrum utilized is assumed to be lower in the major markets per the Toronto to New York spectrum comparison. The OBI model assumed a base utilization of 170 MHz where 50MHz seems appropriate for Toronto. This would further reduce the overall MHz required by 120 – 130 MHz at the baseline entry. With compounding over 4 - 5 years it is reasonable to assume that a larger gap would exist at the end point. As an example, if we applied the same 4.8X multiplier in spectrum growth requirement from 2009 – 2014 off the 50 baseline, the total spectrum requirement would grow to 240 MHz. At the high end of the range, we can reflect a 120 – 130 MHz reduction from the 637 MHz above for a 515 MHz spectrum requirement by the end of 2014 (10.3x).

53. Further adjustment for the assumption of continuation of unlimited plans is also required. On June 2, 2010, AT&T changed its data plan pricing structure for new customers. AT&T replaced its \$30 unlimited data plan with a 2 gigabyte (GB) package for \$25 a month. Customers that exceed the 2 GB threshold will pay an additional \$10 per month for an additional GB of service. In making the change AT&T indicated that 98% of its smartphone customers use less than 2 GB of data each month. The maximum plan advertised by the Big Three appears to be 15 GB/month at Rogers, with Bell and TELUS plan maximums at 5 GB/month.<sup>31</sup> Therefore we assume Canadian users will not get to the 15 – GB threshold reflected in the OBI model for portable internet.

54. Pricing in Canada may result in lower data usage requirements. The 2 GB plans offered by the Big Three start at \$50 per month relative to the \$25 a month 2 GB plan recently adopted by AT&T to replace its \$30 a month unlimited data plan.<sup>32</sup> With the higher pricing, it is assumed that consumers will look for substitutes where available such as wireline or Wi-Fi offload services to minimize costs.

55. Off-load strategies for Wi-Fi and in the future, femtocells. More and more smartphones feature Wi-Fi and it is more cost-effective for users to take advantage of Wi-Fi where it is available. According to a November 2008 report by AdMob, 42% of all

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<sup>29</sup> Canadian Wireless Market Facts Appendix 2 page 13 to Comments of Bell Canada – Industry Canada Consultation on Opening Canada's Doors to Foreign Investment in Telecommunications: Options for Reform, July 30, 2010

<sup>30</sup> AT&T Corp, First Quarter 2010 Quarterly Earnings, Supplemental Financial and Operational Results, April 21, 2010

<sup>31</sup> Wireless Wave website, compare rates plans January 30, 2011

[http://www.wirelesswave.ca/compare\\_rateplans\\_plans.asp?ProvinceID=3&RegionID=61&CategoryTypeID=17&CategoryID=33](http://www.wirelesswave.ca/compare_rateplans_plans.asp?ProvinceID=3&RegionID=61&CategoryTypeID=17&CategoryID=33)

<sup>32</sup> Wireless Wave website, compare rates plans January 30, 2011

[http://www.wirelesswave.ca/compare\\_rateplans\\_plans.asp?ProvinceID=3&RegionID=61&CategoryTypeID=17&CategoryID=70](http://www.wirelesswave.ca/compare_rateplans_plans.asp?ProvinceID=3&RegionID=61&CategoryTypeID=17&CategoryID=70)

iPhone traffic was transported over Wi-Fi networks rather than carriers' own networks.<sup>33</sup> In the second quarter of 2010, AT&T handled 68.1 million connections on its public Wi-Fi network — up from 15 million connections in the second quarter of 2009. Customers made 121.2 million connections in the first half of 2010, far surpassing the 85.5 million connections made in all of 2009.<sup>34</sup>

56. On the Hotspot network, Bell and Rogers have approximately 1,200 locations offering Wi-Fi access, including Starbucks and Second Cup locations.<sup>35</sup> Integrated operators can also offload traffic to their wireline ISP business. Given the Big Three all have wireline ISP services, using a Wi-Fi gateway or router is a natural way for their customers to offload traffic from their wireless networks to their wireline networks in order to save money and in the process preserve scarce spectrum resource for the integrated operator. With the existence of wireless usage caps it is assumed that this practice is effectively encouraged by the Big Three. The new non-integrated wireless operators do not have this bundling opportunity. In fact new wireless operators represent one of the only potentially sustainable competitive options to the wireline ISP duopoly that exists across Canada.

57. Mobilicity believes these factors could reduce the spectrum requirement by another 20% for a midpoint reduction of about 100 MHz of capacity off the high end estimate and 50 MHz off the low end estimate. This would create a spectrum capacity range requirement from about 200 MHz – 400 MHz in the major Canadian metro markets or about 4x – 8x the current spectrum utilization. We think the low end of the range is more realistic given the U.S. multiplier of 3.6x off the 2009 base after adjusting solely for capacity utilization. Given that the Big Three have 230 MHz of spectrum in Toronto in 850 MHz, PCS and AWS, this should meet their needs into 2015 (excluding 700 MHz and BRS 2500 MHz), since they will represent something less than a 100% share of the market.

58. Overall, given net spectrum holdings in the range of 544 MHz (excluding WCS), we do not see any overall spectrum shortfall in Canada that will not be met by the 700 MHz and 2500 MHz auctions through well beyond 2015. The issue therefore is not the amount of aggregate spectrum required, but to ensure that the remaining spectrum is allocated properly and put to its best and most valuable use for the benefit of Canadians.

**Compared to International peers, the Canadian Big Three have substantial and excessive spectrum holdings on a total and a subscriber per MHz basis.**

59. In the Seaboard Report the following comparison chart was presented with respect to overall spectrum holdings. Bell and TELUS are combined in this chart as Bellus (Bell/TELUS) given the nature of their shared network.

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<sup>33</sup> Federal Communications Commission National Broadband Plan, *Connecting America: The National Broadband Plan*, page 77.

<sup>34</sup> Use of AT&T's Wi-Fi Network Grows to More Than 68 Million Connections in the Second Quarter, AT&T Press Release, July 22, 2010

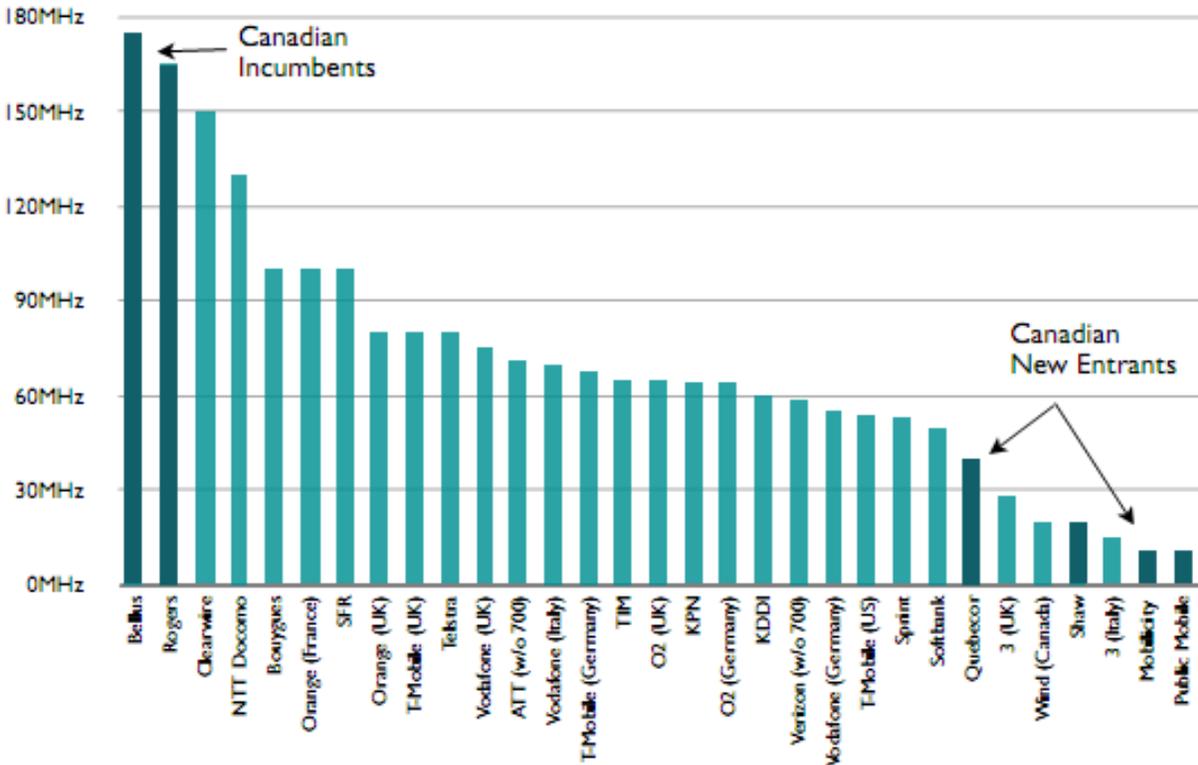
<sup>35</sup> Hotspot.ca website <http://www.canadianhotspot.ca/advancedsearch.php>

Figure 2: Spectral Holding International Comparison from Seaboard Group<sup>36</sup>

**Exhibit 6**

**Comparative Spectral Holdings, International Markets - Canada, by Major Markets IQ2010<sup>18</sup>**

Source: Company Reports, SeaBoard Group; 2010



60. It is hard to suggest that the Big Three need more spectrum when assessing this international comparison.

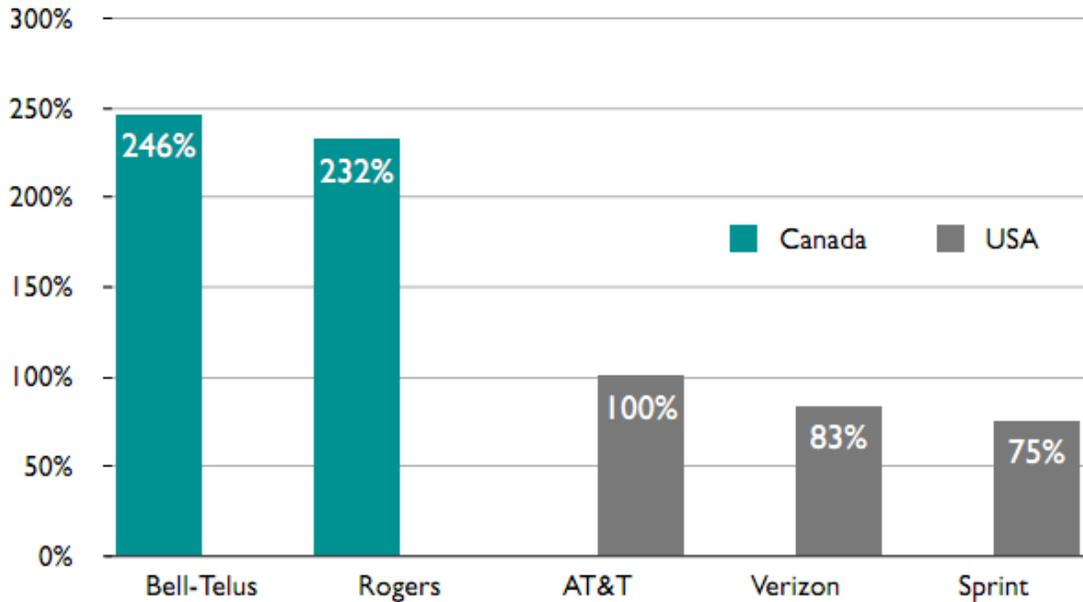
61. In assessing relative to the United States, Seaboard presented the following data and noted that Verizon, prior to the 700 MHz auction, had less than a 70 MHz national spectrum allocation.<sup>37</sup>

**Figure 3: Spectral Comparison Canada versus U.S. from the Seaboard Group**

**Exhibit 7**

**Canadian Incumbent Spectral Allocation v. US Incumbent Allocation<sup>21</sup> (major markets)**  
(expressed as % of AT&T)

Source: Company Reports, Morgan Stanley, SeaBoard Group; 2011



62. It is important to recall once again that the United States has already had its 700 MHz auction and that AT&T has not yet deployed on its AWS or 700 MHz spectrum that is included in these benchmarks.

63. The most telling chart from the Seaboard report is the following which reflects subscribers per MHz of spectrum.

**Figure 4**

**Exhibit I  
Comparative Spectral Holdings, US / Canada**

Source: Company Reports, SeaBoard Group; 2011



**The Big Three and Incumbent Carriers have no demonstrable need for additional spectrum.**

64. The Big Three and incumbent operators in Saskatchewan and Manitoba (incumbent operators) have substantial spectrum holdings. This includes excess capacity on their 850 MHz and PCS spectrum holdings as well as unutilized AWS spectrum holdings.

65. The incumbent carriers have an opportunity, and an obligation to the Canadian public, to manage their spectrum holdings efficiently and effectively. They can repurpose the spectrum used by their 2G networks over time for 3G or 4G purposes, by turning down 2G carriers as demand for 2G network services wanes. It is not in the best interests of Canadians to make available to incumbent operators additional spectrum where they have an opportunity to re-use this scarce resource. In the United Kingdom, the 900 MHz band of spectrum was initially auctioned for 2G services. Recognizing the importance of putting this spectrum to its highest and best use, Ofcom has authorized the use of this spectrum for 3G and 4G purposes.<sup>38</sup>

66. The incumbent operators have substantial opportunities to off-load service to their wireline networks. Within homes and businesses and public spaces, there are opportunities for off-loading to Wi-Fi networks that exist amongst the incumbent operators that may not exist for non-integrated providers. Integrated incumbent providers

<sup>38</sup> Caroline Gabriel, *UK green lights spectrum refarming*, Mobile Phone Augmented Reality Market Analysis and Forecasts, January 7, 2011

can permit seamless authentication for automatic handover of traffic to their own Wi-Fi networks, whereas for competitive providers of wireless services they could conceivably block the Wi-Fi service or charge additional fees. This can effectively limit wireless broadband capability as a substitute for wireline broadband if integrated operators have the flexibility to inhibit a level playing field.

67. The incumbent operators have already deployed or have indicated that they would deploy significant capital infrastructure on which to overlay additional cell sites to handle increased demand. They have reserved space “for future needs” at these sites and structures at the expense of new entrants who needed access to these cell sites for their initial deployments. Per the Seaboard report, in dense urban environments many wireless service providers use six-sector antennas, i.e. they re-use a given spectral block for six sectors, instead of three, which the Big Three use in the main.<sup>39</sup>

68. Incumbent operator growth rates will be moderated by the effect of new entrants. New entrants over time will take more share from incumbent operators and with contract expiries, we can expect the incumbent churn rate to rise. Thus overall subscriber growth rates may be less than assumed.

69. Bell and TELUS have a shared national network through a national resale and roaming agreement. This effectively doubles their capacity and significantly lowers their capital requirements. The historical context made this an attractive proposition for both parties since they were granted 850 MHz spectrum in their respective incumbent territories for no cost. Given the cost advantages to deploy on 850 MHz and the joint capital expenditure and associated operating expense savings, it made sense to partner given the lack of overlap in this spectrum. The same cannot be said for new entrants, who competed aggressively with one another on a market by market basis in the AWS auction to acquire a portion of the limited set-aside spectrum.

70. The incumbent operators may best match the heavy data requirements on their networks by using AWS or 2500 MHz spectrum. Per a GSM Association letter to the Australian government: “Making the 700 MHz band available in a manner which promotes LTE deployment will make **cost-efficient rural** coverage and cost efficient initial urban area roll-out with excellent indoor coverage for mobile broadband happen and the **2600 MHz band will constitute the perfect complement making it possible to achieve the capacity needed for handling greater traffic volume in urban areas** (emphasis added).<sup>40</sup> Thus the GSM Association is arguing for 700 MHz to be deployed for new urban networks and for rural coverage and identifies 2500/2600 MHz spectrum as the preferred choice for densely covered urban areas, further strengthening the argument that new entrants require access to the 700 MHz spectrum.

71. In addition, it is expected that the Big Three will make the argument for wide swaths of spectrum to maximize spectral efficiency and thus have significant bandwidth requirements. While Mobilicity agrees that this may be the goal, given the limited amount of contiguous spectrum, this is less practical in the 700 MHz band. Through Inukshuk, Bell and Rogers with their spectrum reassignment should end up with significant contiguous spectrum holdings in the 2500 MHz range and they have many large

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<sup>39</sup> Seaboard Group, *Over the Rainbow: Thoughts on the Canadian 700 MHz Discussion*, February 2011, page 13

<sup>40</sup> GSMA Response to Australian Government Digital Dividend Green Paper of January 2010, February 25, 2010

contiguous blocks in the 3.5 GHz range. AT&T was limited to 12 MHz of 700 MHz spectrum in markets where they won spectrum during the U.S. 700 MHz auction process.

72. The amount of spectrum being made available through the 700 MHz and 2500 MHz auctions is relatively limited. Only 84 MHz of spectrum is being made available through the 700 MHz auction process. Per figure 4.6 on the Consultation, a combined 32% of the total aggregate spectrum (excluding WCS) will be made available through the 700 MHz and BRS auctions. Even if the Big Three did not acquire a single MHz of spectrum, they would still hold 64%, almost 2/3 of the then available spectrum. Seven other wireless operators make up 9% of the spectrum. One questions the ability of the seven other wireless service providers to grow or even to meet consumer demand unless they can substantially augment their aggregate spectrum market share to a percentage that approaches their market share potential. This target should limit the Big Three to marginal spectrum access, if any at all, in the upcoming auctions.

73. Given the evidence of the vast spectrum holdings and the suspected substantial underutilization of spectrum by the Big Three, based on international comparisons, if Industry Canada is to consider making any 700 MHz spectrum available to incumbent operators, it should only be done after an independent audit of spectrum utilization that justifies a need in the midterm for additional spectrum. There is too much on the line for consumers, and for sustainable competition to not do due diligence into this matter.

### **New Operators have limited spectrum and require access to additional spectrum in order to be able to provide sustainable consumer choice**

74. The three new entrants that have deployed in Toronto have 40 MHz of combined spectrum and there is an additional 10 MHz of spectrum held by another new AWS entrant. This compares with the 230 MHz of spectrum held by the Big Three in the cellular, PCS and AWS bands and excludes the significant 2500 MHz spectrum holdings of Inukshuk. This is typical of the distribution in major markets where spectrum capacity will be an issue. Access to significantly more spectrum by new entrants will be required to sustain credible competition in this market and to meet minimum consumer demands.

75. New entrants require spectrum for subscriber growth and for the increasing bandwidth requirements of their customers. New entrants will be gaining customers at the expense of incumbents. New entrants do not have unutilized or inefficiently used hoarded spectrum.

76. New entrants such as Mobilicity are offering differentiated models that, as an example, offer consumers a wireless alternative to wireline telephone service, and potentially to wireline broadband with unlimited data plans at very competitive rates. These are higher usage models than deployed by incumbent operators, who are interested in protecting their legacy wireless and wireline customer bases. These differentiated offers lead to higher network utilization rates and bandwidth requirements.

77. New entrants that could only acquire and deploy on 2 x 5 MHz of HSPA will need additional spectrum to deliver 4G services in the future. A single carrier requires 2 x 5 MHz on an HSPA network so this spectrum cannot be shared for 3G and LTE service

offerings. In order to deliver innovative 4G services, access to additional spectrum for LTE will be required in a given market.

78. New entrants have had frustrated access to cell site sharing which increased their network build costs, and thus further strained their financial resources. This is an accurate assessment despite incumbent claims of “offering space on towers to new entrants yet being rebuffed” – an obviously strange and non-existent happenstance given the objective difficulty in building a new tower site. Incumbent operators have largely deployed on more cost effective 850 MHz spectrum where the capital requirements are substantially lower than AWS. In order to cost effectively expand service, particularly in light of the inability to share sites, it is imperative that new entrants be provided with 700 MHz spectrum to deliver on the benefits of sustained competition.

79. Many new entrants do not have an equal opportunity for data offload strategies that exist for incumbent and integrated operators using Wi-Fi and wireline networks, thus spectrum become access becomes substantially more important to their ability to offer service.

80. If an objective of Industry Canada is to provide a wireless broadband alternative to the duopolistic broadband wireline providers, then it is necessary to ensure that there is sufficient spectrum allocated to non-incumbent operators to provide sustainable bandwidth capacity.

81. Without additional spectrum access, Mobilicity’s existing business growth will be capped and will become less competitive over time. Furthermore, a lack of adequate spectrum may make it more difficult for new entrants to acquire financing if their growth potential looks to be stymied by a lack of spectrum. This may provide another rationale for incumbent operators to “pay what is necessary” to acquire spectrum at the expense of competitors and consumers.

**There will be more low frequency spectrum available for future auctions.**

82. As an example, the FCC National Broadband Plan recommends that the FCC should initiate a rulemaking proceeding to reallocate 120 MHz from the broadcast television (TV) bands. The goal is to issue an order in 2011, have an auction in 2012/2013 with spectrum clearing and transition to mobile services by 2015.<sup>41</sup> Mobilicity would expect that a similar action plan is contemplated by Industry Canada with the timeline lagging the U.S. to some extent, depending upon mobile bandwidth forecasted needs. Given the need for 700 MHz spectrum in the near term by New Entrants, and the likelihood of additional low frequency broadband spectrum being available in the required planning horizon, the best use of the 700 MHz spectrum, for the benefit of consumers, is to make it all available to new entrants.

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**TABLE 4: Excerpt from FCC National Broadband Plan<sup>42</sup>**

**EXHIBIT 5-E: ACTIONS AND TIMELINE TO FULFILL 300 MEGAHERTZ GOAL BY 2015**

<b>Band</b>	<b>Key Actions and Timing</b>	<b>Megahertz Made Available for Terrestrial Broadband</b>
Broadcast TV <sup>62</sup>	2011—Order  2012/13—Auction  2015—Band transition/clearing	120

**Based on the above arguments, Mobilicity believes that there is merit in making all of the 700 MHz spectrum available to new entrants.**

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## 5. 700 MHz BAND PLAN ISSUES AND CONSIDERATIONS

### 5.1 700 MHz BAND PLAN ARCHITECTURE FOR COMMERCIAL MOBILE SYSTEMS

**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? If Option 3 (APT band plan) is selected, what should the block sizes be?**

83. Mobilicity favours Option 2b. This option provides bidders, through 2 x 5 MHz blocks, with the most flexibility in acquiring and packaging spectrum blocks. A party that wishes to combine 2 or more spectrum blocks has an opportunity to do so. However, in addition, given the anticipated strong demand for spectrum by a number of parties, Option 2b, unlike Option 2a, does not preclude new bidders or recent entrants from bidding on smaller spectrum blocks that might meet their capacity needs. In addition, the 2500 MHz auction will provide opportunities to acquire more contiguous spectrum to meet high capacity needs in densely populated areas for overbuilds. Option 2b also supports cross border roaming in the lower 700 MHz band.

84. Option 1 is an inefficient use of spectrum. Option 2a limits the flexibility by focusing on 2 x 10 MHz blocks and, with a maximum total of 84 MHz of spectrum available in the auction, there simply is not enough spectrum available for all of the expected bidders for these large spectrum blocks to meet service provider and market needs. In contrast, Option 2b does provide the opportunity to aggregate if a bidder does desire a larger spectrum block. The APT model appears very attractive from a contiguous spectrum perspective and the fact that it will likely have lots of devices and equipment available at attractive costs since it is the standard for the heavily populated Asian markets of China, India, Indonesia and others. However, there is concern with respect to alignment with other North American frequency device standards. For example in devices that are built for Asia, the focus will be on providing radios that support 700 MHz as well as 900 MHz, 1800 MHz, 2100 MHz and or 2600 MHz ranges. These will be different standards than in North America where deployments will be in the 700 MHz, 850 MHz, 1900 MHz and the North American AWS band plan as well as 2500 – 2700 MHz range in the future. Given the U.S. operators will drive the ecosystem for devices on a 700/850/1900/AWS spectrum basis, Canada should be aligned with the U.S. in terms of device support to ensure as many devices as possible are available to Canadians to meet their needs at a cost effective price point. Without alignment with the U.S. band plan, the ability to roam from 4G 700 MHz networks to 3G or 2G networks for broader network coverage would likely be minimal. In addition, cross border roaming on 4G from an APT standard to a U.S. standard would not be possible.

**5-2. The band plans presented in the options above include guardbands. Should the Department auction the guardbands, or should these frequencies be held in reserve for future use such that they are technically compatible with services in the adjacent bands?**

85. Mobilicity recommends that the guardbands be held for future use. There is unlikely to be much use for the guardbands today, so it is prudent for Industry Canada to hold on to the guardbands and auction them when they can yield the most benefit for Canadian consumers, businesses and public institutions.

## **5.2 OPTIONS FOR USE OF 758-768 MHz PAIRED WITH 788-798 MHz FOR PUBLIC SAFETY AND/OR COMMERCIAL SYSTEMS**

**5-3. Do public safety agencies need spectrum for broadband applications? If so:**

86. It is assumed that public safety agencies will be able to benefit from broadband applications, particularly over time as applications evolve.

**a. How much and for which type of applications?**

87. Mobilicity believes that Public Safety broadband requirements can be met with Option 2, i.e. designating the entire 10 + 10 MHz of spectrum to be auctioned for commercial systems, with possible provisions for priority access for public safety systems.

**b. What are the anticipated deployment plans and the possible constraints, if any, in implementing these plans?**

88. If spectrum is set aside for public safety agencies, Mobilicity believes the biggest constraint will be the raising of capital to deploy the agencies broadband plans. If spectrum is auctioned for commercial purposes, the additional funding that is raised could be used to contribute to the cost of building a network in other spectrum ranges, or to support wireless operations that can be given priority usage and roaming rights on the commercial spectrum in the 758 MHz – 768 MHz and 788 MHz to 798 MHz range.

**c. Is there suitable alternate spectrum to the 700 MHz to meet these broadband requirements?**

89. Public safety agencies may be given priority access to other commercial spectrum in lieu of 700 MHz including the 850 MHz spectrum which has similar propagation characteristics.

**5-4. Comments are sought on the need for public safety broadband radio systems to be interoperable:**

- a. between various Canadian public safety agencies;**
- b. between Canadian and U.S. public safety agencies.**

90. No comment.

**5-5. What are the challenges faced today by public safety agencies to have cross-border radio interoperability in other frequency bands?**

**Supporting rationale for your responses to the above questions should be provided.**

91. No comment.

**5-6. Notwithstanding your responses to questions 5-3 to 5-5, the Department seeks comments on whether public safety broadband needs can be met by using commercial systems with priority access rights for public safety, at commercial rates.**

92. Mobilicity believes that Public Safety should have access to commercial spectrum on a priority basis at market based roaming rates. Priority access rights reduce the capital costs for public safety agencies and provide more reasonable “pay for usage” terms for these agencies. Focus by public agencies can be directed to providing a high degree of service support to their constituents rather than having to develop an expertise in managing a wireless network and the associated, roaming and network interconnection complexities. A portion of the 700 MHz auction proceeds can be set aside to subsidize commercial rates and to ensure that hardened network requirements for public safety are established.

**a. Your views and comments are invited on priority access rights, including pre-emption, and on the feasibility of such a system.**

93. Mobilicity believes that priority access rights on commercial spectrum will be feasible and practical. Furthermore, if need be, priority roaming could be facilitated on other commercial 700 MHz networks for incremental peak demand by using a system such as the Wireless Priority Service (WPS) in the United States. Wireless Priority Service (WPS) is a priority calling capability that greatly increases the probability of cellular call completion during a national security and emergency preparedness (NS/EP) event. To make a WPS call, the user must first have the WPS feature added to their cellular service. Once established, the caller can dial \*272 plus the destination telephone number to place an emergency wireless call.

94. A dedicated public safety network would be a significant funding commitment. The U.S. National Broadband Plan calls for \$12 - \$16 billion in net present value funding

to support the construction and on-going costs of the public safety broadband network over a ten year period.<sup>43</sup>

**b. What public safety technical and operational requirements cannot be met by commercial systems, from either a public safety or commercial operator point of view?**

95. No comment

**c. What specific rules, if any, should be mandated by the Department to make such a system viable?**

Standards need to be mandated to ensure hardened network requirements are known, and that roaming and prioritization routines are established and documented. **5-7. Comments are sought on the need for regional (local, provincial, etc.) dedicated broadband networks to provide access to all public safety agencies, and the institutional feasibility of implementing such a system.**

96. No comment.

**5-8. Is there a need for a dedicated national interoperable broadband network to provide access to all public safety agencies? The Department seeks comments on the institutional feasibility of implementing such a system.**

97. No comment.

**5-9. If band plan Option 1, 2a, or 2b in Section 5.1 is chosen, which one of the three options described above should be adopted and why is this option preferred over the other options? Provide supporting rationale.**

98. Mobilicity recommends Option 2 – designate the entire 10 + 10 MHz of spectrum for commercial systems, with possible provisions for priority access for public safety systems

99. Capacity and network infrastructure can be shared to the mutual benefit of the public safety agencies and commercial operators. The lower band (under 1000 MHz) spectrum is a scarce resource. If 5 + 5 MHz or more was made available, it limits the spectrum available for commercial purposes. The less spectrum that is allocated for commercial purposes, the higher the probability that at least one new entrant will end up with no spectrum. The ability to prioritize traffic on commercial spectrum deals with the peak load issues. This makes best utilization of the spectrum and also permits the government to raise substantial dollars.

100. Further, a Commercial spectrum auction will create revenue that can be deployed to support public safety objectives or subsidize commercial rates on priority access. In addition, by choosing Option 2, public safety agencies will have the benefits of having access to devices which are commercially available, should they desire. This translates

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<sup>43</sup> Federal Communications Commission, *A Broadband Network Cost Model: A Basis for Public Funding Essential to Bringing Nationwide Interoperable Communications to America's First Responders*, OBI Technical Paper No. 2, page 1.

to broader access by public safety agencies at lower costs than closed proprietary systems.

101. Over time, there will be opportunities to facilitate the migration of services off narrowband and on to the IP broadband network. As this takes place, spectrum in the narrowband range will be able to be used more effectively.

102. Finally, consumers benefit through the commercial spectrum being available to support additional capacity to provide them with the applications and services they desire. To the extent that additional commercial spectrum is not available for new entrants, it could lead to reduced competitive intensity, higher prices and less choice for consumers.

**5-10. If commercial operators are mandated to support public safety services, what tier size should be applied in order to ensure adequate public safety coverage?**

103. Mobilicity suggests that this be on a Tier 3 basis

104. Mobilicity recommends that a portion of the proceeds from the auction be used to develop or acquire solutions for priority management and or systems for public agencies and / or to subsidize commercial rates.

**5-11. If the APT band plan (See Option 3 in Section 5.1) is adopted:**

- a. **Given that the APT band plan requires a 55 MHz duplexing separation, can Canadian public safety services operate their current narrowband systems in this band plan configuration? If not, what are possible alternatives to address public safety needs?**
- b. **Should spectrum be designated for dedicated public safety broadband systems, and how much?**

105. No comment

**You are also invited to comment on any related aspects that are not addressed above, including whether the decision should be delayed until the U.S. situation is known.**

106. No recommendation at this time.

### **5.3 TIER SIZES FOR 700 MHZ AUCTION OF COMMERCIAL SPECTRUM**

**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.**

107. Mobilicity recommends the same tier size for all spectrum blocks. A possible exception is the tier that could be associated with commercial band use by public safety networks on a priority basis. In this case, Mobilicity believes that a Tier 2 band may be acceptable, with associated roll-out targets to ensure public safety needs are met.

**5-13. Based on your answer above, what tier size(s) should be adopted?**

108. Mobilicity recommends the adoption of Tier 3 bands. The fifty-nine Tier 3 bands are a good compromise between auctioning one hundred and seventy two Tier 4 markets and the large Tier 2 bands.

109. The concern with Tier 2 bands is that there is the possibility that these blocks will be acquired, but that there will be no focus on rolling out coverage to a wide swath of the tiered serving area for a significant amount of time. This is due to the fact that a bidder may be primarily interested in a specific subset of the Tier 2 serving area. An example would be a bidder interested in providing service in Winnipeg, but who ends up with coverage of all of Manitoba and its 647,000 square kilometers. This is not in the interest of the people of Brandon, Manitoba. Brandon could be a very attractive Tier 3 market to another bidder, but they could be precluded from this market if it was bundled with Winnipeg at a Tier 2 level.

110. Using Tier 3 areas more closely aligns the value of spectrum to the communities. A larger Tier 2 market will result in higher average costs being attributed to the less densely populated communities within the tier. The higher average costs will in fact force the successful licensees to focus deployments on areas where they can get the best return, which is not likely the less densely populated areas. Conversely with Tier 3 serving areas, since costs can be more closely attributed to a smaller coverage area, then the business case for acquiring spectrum and deploying network is better aligned for more communities.

111. Tier 3 bands permit an easier split between rural and urban communities. This will be important given the propagation characteristics of the 700 MHz spectrum. As an example, Mobilicity's focus in the AWS auction was on acquiring spectrum in the more densely populated areas due to AWS propagation characteristics. With 700 MHz spectrum, Mobilicity can focus on providing better coverage in the suburban, exurban and rural markets, as well as focus on selected urban markets for which there is a need for more spectrum capacity.

112. The Tier 3 markets also recognize that varying amounts of spectrum may be required to support business plans in the Tier 3 serving areas. As an example, a bidder might believe that in the Vancouver Tier 3 area its needs are two blocks of 2 x 5 MHz, while in Victoria or Nanaimo one 2 x 5 MHz block may be sufficient.

113. Using Tier 3 serving areas as opposed to Tier 2 serving areas would not reduce the number of roaming agreements unless it reduces the number of market participants. In addition, for parties already in a market, they will be looking to conclude roaming agreements with other parties, regardless of the 700 MHz tiered serving area size. Technically there are many solutions for managing roaming coordination at the device and network level, therefore there should not be any limitations imposed by serving area tiers.

114. If the blocks are all on the same Tier, then it is possible for bidders to mix and match blocks of spectrum if they do not initially get their preferred block. For example, a bidder may have most of his blocks in the A block, but missed that block for Calgary.

That bidder could still potentially acquire a B block for Calgary to meet his needs rather than have to bid for all of a Tier 2 Alberta block or a combination of Tier 4 blocks.

115. Lastly, a Tier 3 structure means more flexibility and creativity for consumers. If consumers in mid-sized markets are looking to benefit from unlimited talk, text and data offers, this is most likely to transpire if a new entrant acquires Tier 3 spectrum. It is less likely to happen if spectrum is acquired in major tiers (Tier 1 or Tier 2) by integrated incumbent operators, whether traditional telephone or cable companies. These companies are interested in protecting their legacy installed wireline customer base. As evidenced to date, the only benefactors of the new wireless entrants' unlimited talk, text and data plans are consumers that are in the markets where new entrants have commenced service. Chatr and Solo unlimited talk and text plans are only offered in new entrant markets in an attempt to thwart competitive entry. They were not initiated to deliver value to consumers. It would not be surprising to see the incumbent providers argue for Tier 2 service in the belief that the more expensive Tier 2 areas will preclude more bidders from the market and thereby eliminate the possibility of wireline substitution offerings being made available to more Canadians.

#### **5.4 TREATMENT OF EXISTING SPECTRUM USERS**

##### **5-14. The Department seeks comments on the transition policy proposed above.**

116. Mobilicity is in agreement with the notification periods proposed by the Department for existing low-power television broadcasters.

##### **5-15. The Department seeks comments regarding its proposal to permit low-power licensed devices, including wireless microphones, to operate in the band 698-764 MHz and 776-794 MHz only until March 31, 2012.**

117. Mobilicity supports the recommendation that low powered wireless devices including wireless microphones only be permitted to operate in the band 698-764 MHz and 776 – 794 MHz until March 31, 2012.

## 6. CHANGES TO CANADIAN TABLE OF FREQUENCY ALLOCATIONS

**6-1. The Department seeks comments on its proposed changes to the CANADIAN TABLE OF FREQUENCY ALLOCATIONS for the band 698-806 MHz.**

### **Spectrum Utilization Policy**

118. In RP-014, issued in 1995, Industry Canada clarified the definition of a cellular mobile radio service (CMRS), and placed no limitations on the types of mobile radio or personal communications applications to be deployed in the cellular mobile bands.

119. The Department proposes to refer to the commercial radio systems to be deployed in the 700 MHz band as Mobile Broadband Services (MBS). The MBS systems would be compliant with the RP-14 definition for CMRS. Subject to technical compatibility considerations, there will be no restrictions on the services to be offered by licensees under MBS. The 700 MHz band will be dedicated to MBS with the exception of any frequency ranges possibly designated for public safety.

**6-2. The Department seeks comments on the spectrum utilization policy proposed above.**

120. Mobilicity supports the changes.

## 7. PROMOTING COMPETITION

### 7.1 POSSIBLE NEED TO PROMOTE COMPETITION

**7-1. The Department seeks comments on the current state of competition and its anticipated evolution, including the impact on consumers in the Canadian wireless services market:**

- a. in general;**
- b. in terms of its contributions and interaction to the broader Canadian telecommunications service market;**
- c. In comparison with the wireless markets of other jurisdictions**

121. Note: We have addressed a, b, and c together in that all three themes weave together through market share, pricing and industry concentration issues that exist in the marketplace.

**The state of competition in the Canadian wireless industry is at the beginning of a transitional phase – some consumers are starting to experience the benefits of competition.**

122. The Canadian wireless market is transitioning from an oligopolistic market with some of the highest wireless profits in the world, to a more intensely competitive and customer focused market. This flows directly from the success of the AWS auction in 2008. The importance of this auction to Canadian consumers cannot be overstated. Left to their own devices, the Big Three would continue with their profit leadership in all the business sectors they control at the expense of Canadians.

123. For at least the major cities in which the AWS new entrants have a presence, Canadian consumers are seeing the benefits of competition such as lower prices, higher subscriber penetration, innovation, and higher customer satisfaction. It is important to remember, that in spite of all of the excitement about the new wireless service providers, the wireless industry is still dominated by the Big Three. In total, at the end of 2010, the new entrants total subscriber count would almost certainly be less than 500,000 based on reported numbers at various points through the fourth quarter. Through the end of the 3<sup>rd</sup> quarter 2010, the Big Three had 22.9 million subscribers. SaskTel had 541,000 subscribers and MTS had 476,000.<sup>44</sup> Of the 24 million subscribers at the end of 2010, the AWS new entrants might have a total of 2% of the subscribers. New entrants had only started their network builds, and markets introduced outside of the province of Quebec were limited to the Greater Toronto area, Ottawa, Vancouver, Calgary and Edmonton. This supports the view that the benefits of competition are only starting to emerge.

<sup>44</sup> CWTA Wireless Facts and Figures 2010 <http://www.cwta.ca/CWTASite/english/industryfacts.html>

124. In addition, the statistics on a provincial level show that, in many markets, there is a duopoly. As an example, in 2009, the top two wireless providers in every province had at least 79% of the total subscribers except Quebec, where the top two providers still had a remarkable 72% share.<sup>45</sup> The national market share statistics hide this duopolistic distinction and may lead one to believe that there is a strong three way battle in every market in Canada. These facts suggest otherwise and this shows up in the extremely high profits earned by Canadian wireless operators.

### **Canadian prices are high**

125. Canada led all 50 nations in the survey with the highest average revenue per user at \$54.73 per month. In comparison, the United States was \$49.54, United Kingdom was \$31.63 and Greece was the lowest at \$19.87. Though Canadians are paying about 10% higher than our neighboring country, the United States, the value that Canadians are getting are less than those in the United States. In terms of the average revenue per minute, it was \$.10 USD in Canada compared to \$.04 USD per minute in the U.S. or 150% higher.<sup>46</sup> We have used United States as a benchmark in this consultation not only because of Canada's proximity with the U.S., but also because mobile parties pays for usage in both Canada and the U.S., whereas in other parts of the world, such as some European countries, it is calling parties.

126. The report also challenges the progress Canada has made on its new and highly touted (by the Big Three) HSPA+ high speed networks as data usage represented only 23.9% of the average Canadian's monthly wireless bill, well below the developed world's average of 31.8%.

127. As another benchmark for rate comparison we can look at statistics provided by Bell Canada. In Bell's file commentary for the Industry Canada consultation on opening Canada's doors to foreign investment, Bell indicated that their average revenue per user was similar to that of AT&T. The average monthly bill in Q1 2010 for Bell was \$50.07 where for AT&T it was \$49.81.<sup>47</sup> Bell was implying that it was competitive with its U.S. peer. However, in the same report, Bell notes that the average minutes of use in Canada in 1Q 2010 were 368 as opposed to 814 average minutes in the U.S. in the same quarter.<sup>48</sup> Taking this analysis further we discovered that Bell Canada reported 259 minute of usage per month per subscriber in Q1 2010 and that AT&T reported 660 minutes of use per subscriber (155% more minutes than Bell). Overall value suddenly seems significantly less. Further, when adjusting to remove AT&T's data revenue of \$15.98 the AT&T average revenue per minute (ARPM) is \$.051 U.S.<sup>49</sup> Bell's data

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<sup>45</sup> CRTC Communications Monitoring Report 2009, page 159

<sup>46</sup> Canadian Wireless Firms Still tops in Profit: Peter Nowak, CBC News Report Monday July 19, 2010  
<http://www.cbc.ca/technology/story/2010/07/19/canada-wireless-profit.html#ixzz1BjBk0eS3>

<sup>47</sup> Canadian World-Class Wireless Networks, Appendix 3 page 4 to Comments of Bell Canada – Industry Canada Consultation on Opening Canada's Doors to Foreign Investment in Telecommunications: Options for Reform, July 30, 2010

<sup>48</sup> Canadian Wireless Market Facts Appendix 2 page 13 to Comments of Bell Canada – Industry Canada Consultation on Opening Canada's Doors to Foreign Investment in Telecommunications: Options for Reform, July 30, 2010

<sup>49</sup> AT&T Corp, First Quarter 2010 Quarterly Earnings, Supplemental Financial and Operational Results, April 21, 2010

revenue was \$10.51<sup>50</sup> and resulting voice revenue of \$39.56 and an ARPM of \$.153 (comparable to the basis for the AT&T calculation). This is 200% higher than AT&T's ARPM. In spite of the Big Three's protestations that Canada compares favourably internationally, in comparing Bell to one of their preferred comparators (AT&T), Bell Canada customers were getting very poor relative value for their money. Clearly this demonstrates that Canada needs new wireless entrants who offer better value to consumers.

### **Canadian subscriber penetration is low.**

128. Prior to the AWS auction process and after the acquisition of Microcell by Rogers in 2004, Canadian wireless telecom operators operated with more of a focus on margins than growth and value for customers. When three market participants have a roughly balanced market share (2009 Rogers 39%, Bell group 28%, TELUS 28%), duopolies by province offering strong, predictable, steady and profitable growth into the future, it's an attractive market environment with little to be gained from getting into market share and margin battles. One does not get to be the most profitable wireless operators in the developed world by engaging in aggressive competition.<sup>51</sup> The low competitive intensity resulted in Canadians paying too much for their services or simply not subscribing at all.

129. Canadians, seeing the lack of value from wireless operators are world laggards in adopting mobile subscriptions. According to the OECD 2009 Communications Report Canada was last in terms of wireless subscriber penetration among its member countries as of 2007, behind Turkey and Mexico.<sup>52</sup> Canada's growth rate in wireless subscriber penetration from 2005 – 2007 was 8.6% compared to an OECD average of 9.7% which meant that Canada had the lowest penetration and was losing ground relative to other OECD countries.<sup>53</sup> The U.S. penetration growth rate in that period was 10.1% even though the market was more mature with a higher penetration rate.

### **Integrated Incumbent Operators have no incentive to innovate**

130. Further, Canadians were not being afforded innovative next generation services. In this same report it indicated that Canada had no 3G penetration while the OECD average was approaching 20% and Korea was at 100%.<sup>54</sup> While this might represent a lag in OECD reporting in terms of 3G penetration in Canada, it is assumed that this would apply to all countries and reflects Canada's poor relative comparison on this measure.

131. Why have Canadians been served so poorly by their Canadian wireless providers? Besides the fact that said providers could afford to serve Canadians poorly as there was little competition, wireless providers also controlled the product substitutes - wireline voice and high speed internet services to a large extent. As a result, the Big

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<sup>50</sup> Rob Goff, NCP Northland Capital Partners Inc. *BCE Reports a Solid Quarter and Healthy Guidance, Exhibit 16*, February 10, 2011, page 19.

<sup>51</sup> Canadian Wireless Firms Still tops in Profit: Peter Nowak, CBC News Report Monday July 19, 2010 <http://www.cbc.ca/technology/story/2010/07/19/canada-wireless-profit.html#ixzz1BiBk0eS3>

<sup>52</sup> OECD Communications Outlook 2009 page 103

<sup>53</sup> OECD Communications Outlook 2009, page 134

<sup>54</sup> OECD Communications Outlook 2009, page 104

Three integrated telecommunications service providers, Rogers, Bell and TELUS have no interest in seeing wireless penetration increase at the expense of their sunk investment in wireline assets. According to Industry Canada statistics local wireline connections peaked at 21 million connections in 2006. In the following three years they declined by a total of 650,000. The integrated telecom providers have been working to slow this decline and have been remarkably successful in comparison to their U.S. peers.

132. Statistics Canada reported that about 8% of Canadian households had wireless as the only telephone service in 2008.<sup>55</sup> That was up from 5% in 2005. In comparison, in the U.S. with its more competitive telecom marketplace, nearly one in every four American homes (24.5%) had only wireless telephones during the last half of 2009 (an increase from 22.8% from the first half of 2009)<sup>56</sup>. While the U.S. does have some large integrated telecom providers like Verizon and AT&T, they do not exert the same level of control over the U.S. telecom market. Two large, national, wireless-only players exist (T-Mobile and Sprint) thus heightening competition across the country. The good news for Canadians is that the AWS new entrants are looking to the wireline substitution market as a significant opportunity.

133. The broadband internet situation, without new AWS entrants, would likely play out in a similar fashion, with the incumbents looking to protect their landline based internet connections. For broadband use, they would rather customers use that same wireline local access, with its sunk costs, rather than offer unlimited bandwidth or ultra high bandwidth wireless services at rates comparable to those available in the United States. Simply put, without other external factors such as competition, it would be an irrational business decision for Rogers, Bell or TELUS to invest additional capital to improve its wireless data services, if doing so would be at the expense of healthy profits generated from its wireline Internet services. New entrants such as Mobilicity will almost certainly cause the Big Three (either directly or evidently through their flanker brands) to offer some degree of matching and adaptation in their wireless broadband data plans, provided the new entrants are not effectively blocked from acquiring additional spectrum by the Big Three or other regional integrated telephony/cable operators in the 700MHz auction process. Once again, it will be critical that scarce spectrum resource be made available in a set-aside to protect consumers.

134. For broadband, the usage based billing caps have recently garnered a lot of attention. This is also largely due to the lack of choice available to Canadian consumers. The residential Internet access market is just as concentrated, if not more so than the wireless market. The cable and incumbent telecom providers combined had a 94% market share. Resellers and other carriers had 6% of the market split amongst about 500 comparatively small internet access providers.<sup>57</sup> The CRTC usage based billing decision put many of these smaller providers at risk and may result in even further concentration of power. In addition it is resulting in increased prices for consumers. Rocky Gaudrault, CEO of Teksavvy had this response to the Globe and Mail with respect to what this means for end users, TekSavvy customers or other users of competitive Internet Service Providers?

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<sup>55</sup> Giganomics Consulting, *Wireless Substitution – More than just voice*, September 20, 2010

<sup>56</sup> Stephen J. Blumberg and Julian V. Luke, Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2009*, page 1.

<sup>57</sup> CRTC Communications Monitoring Report 2009, page 137-139

“It means you could get charged in the hundreds of dollars for what you currently pay \$35 or \$40 dollars for. You could have multiples of your current monthly fee when this all comes through.”<sup>58</sup>

The CRTC is now to revisit their decision. Industry Canada can also facilitate consumer broadband choice by preserving spectrum access for new entrants.

135. The Integrated telecom providers also have low usage cap rates in their plans relative to the United States. In the United States, one of the lowest usage cap wireline broadband plans is with Comcast which limits users to 250 GB per month. With respect to video usage this would translate into an ability to watch about eight hours of Netflix content per day. Last summer, two days after Netflix announced they were coming to Canada, Rogers changed the data limits on its “Lite” Internet usage plans from 25 gigabytes per month to 15.<sup>59</sup> It is worthy to note that Netflix has often been described as a possible substitute, also known as “competition”, to traditional television subscription services.

136. Thus it is critical that new wireless entrants be in a position to offer a viable alternative to the integrated telecommunications providers’ broadband Internet services to ensure that the Big Three cannot exhibit such great control over market pricing and usage practices. In order to do so, it is critical that adequate amount of spectrum be set aside in the 700 MHz auction.

### **Customer Satisfaction with Wireless is among the lowest rated of all services.**

137. Consumers’ unhappiness with the incumbent providers is also borne out by various surveys and customer complaint data. According to Consumer Reports, the score for average overall satisfaction across all cell phone carriers was only 62 out of 100. This means that wireless service in Canada continues to be one of the lowest rated of all of the services the magazine covers in its regular customer satisfaction surveys.<sup>60</sup> Furthermore, according to the J.D. Power and Associates 2009 Canadian Wireless Customer Satisfaction Study<sup>SM</sup> (most recently released) only 20% of incumbent customers would recommend their provider to friends and family or would intend to renew their service with their current provider.

138. The Better Business Bureau (BBB) gave an “F” grade to Canadian wireless providers. With over 500 complaints to-date and over 2,000 since 2009 the BBB says that cell phone services are what Canadians complain about. Contracts and termination fees, customer dissatisfaction with service and coverage and final bill shock compared to advertised prices are just some common reoccurring issues surrounding these complaints. Bell had the most complaints with 1,020, followed by TELUS with 751 complaints and Rogers had 685.<sup>61</sup>

139. In response to consumer complaints, provincial governments are taking action. Quebec’s Bill 60 has provisions covering new mobile service contracts. In December in

<sup>58</sup> Ian Marlowe, Globe and Mail, *CRTC Ruling Handcuffs Competitive Market*, October 29, 2010

<sup>59</sup> Susan Krashinsky, Globe and Mail, *Netflix Confronting Canadian Challenges*, January 11, 2011

<sup>60</sup> *Survey shows consumers unhappy with cell phone service providers*, www.ctccalgary.ca

<sup>61</sup> BBB Gives Canada’s Cellphone Companies an “F”, Kate O’Brien, June 17, 2010

Manitoba, a public consultation paper was released on Improving Consumer Protection in Cell Phone / Wireless Device Contracts. In Ontario, a private members bill was introduced, calling for mobile services consumer protection. While Mobilicity supports the initiatives of provincial governments to reign in the practices of the incumbent operators, Mobilicity is also confident that an increased level of sustainable competition offered through new entrants and supported by legislation will provide the best outcome for consumers.

### **Rogers, Bell and TELUS are among the world's most profitable wireless operators.**

140. In spite of the rhetoric by the Big Three about thriving competition, an independent report by Bank of America Merrill Lynch, based on results from the first quarter of 2010, indicated that Canadian wireless companies — had earnings, before interest, taxes, depreciation and amortization (EBITDA), of 46.7 per cent in the first quarter, a margin that topped 21 developed nations tracked by the bank in its regular Global Wireless Matrix report.<sup>62</sup> The average in the developed world was 38.3% resulting in an excess EBITDA margin, relative to the average, of 21.9%. If applied against 2009 total wireless revenues of \$16.9 billion, the excess EBITDA in Canada to the developed world average is over \$1.4 billion in one year. This is one category in which being a wireless world leader does not benefit Canadian consumers.

**7-2. Provide views, and any supporting evidence, on the impacts of government measures adopted in the AWS auctions, including the impacts on consumers and on the state of competition. In particular, what has been the impact, if any, of such measures on industry concentration, barriers to entry or expansion of services, and the availability of new or improved service offerings and pricing plans?**

**The positive impact of the AWS auction, with its set-aside condition, is becoming evident.**

141. The beneficial impact of the AWS auction is becoming more apparent as time progresses. The auction, as a result of the set aside, has already led to tremendous network investments by established and new wireless operators. Mobilicity believes the actions taken by Industry Canada in the AWS auction is starting to yield substantial benefits for Canadian consumers, but the challenge will be to ensure that this benefit is sustainable and not thwarted by the Big Three.

142. In February 2007, Industry Canada initiated a comprehensive consultation on the framework to auction spectrum in the 2 GHz range including Advanced Wireless Services (AWS). It recognized that the release of additional spectrum was an appropriate time to consider the longer term industry structure in a broader context. The consultation recognized that the unavailability of spectrum constituted a barrier to market entry and sought input on the set-aside of spectrum for new entrants. The resulting decision in November 2007 was that 40 MHz of AWS spectrum was to be set-aside for new entrants. This has been very successful in permitting new entrants to offer services.

<sup>62</sup> Canadian Wireless Firms Still tops in Profit: Peter Nowak, CBC News Report Monday July 19, 2010  
<http://www.cbc.ca/technology/story/2010/07/19/canada-wireless-profit.html#ixzz1BjBk0eS3>

143. The decision also determined that there was a need for mandated national roaming for new entrants for a period of five years as a means to facilitate market entry. Furthermore the process concluded that there were compelling social and economic reasons to mandate tower and site sharing. Mobilicity and other new entrants have expressed concerns with respect to the implementation of the mandated roaming and site sharing and what this means to sustainable competition. The challenges experienced associated with these implementations speaks to the challenges in dealing with these issues on an ex-post basis and the need to establish mechanisms that will ensure compliance with the policy intent by incumbent operators. Mobilicity is pleased that Industry Canada has committed to reviewing mandated roaming and site sharing to ensure that they are working as intended.

**The AWS auction was competitive and raised substantially more funds than expected.**

144. As stated by Industry Minister Jim Prentice after the auction.

“The auction exceeded our expectations in terms of the level of competitive bidding activity. I hope the industry keeps this competitive spirit alive as it enhances and expands its services with improved access to the spectrum... The industry now has an unprecedented opportunity — thanks to the government's Advanced Wireless Services (AWS) policy and auction — to develop products and services that offer choice to Canadian consumers and businesses. We think consumers will be the big winners in this auction.”<sup>63</sup>

145. From a financial perspective, the auction raised \$4.25 billion, far exceeding estimates. The Big Three had argued that a set-aside would lead to the government not getting full value for the spectrum. Bell noted in its AWS consultation input that “... an auction is specifically designed to accomplish that twin goal; deliver the asset to those who will use it best and secure appropriate compensation to the public coffers. Media reports suggest that government revenues from the AWS spectrum allocation could be in excess of \$1 billion – monies that could be applied to help pay down the national debt, improve health care services or strengthen national security”.<sup>64</sup> New entrant eligible bidders alone paid over \$1.6 billion.

146. The evidence suggests that there were two very competitive auctions, one in the open spectrum as well as a very robust and competitive set-aside with twenty-four bidders eligible to participate. Both new entrants and the Big Three were fighting for scarce resources, but the process also had the benefit of guaranteeing new entrants. The price of the spectrum on a price per MHz/POP in the U.S. AWS auction in 2006 was \$.54 USD while the Canadian AWS auction yielded \$1.55 USD per MHz/Pop or almost three

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<sup>63</sup> Industry Canada News Release: 15 Companies Bid Almost \$4.3 Billion for Licences for New Wireless Services, Ottawa, July 21, 2008

<sup>64</sup> Bell Canada's Response to: Canada Gazette Notice No. DGTP-002-07 Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services, May 25, 2007 page8.

times the price.<sup>65</sup> TELUS' VP of Wireless, Broadband and Content Policy noted that historically Canadian spectrum had gone at discount to similar U.S. spectrum.<sup>66</sup>

**New Entrants deployed network, incumbents' spectrum hoard grows.**

147. New entrants delivered on network roll-out and there do not appear to be any speculators amongst AWS new entrants. The Big Three have not deployed nor made any announcement to deploy their AWS spectrum and it adds to its hoard. Capital was deployed by AWS new entrants. Yet, no capital has been deployed by the Big Three. In fact if not for a set-aside, one can imagine that there may have been no new entrants, no AWS spectrum would yet be deployed, no associated capital spent and no new jobs created associated with the auction. Industry Canada should consider the predictions made in the AWS consultation by the Big Three relative to AWS new entrants in this Consultation with respect to veracity and accuracy.

Rogers	<i>"...Rogers believes that it has no option but to participate in the AWS auction in order to acquire sufficient spectrum to continue evolving its network to support new broadband services, to compete effectively in the Canadian wireless market..." (p.38)</i>
Bell	<i>"It would not be an exaggeration to say that AWS spectrum is one of the most important building blocks in the future of wireless communication. The technologies to be deployed will have the capacity to handle heavy loads of data transmission at very fast speeds." (p. 10)</i>  <i>"If we were to buy more than we need, we would be doing a disservice to shareholders by stranding capital that could be put to better use in other aspects of our business." (p.13)</i>
TELUS	<i>"In a competitive industry such as the Canadian wireless mobile industry, such behaviour as spectrum hoarding will only result in increased cost to that party versus their competitors. In other words, it is not rational behaviour and further would not be tolerated by that company's investors, debt holders or share holders. Simply put, in a competitive market place such as Canada's mobile wireless market place, there is no economic incentive for any of the incumbents to act in this manner and many clear disincentives to do so." (p.59)</i>

**The AWS auction resulted in benefits to consumers almost immediately as the Big Three took market focused steps to mitigate new entrant success.**

148. With the terms set for the AWS spectrum auction in November 2007, consumers started to see changes being made by incumbent operators in advance of the new entrants offering services. In March 2008, TELUS launched Koodo as a flanker brand that could be used to mitigate some of the planned value propositions being touted by new entrants. Koodo would help TELUS compete against new entrants without TELUS having to reduce the profitability of its core TELUS Mobility offerings. In addition many

<sup>65</sup> Michael Hennessey, Telus, *Spectrum Allocation – Implications for Industry Players, Policy Makers and the Consumer?* International Institute of Communications Telecommunications and Media Forum, Washington DC, November 18, 2008 page 2.

<sup>66</sup> Ibid.

consumers might see Koodo as a new independent entrant, not realizing that it was simply a TELUS brand. A key Koodo value proposition to consumers was no contract. No contracts were a promise that some new entrants made to consumers during the auction process.

149. In addition, Koodo also addressed another major consumer concern that was targeted by new entrants – the need for simplified and transparent billing. Koodo became the first incumbent branded offering which did not add a system access fee. The system access fees charged by the incumbent operators were not highlighted in their core advertising (limited to fine print). The system access charges were significant in that they were in the range of \$6.95 to \$8.95 per month. In addition, these charges could be increased during a customer’s contract period since they were not part of the “contracted plan price”. This often led to sticker price shock and concern when customers saw their first bill after having just committed to a three year contract.

150. Coincidentally, with the launch of the first new AWS entrant’s service in December 2009, Bell became the last of the big three wireless carriers to drop the system access fee on **new** plans. Bell, like Rogers and TELUS before them added \$5 to the price of most new plans.<sup>67</sup> Rogers also added a new regulatory recovery fee and the incumbents also continued to charge for 911 recovery fees in many instances. Without the new entrant set-aside Mobilicity believes that there would have been, in the absence of government intervention, little impetus for these improvements in billing transparency.

151. Consumers benefited when Bell and TELUS jointly announced and built an HSPA network. This also happened to coincide with the timing of the first new entrant launch plans. Bell and TELUS had not previously demonstrated any rush to migrate to a GSM based network and in the absence of competition they may have continued to offer services on their CDMA network and made the transition to a new network at LTE/4G, similar to Verizon. However, the pending competition made it more of an imperative to launch the new network and to be able to provide consumers with broader 3G coverage and new smartphones such as the iPhone. As an added benefit, the timing of the network build, given limited resources in Canada for wireless network build-outs, resulted in fewer resources being available for the new entrant network builds.

### **The AWS Auction has stimulated significant capital investment and employment.**

152. We think it is fair to state that the number of new entrants likely exceeded the expectations of most industry observers, and certainly exceeded what would have been possible without a set-aside given the price that the Big Three were willing to pay to exclude the new entrants in the 50 MHz open blocks. New entrants had very little success in acquiring open blocks, although a few licenses were obtained.

153. The increased number of new entrants is leading to increased capital investment. Capital investments in network builds are substantial and a significant portion of that capital is associated with highly skilled employment. This includes site surveying and site installation services, RF planning, design and engineering, site acquisition and

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<sup>67</sup> CBC News, <http://www.cbc.ca/technology/story/2009/11/20/bell-canada-system-access-fee.html#ixzz1BXWiRfTP>, December 3, 2009

associated contract and legal services. The new entrants have directly employed a significant number of Canadians in the establishment of their operations. Mobilicity has invested heavily in its wireless distribution network in having over 700 distribution points by the end of 2010. Through its distribution channel strategy Mobilicity is creating small business opportunities for independent wireless telecom distributors. Mobilicity supports its customers with a high level of customer service with Canadian based customer care, further creating opportunities for Canadians. All in all, through the company itself and through its partners, people across Canada are employed as a result of, and have a direct stake in the success of Mobilicity.

### **More choice for Consumers is the primary benefit to date**

154. The spectrum set-aside resulted in new competitors in the marketplace with varied business plans and geographic coverage which will provide increased choice for consumers. The integrated regional cable carriers, Shaw, Videotron/Quebecor (“Videotron”) and Bragg Communications Inc. were successful in acquiring spectrum in their respective home territories. This provides consumers with another wireless bundle alternative. Mobilicity bid aggressively across the country for spectrum in major markets and ended up with market coverage of over 16 million people and ten of the top thirteen markets by population.

### **Consumers are choosing the value propositions being offered by new entrants**

155. Perhaps the best measure of success is that consumers are voting with their wallets. Mobilicity added over 50,000 subscribers in 2010's fourth quarter when only halfway through the month of December, and after only having turned up service in Ottawa, Vancouver and Edmonton four weeks earlier. Dvai Ghose, a telecom analyst at Canaccord Genuity estimated that by the end of the fourth quarter WIND would have grown by 75,000 subscribers, Mobilicity by 70,000, Public Mobile by 40,000 and Vidéotron by 35,000.<sup>68</sup> In total this is 220,000 subscribers for new entrants. Mr. Ghose went on to state that the Big Three were still expected to add 465,000 new subscribers. According to these estimates, new entrants would be adding about 30% of the net new subscriber total which is significant given the early stage of their overall network coverage.

### **New entrant value propositions are resonating with consumers.**

156. New entrant growth has been driven by offering attractive value propositions including unlimited talk and text plans, unlimited data plans and unlimited long distance calling bundled into attractive rates. In addition they offer billing plans that focus on “no surprises” and transparent billing. Mobilicity for example does not charge 911, system access fees, nor regulatory recovery fees. Further, entirely unique value propositions have been developed by Mobilicity that have resonated strongly with consumers. These product services have been copied by incumbents or other new entrants due to their

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<sup>68</sup> Ian Marlow, The Globe and Mail, *Wireless upstarts score on new subscribers*, December 17, 2010

obvious attraction to wireless consumers suddenly inundated with choice and options for the first time in many years. Among these innovative new value offerings are:

- The first ever unlimited calling options to international destinations such as United Kingdom, Argentina, India or China
- An international dialing option which announces to the customer exactly how much each minute of talk time costs before the call completes, allowing them to choose or not to choose to continue the call
- The My Wallet™ concept, which allows customers to “pre-set” amounts to be set aside for long distance or roaming
- Multi-month rate plans providing discounts of up to 33% over existing ultra-competitive rate plans. Unlimited talk and text plans for the equivalence of \$16.58 per month and Unlimited talk, text and data plan for just \$30 per month
- Innovations such as “Unlimited to Go” that conveniently bundles a phone plus three months of unlimited talk, text and provincial long distance service together for as little as \$99. “Unlimited to Go” adds the convenience for customers to pick-up a phone **and a plan** off the shelves and pay for it at the register.
- Zero roaming charge when a customer makes or receives any call or text in any Mobilicity coverage cities. For example, when a Mobilicity customer residing in Ottawa receives a call while travelling in Toronto, Mobilicity does not try to gain extra profits from the customer by imposing roaming charges. The reason should be apparent: Mobilicity owns network in both Toronto and Ottawa and charging extra for roaming for where it owns networks would simply be an innovative construction to charge Canadians more.
- Phone subsidies without the requirement of any term contract.

157. Mobilicity’s offerings also appeal to a segment of the market that has largely been ignored by the marketplace; those customers with limited access to credit who need an affordable wireless plan. Historically, prepaid plans were on a cost per minute basis, expensive, and complicated. Many per minutes plans offered by incumbents today are still in the \$.30 - \$.40 per minute range with per minute rounding, \$.75 monthly charges for 911 fees and texting costs \$.15 per message for outgoing and incoming. In addition, unused minutes paid for in advance can expire if the user is not careful, further driving up the per minute costs. In comparison, Mobilicity’s unlimited talk and text plan is \$25 for calls made or received. On Rogers Anytime per minute plan for \$25 a month at \$.40 per minute it would equal about 1 minute per day (rounded)<sup>69</sup> for incoming and outgoing voice and 1 incoming and 1 outgoing text for the entire month.

158. Unlimited talk and text plans offered by new entrants are also permitting consumers more flexible telecommunications options that better meet their needs. Many consumers may have held on to wireline services because a suitable wireless alternative was not available cost effectively. Mobilicity offers an unlimited talk and text plan and the inclusion of Canada wide long distance, voicemail, caller ID, call forwarding, 3-way calling and call waiting for \$35 per month and no surprises.<sup>70</sup> The lower indoor

<sup>69</sup> Based on Wireless Wave Website rate comparison plan as of January 19, 2010 [http://www.wirelesswave.ca/compare\\_rateplans\\_plans.asp?ProvinceID=3&RegionID=63&CategoryTypeID=4&CategoryID=20](http://www.wirelesswave.ca/compare_rateplans_plans.asp?ProvinceID=3&RegionID=63&CategoryTypeID=4&CategoryID=20)

<sup>70</sup> Mobilicity website, January 20, 2011 <http://mobilicity.ca/plans/>

penetration propagation characteristics of the AWS spectrum had lowered the speed to this transition, as some consumers may not have full coverage when they are working in the basements of their house, for example. In spite of this, these plans will continue to make it more practical for consumers to cut the (wireline) cord and have access to affordable and flexible communications that meet the needs of their lifestyles as they go about their day to day business.

159. Unlimited data plans offered by new entrants are also providing consumers with a viable substitute to traditional wireline broadband services. Existing Mobilicity voice plan customers can have access to wireless broadband services without any usage caps for only \$20 per month (\$40 if the customer does not have a voice plan). Regardless of whether it is \$20 or \$40, wireless broadband provides customers with added convenience. Outside of the home, a customer can plug the data stick directly into a laptop. When the customer comes home, the customer can plug the data stick to a wireless router to create a Wi-Fi network and supply the desktop computers at home with unlimited Internet access. Constrictions in speed, per megabyte data charges while roaming and indoor coverage issues are some of the factors that decrease consumers' appetite to this otherwise very convenient solution for Canadian value conscious consumers. The ability to acquire 700 MHz spectrum can certainly aid in each factor.

160. Now that new entrants have launched in key markets, the incumbent operators have also increased their value proposition to consumers in selected circumstances. Bell has repositioned its Solo flanker brand with an unlimited offering. Rogers introduced Chatr, an unlimited talk and text flanker brand. These new offerings are only offered in the markets in which the AWS new entrants are providing service. This not only demonstrates the value new entrants have brought to the markets where they compete, but also that that the Big Three incumbent operators will only offer consumers new and attractive price plans when pressured to do so by the new entrants. However, per Industry Canada's objectives, innovation and value are clearly being delivered to Canadians.

161. Competition is making it more difficult to be grossly overcharged overall for wireless telecom and ancillary services. The \$7.50 voicemail fees, excessive 911 billing fees added to bills with no regard for actual costs incurred, system access fees, \$.75 per minute long distance charges (when landline costs, which incur the same termination charges, are measured in the range of two to three cents per minute), roaming charges within ones' own network, excessive international roaming charges, are all likely to move more closely to a cost basis due to the transparency of new wireless competitors' offerings. This is in addition to the fact that many of these charges occur nowhere else in the world. For example, in the United States, there are no "long distance" charges for any wireless customer. A customer can call New York from Los Angeles without incurring additional charges. Similarly, the same Los Angeles customer can actually arrive in New York and dial local numbers without fear of incurring mystery "roaming" charges while using the same network albeit in a different city. The increased competition brought on by new entrants will be one of the best, if not the best means to establish consumer protection in the wireless industry. That said, new entrants have not to this stage been able to effect the excessive early termination charges that continue to be charged by incumbents and limit the flexibility of consumers in choosing a new

wireless provider. Mobilicity supports the steps being taken by provincial governments in assessing and implementing regulations in this area.

**The consumer benefits are primarily in the major markets to date, but rural coverage is improving.**

162. Clearly, to date, the benefit of increased competition has been focused on the largest Canadian metropolitan markets. In fact, Mobilicity expressly focused on acquiring licenses in these markets and has obtained licenses in 10 of the 13 largest metropolitan markets. This has as much to do with the spectral efficiency and propagation characteristics of the AWS spectrum. Mobilicity was well aware during the AWS auction process that there would be an auction of 700 MHz spectrum and that this spectrum provides cost effective network expansion outside of the more densely populated core markets. According to a study conducted by Aloha partners, in less densely populated areas the areas that could be covered by one cell site would be four times as much using 1900 MHz spectrum as 700 MHz spectrum, and ten times more if one deployed on 2400 MHz spectrum vs. 700 MHz spectrum.<sup>71</sup> By using the appropriate spectrum and at the right time in our planned deployment horizon, Mobilicity has an opportunity to deliver more value to more consumers for its investment.

163. With the right conditions, rural Canadians have a better opportunity than ever to achieve the benefits of high speed broadband networks. Already, 93% of Canadians are covered by a high speed 3G HSPA network. Bell's HSPA+ network can deliver maximum download speeds up to 42 Mbps in Eastern Canada. TELUS announced in August that it was going to increase the speed on its network to 42 MBPS but that devices to support that speed would not be expected until 1Q2011.<sup>72</sup> One HSPA+ carrier in Sweden has ramped its network up to 84 Mbps and Ericsson has indicated one of its customers is testing speeds of over 100 Mbps.<sup>73</sup> For Canadians in this coverage footprint, rural users may in fact experience better speeds than in urban areas due to less oversubscription by consumers.

164. In addition, the CRTC in Decision 2010-805 permitted Bell to use \$306.3 million of deferral account funds to build its HSPA+ network to expand broadband services to 112 communities.<sup>74</sup> Bell is obligated to offer service that is comparable with or superior to, urban broadband service, and to maintain comparability as urban broadband service improves.<sup>75</sup> Bell is also obligated to provide wholesale access to its HSPA+ wireless broadband service in these communities on terms similar to that offers under its Gateway Access Services (GAS) tariff in order to allow competitive providers to offer retail broadband services to end-users.<sup>76</sup> Thus, Mobilicity believes there are viable solutions that exist that will permit continued rural broadband needs outside of the 700MHz spectrum auction and that there is no need to impose conditions on set aside spectrum with respect to rural coverage.

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<sup>71</sup> Jeremy R. van Frank, *700 MHz Band Spectrum Auction and its effects on Cellular Use and Technologies within the United States and its Territories*, November 2007

<sup>72</sup> News Release, TELUS Delivers 42 MBPS via HSPA+ Network,

<sup>73</sup> Howard Solomon, *Bell Canada to double HSPA speed to 42 Mbps*, ITWorld Canada.com November 18, 2010

<sup>74</sup> Telecom Decision CRTC 2010-805 page 1

<sup>75</sup> Telecom Decision CRTC 2010-805 page 3

<sup>76</sup> Telecom Decision CRTC 2010-05 page 3

### **The benefits to consumers are nascent and remain fragile**

165. Although consumers are starting to enjoy the benefits of increased competition, much work needs to be done to preserve the competitive landscape. Mobilicity has confidence that Industry Canada appreciates the challenges faced by new entrants and is taking the appropriate steps as evidenced by the scope of this Consultation.

### **The AWS auction stimulated the broader Canadian Telecommunications market**

166. In addition to providing consumer choice and new and innovative offerings, the AWS new entrants have made contributions to the broader Canadian telecommunications market. Mobilicity, as a new entrant focused on providing core wireless services to its customers, relies upon other established Canadian telecom service providers for aspects of its service and thereby contributes to the success of these service providers. This of course either directly or indirectly includes the provision of service on Bell and TELUS networks in their respective operating territories. Mobilicity purchases CLEC interconnection services to facilitate the interconnection of local calling traffic. Similarly, it acquires long distance services from existing interexchange carriers or resellers to meet its customers' long distance requirements. Data internet transit services are required to support the wireless data operations. Local, internet, toll free and long distance services are required to support Mobilicity's administrative operations. For CLEC interconnection, new entrants typically lease fibre based services from third parties.

### **The effect of the AWS Auction on barriers to entry and industry concentration**

167. Industry concentration has been greatly reduced, with four new entrants (Mobilicity, Videotron, Public Mobile and Wind Mobile) now in the marketplace, and the anticipated entry of Shaw and Bragg to follow in 2011 / 2012. It is now important for Industry Canada to continue to provide a framework that will provide an opportunity for the new entrants to get through the initial critical start-up phase – one associated with building brand recognition and confidence and significant upfront and ongoing cash investments.

168. The AWS set-aside lowered one of the critical barriers to entry, the fair access to mobile wireless spectrum. Spectrum is a scarce and valuable public resource that needs to be put to its best use, which is giving the public sustainable choice in consuming mobile wireless services.

169. While a lack of mandated access to tower and site sharing was perceived to be a significant barrier to entry, Mobilicity and other new entrants have made it to market and are offering services, albeit at an incremental cost factored into business plans. Mobilicity has been able to get very limited access to towers or sites owned by the Big Three.

**7-3 In light of the current conditions in the Canadian wireless service market(s), is there a need for specific measures in the 700MHz and / or 2500 MHz auction to increase or sustain competition?**

170. There is a need for specific measures in the 700 MHz auctions to increase and sustain competition of which spectrum caps and set-asides are important components, but there are other measures required as well.

**Delivering on the promise of the policy objectives will only happen with prudent government action and regulatory oversight.**

171. Overall the future is promising for Canadian consumers, businesses and public institutions provided that new entrants are given the time and opportunity to compete. This requires:

- Only non-incumbent operators being eligible to participate in the 700 MHz auction. That is to say AWS new entrants or eligible new entrants in the 700 MHz auction process. This is the most critical aspect to ensuring the continuation of heightened competition since without access to sufficient spectrum, which is in essence the fuel that permits growth, there is a strong possibility of reverting to oligopolistic market practices.
- That incumbent operators in the provinces of Saskatchewan and Manitoba should be treated as incumbents, as opposed to new entrants, in their respective incumbent wireline operating territories and not be able to participate in the spectrum auction set-aside. The results of the AWS auction suggest that these operators not only have sufficient spectrum given their relatively dispersed populations, but also that in the case of Saskatchewan, their auction practices were conducted in a manner to reduce competition and choice for Saskatchewan consumers.
- There should be an overall spectrum cap established for low frequency spectrum (less than 1000 MHz) and from 1000 MHz to 3000 MHz on a Tier 3 level in consideration of the different spectrum propagation characteristics, and the geographic nature of competition.
- The objective should be for “new entrants”, those existing spectrum holders with less than a 10% national market share in telecommunications and who are not 850 MHz incumbent operators in their territories, to have at least 35 percent of the overall spectrum in cellular, PCS, AWS, 700MHz and 2500 MHz BRS allocated to their needs post upcoming 700 MHz, 2500 MHz and any AWS follow-on auction. This is viewed as the minimum aggregate holdings to ensure there is sufficient spectrum available to permit consumers to benefit from increased competition.
- A successful review of both the mandatory roaming and site sharing policies to ensure compliance, and for Industry Canada or the CRTC to have an ability

to impose stiff penalties for breaches of those policies by incumbent operators. In addition, expedited timelines for investigation and decision making are required since any delays that incumbents can continue to impose on new entrants, is in effect a win for them.

- Continued vigilance by government and regulatory agencies in general to enforce and enact upon activities undertaken by incumbent operators in their attempts to marginalize ongoing competition.
- Actions such as that taken by the Competition Bureau with respect to Chatr's misleading advertising and the imposition of a \$10 million administrative penalty are required so incumbent operators can see there are consequences to their misleading activities.
- The establishment of legislation on contract termination fees remains an area where abuse continues and requires implementation beyond the Province of Quebec.

172. Mobilicity is extremely pleased that Industry Canada has recognized many of these challenges in its 700 MHz consultation document.

## **Requirements for Sustainable Competition and Associated Threats**

### **The need for Access to sufficient 700 MHz spectrum bandwidth**

173. In 1995 Industry Canada sought to increase competition in the Canadian wireless marketplace by awarding PCS spectrum to Clearnet Communications and Microcell Solutions. The increased competition that followed sparked rapid subscriber growth and in 1997, 1998 and 1999, the two new entrants captured 19%, 39% and 35% respectively of the total subscriber growth in the market.<sup>77</sup> New and innovative offers such as City Fido were brought to the market with unlimited local calling for \$45 per month in Vancouver and Toronto. This offering permitted customers to drop their landline and become un-tethered. Of course this also posed a direct threat to the incumbent operators' landline businesses. However the acquisition of Clearnet by TELUS in late 2000 and Microcell by Rogers in 2004 resulted in less competitive intensity and a subsequent period where Canada's wireless penetration rate started to slow relative to other developed countries.<sup>78</sup>

174. It is noteworthy that the re-emergence of unlimited talk and text plans only transpired due to offerings initiated by new entrants after the AWS auction. The difference this time is that the new entrants pose not only a threat to wireless voice, but also to the incumbents' broadband data revenue. A primary means to inhibit the challenge to data Internet revenues is to ensure that there will be a lack of access to

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<sup>77</sup> Mobile Demand and Service Pricing in Canada, LeMay Yates and Associates, September 25, 2006 pages 18-19

<sup>78</sup> Mobile Demand and Service Pricing in Canada, LeMay Yates and Associates, September 25, 2006 pages 13-16

sufficient spectrum, which is a prerequisite for new entrants to offer competitive broadband data services. The best means to do so is to ensure limited access to set aside spectrum. Even with a complete set-aside there will still be many challenges for new entrants including, but not limited to large Incumbent operator activities.

175. Incumbent operators have significant spectrum resources. As the demand for carriers declines on their 2G networks, they can redeploy spectrum for use with 3G or 4G networks. In re-launching Solo Unlimited, George Cope stated that “On Chatr, obviously it’s a significant competitive development. We will respond to that. Solo Unlimited will launch in August. It’ll be competitive with Chatr and it’ll cost us no capital at all because it will go on our CDMA network where we’ve been moving clients off of CDMA to HSPA.”<sup>79</sup>

176. Because of the above points, and due to the scarce nature of spectrum to be auctioned, it is in the public interest to see that all of the 700 MHz spectrum is reserved for new entrants given their limited spectrum holdings.

### **Incumbents have incentive and market power to limit sustained competition which necessitates spectrum caps for incumbents and set-asides for emerging entrants. \**

177. As noted above, the Big Three are integrated telecommunications service providers who offer wireline voice and broadband Internet services. If wireless broadband is viewed as a potential substitute for wireline broadband Internet service, this is an additional threat to incumbent revenues and profits. The incumbent wireline broadband operators are operating in a duopolistic fashion in applying usage based caps that are significantly lower than those employed in the United States. For users that exceed the caps, the fees are excessive. Reed Hastings, the CEO of movie content provider Netflix stated, “costs to deliver a marginal gigabyte, which is about an hour of viewing, from one of our regional interchange points over their last mile wired network to the consumer is less than a penny, and falling, so there is no reason that pay-per-gigabyte is economically necessary. Moreover, at \$1 per gigabyte over wired networks, it would be grossly overpriced.”<sup>80</sup> Overage fees charged by some Canadian providers are \$2 per gigabyte. Sufficient spectrum will be required by new entrants in order for them to be a consumer counterbalance to incumbent operator offerings.

178. The U.S. Department of Justice’s Antitrust Division submitted related relevant comments to the FCC in the drafting of the National Broadband Plan. It stated that wireless broadband could become a competitor to wireline broadband provided by cable and telecom companies. It suggested that the FCC should make more spectrum available for wireless broadband.<sup>81</sup> The filing also noted that Verizon and AT&T are major providers of both wireless and wireline services “raising the question of whether they will position their LTE services as replacements for wireline services.” The Department of Justice then provided the following commentary on how to best put spectrum in the hands of wireless broadband providers.

<sup>79</sup> Solo Mobile to be re-launched as “Solo Unlimited”?, Ian Hardy, August 6, 2010 in Featured, Mobile News, Solo Mobile News

<sup>80</sup> Jamie Sturgeon, The Financial Post, “Netflix Worried by Usage Based Billing”, January 27, 2011 <http://www.financialpost.com/news/technology/Netflix-worried+user+based+billing/4180491/story.html#ixzz1Cp0OkAb4>

<sup>81</sup> TechLaw Journal.com, “Antitrust Division Urges FCC to Make More Spectrum Available for Wireless Broadband”, January 4, 2010 <http://www.techlawjournal.com/topstories/2010/20100104.asp>

"We do not find it especially helpful to define some abstract notion of whether or not broadband markets are "competitive". Such a dichotomy makes little sense in the presence of large economies of scale, which preclude having many small suppliers and thus often lead to oligopolistic market structures. The operative question in competition policy is whether there are policy levers that can be used to produce superior outcomes, not whether the market resembles the textbook model of perfect competition."

"In highly concentrated markets, the policy levers often include: (a) merger control policies; (b) limits on business practices that thwart innovation (e.g., by blocking interconnection); and (c) public policies that affirmatively lower entry barriers facing new entrants and new technologies." (Parentheses in original.)

"When market power is not an issue, the best way to pursue this goal in allocating new resources is typically to auction them off, on the theory that the highest bidder, i.e., the one with the highest private value, will also generate the greatest benefits to consumers. ***But that approach can go wrong in the presence of strong wireline or wireless incumbents, since the private value for incumbents in a given locale includes not only the revenue from use of the spectrum but also any benefits gained by preventing rivals from eroding the incumbents' existing businesses. The latter might be called "foreclosure value" as distinct from "use value". The total private value of spectrum to any given provider is the sum of these two types of value. However, the "foreclosure value" does not reflect consumer value; to the contrary, it represents the private value of forestalling entry that threatens to inject additional competition into the market.***"<sup>82</sup> (emphasis added)

179. It is the foreclosure value referenced by the U.S. Department of Justice Antitrust Division that gets to the need in Canada for a spectrum set-aside. Foreclosure value does not reflect consumer value and in fact reduces consumer value by removing competition from the marketplace. Incumbent operators without restrictions will act in their best interests to foreclose competition if permitted to do so.

180. It is interesting to note that in a March 1, 2004 Letter from Rogers Wireless to Industry Canada re: the Consultation on the Spectrum for Advanced Wireless Services and Review of the Mobile Spectrum Cap Policy, that in Paragraph 10 it states, "**To ensure that competitors will continue to have access to additional spectrum (emphasis added), and in order to safeguard against the possibility that a better financed competitor will monopolize most, or all of the available spectrum RWI urges the Department to adopt a mobile spectrum cap during the upcoming competitive licensing process, similar to the limit that was employed by the Department in the recent 2.3/3.5 GHz spectrum auction process.**"

181. The same concern is applicable today. However, that concern is better met by a set-aside to protect against three oligopolists who will monopolize the spectrum.

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<sup>82</sup> TechLaw Journal.com, "Antitrust Division Urges FCC to Make More Spectrum Available for Wireless Broadband", January 4, 2010 <http://www.techlawjournal.com/topstories/2010/20100104.asp>

**From a spectrum licensing perspective, incumbent integrated providers in Manitoba and Saskatchewan should not be eligible to participate in the set-aside spectrum.**

182. The experience in Manitoba and Saskatchewan serves as a warning as to what transpires when incumbent operators can participate in set-aside spectrum. According to the CRTC's 2009 Communications Monitoring report, SaskTel has a **76% wireless market share** in Saskatchewan. In the AWS auction SaskTel's bidding demonstrated that they were willing to bid aggressively to lock out "real" new entrants in order to restrict competition. The evidence is in the exorbitant price that SaskTel was willing to pay. SaskTel paid \$2.21 per MHz/Pop for all 30 MHz of Tier 2 spectrum in the set-aside, and acquired 75% of the overall spectrum in the set-aside. In comparison, in the A block, Rogers only paid \$2.08 MHz/Pop for the densely populated and attractive Toronto market. In another comparison, the cost of the 90 MHz of AWS spectrum for Nova Scotia and P.E.I, with a slightly larger population than Saskatchewan in a smaller area, was only \$0.64 MHz/Pop or less than a third of what SaskTel paid on a MHz/POP basis. Globalive and Shaw were successful in their ambitions to gain coverage in Saskatchewan through acquiring spectrum in the Open Tier 3 Band E markets. However, this was done at distorted prices and reflected in Globalive's case more likely a desire to gain national coverage than a pressing interest in offering service in Saskatchewan. SaskTel's success may have been due to the fact that Bell, although for auction purposes not defined as an affiliate of SaskTel, did not win any spectrum in Saskatchewan and/or, SaskTel realized that spending \$65 million was already a public embarrassment and that locking out competitors by continuing to bid was no longer reasonable.

183. Furthermore it is difficult to appreciate SaskTel's need for the additional 30 MHz of spectrum, a scarce public resource, given their cellular and PCS spectrum holdings. It is hard to see how the people of Saskatchewan have been benefitted in this process. Money that could have been used to build networks in Saskatchewan by new entrants was diverted into federal coffers instead. Because of the underlying reasons for these distortions, it is recommended that an Incumbent wireless operator that was granted cellular and PCS licenses in their initial Incumbent Local Exchange Carrier (ILEC) market, should not be eligible to participate in any set-aside established for the 700 MHz auction process in their ILEC territory.

**Targets need to be established to ensure that at least 35% of the total aggregate spectrum post 700 MHz and BRS auctions, is held by non-incumbent wireless operators.**

184. The only way competition can flourish is if the primary scarce resource on which all business plans are made is available to new competitors. Spectrum is the bottleneck supply element. For competitors to have a meaningful impact in the marketplace, they need to acquire in the aggregate a reasonable market share, which split amongst the new entrants needs to be, in our view at least 35%. This is in the auction horizon period including the 700 MHz auction, and the 2500 MHz BRS follow-on.

185. Per figure 4.5 of the consultation document, all competitors apart from the Big Three, hold 15% of the available spectrum, weighted by population and excluding incumbent territory status for MTS and SaskTel, we get to 13% held by non-incumbent operators. The 700 MHz auction represents only 15% of the total spectrum that would be available after the auction (84MHz/544 MHz). Even if incumbent operators acquire none of the 700 MHz spectrum, they would still hold approximately 74% of the spectrum then available. To facilitate competitive success a cap on the amount of spectrum that can be held in aggregate would be desirable. However we believe that due to a shared spectrum cap across many frequencies being difficult to manage over time that the best means forward is to ensure that set-asides should continue to be established in upcoming auctions, with the goal to ensure that the scarce spectrum resource does not become a choke point for competition. The goal should be to ensure that at least 35% of the aggregate spectrum post the 700 MHz and 2500 MHz auctions is held by new entrants (non-incumbent carriers).

### **There is a need for more competitive choice in telecom services that are inputs to the provision of wireless services**

186. As a new entrant, Mobilicity has cause for concern with respect to the supply of telecom services that are inputs to the wireless service offerings. As an example, fibre based services will become more important as broadband data usage climbs on wireless networks. Wireless backhaul is a great alternative, but in high density areas and for aggregation of backhaul, fibre is the preferred choice. In fact per Ralph de la Vega, AT&T Mobility's CEO, AT&T had completed the upgrade of its 3G network to HSPA+ in nearly 100% of its markets, but was not able to offer service in many markets since a sizable portion of its footprint was still awaiting fiber backhaul links to support the technology's new 21 MBPS of capacity.<sup>83</sup>

187. In Canada, fibre can only currently be deployed by Canadian controlled communications carriers. The number of Canadian parties that have been investing in fibre based networks is limited, with the vast majority of these assets being controlled by the three large integrated telecommunications providers Bell, TELUS and Rogers. Furthermore there is increased consolidation of important local fibre assets. In 2008 Cogeco Cable acquired the fibre assets of Fibrewired Burlington Hydro Communications based in Burlington Ontario. Cogeco then proceeded to acquire the assets of Toronto Hydro Telecom for \$200 million. In November 2009, Rogers increased its ownership stake in Cogeco Cable to 20.2% of the equity and also holds approximately 29.9% of Cogeco Cable's parent Cogeco Inc. In October 2010 Rogers acquired Atria Networks for \$425 million.<sup>84</sup> Atria has 5,600 fibre route kilometers and over 3,800 non-net buildings in Ottawa, Kitchener-Waterloo, Cambridge, Guelph, Richmond Hill, Markham, Vaughan, Barrie, Orillia, Peterborough and Cornwall.<sup>85</sup> In effect, through these transactions Rogers has acquired control of the bulk of the independent fibre based telecom assets

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<sup>83</sup> Kevin Fitchard, *T-Mobile moves forward with HSPA+ upgrade, slams competition*, January 6, 2011

<sup>84</sup> Andrew Willis, *The Globe and Mail*, *What's up between Cogeco and Rogers*, November 26, 2009

<sup>85</sup> Atria Networks Press Release, *Rogers Communications Acquires Atria Networks to Further Enhance Business Solutions Offering*, October 5, 2010

within a few short years, further concentrating the power of the Big Three at the expense of customers and businesses, including non-integrated new wireless entrants.

**There is a need to review the mandated roaming framework and implementation to assess the results relative to the intent.**

188. Mandated access to roaming was another key barrier to entry that was removed by Industry Canada in the AWS framework. Given the time it takes for new entrants to build market coverage, mandated roaming gives new entrants a reasonable timeframe to be able to build and convert consumers to their own networks. Without mandated roaming, the value proposition to consumers would also have been limited in that consumers would likely not choose a new entrant's service if they could not be assured that it would work nationally.

189. When the AWS auction was conducted, the United States was the only country to have already completed an AWS auction. In fact today, in the U.S. there is still only one operator that is using the AWS spectrum for a 3G HSPA network - T-Mobile (MetroPCS used CDMA technology). It is accepted on an international basis that Canada is a very small wireless market. Handset and wireless device manufacturers will not be able to cost effectively make devices for the Canadian market, and in particular not for only a handful of new entrants that are deploying on AWS. Therefore, Canadian AWS wireless operators are in effect dependent upon handsets that are made for T-Mobile USA. Prior to new entrants launching, there was a need to enter national roaming agreements in order that they could offer national roaming at launch or shortly thereafter. At that time T-Mobile handsets did not support 3G on the 850 MHz cellular or 1900 MHz spectrum since T-Mobile was not deploying 3G services on those frequencies. If they did, then there may have been an opportunity to enter roaming agreements with Bell and TELUS. Since the AWS 3G devices only worked with 2G GSM in the 850/1900 MHz bands, that left Rogers with a monopoly in providing national roaming service.

190. Given the desire for new entrants to launch as soon as possible, to start to acquire customers and to get a return on their investment, and the fact that their sole roaming partner was well aware of this, it did not provide a level playing field for roaming negotiations. While Industry Canada did provide mechanisms for arbitration as part of the AWS process, the practical nature of this was that the timeframes for arbitration, although not excessive, did not permit ample time to prepare for the process, complete the arbitration and then only on conclusion of the arbitration permit technical planning and implementation to commence. The actual implementation timeframes could be negotiated only after the arbitration conclusion and this created added uncertainty as to when national roaming could be offered. The result was that the new entrants came to the negotiation from a position of weakness. Mobilicity's view is that national roaming did meet short term objectives in permitting national service and provided new entrants with an opportunity to acquire customers. However, from an actual implementation perspective in permitting reasonable negotiations and sustainable commercial terms, it has not succeeded. Industry Canada needs to consider these shortcomings and how the negative impact may be offset from a commercial perspective in the 700 MHz auction proceeding such as mandating soft hand-offs for roaming and explicitly extending the in-territory roaming period beyond five years.

191. The debate over exclusive roaming agreements and soft handoff versus hard handoff for roaming calls should also be revisited in light of the fact that the hard handoff solution and the problems it posed for new entrants was exploited by Rogers with the Chatr brand.

**Site sharing rules and procedures and compliance needs to be improved to ensure capital is invested wisely for the benefit of Canadians.**

192. The lack of success in site sharing by new entrants has not met the objectives established by Industry Canada. The result is slower new network roll-outs, more tower structures in communities and higher costs being borne by new entrants. Overall, Mobilicity and other new entrants are making substantial capital investments in Canada. It is important that such investments can be made to benefit the greatest number of Canadians. A substantial amount of the overall capital deployed by new entrants has been going into building net new cell sites. The inability of new entrants to get access to existing incumbent cell sites, in spite of the mandate in the AWS proceeding, results in more capital being invested per population covered than would otherwise be anticipated. It also means that, all other things being equal, there is less capital available to expand service to offer more choice to Canadians. There needs to be a mechanism either within the Conditions of License or through other means to provide for administrative and punitive penalties where wireless operators are conducting business in a manner contrary to the intent of the Department. Furthermore, the additional costs borne by new entrants as a result of these barriers should be considered in the overall context of the 700 MHz proceeding. As an example, it is imperative that 700 MHz spectrum all be allocated to new entrants so they may deploy networks using fewer cell sites at lower costs, partially offsetting the incremental costs incurred by lack of access to incumbent sites.

**A dollar spent by a new entrant results in a larger net benefit to Canada and therefore best meets the policy objectives.**

193. To make an obvious point, when money is spent by new entrants, every dollar goes into growing the business or paying interest on risk capital. There is no focus on increasing dividends and payouts which is where a substantial portion of the Big Three's cash flow gets directed. In the third quarter of 2010, Rogers returned \$522 million to shareholders through dividends and share repurchases. In the third quarter, BCE repurchased \$329 million in shares and paid out \$375 million in common dividends. While no one would begrudge Bell and Rogers from returning cash to shareholders, the fact nonetheless stands that about 46% of the Big Three's revenue in the form of EBITDA is available for reinvestment or distribution to shareholders and this EBITDA is about 22% higher than the developed world average per the Merrill Lynch study referenced earlier.

194. Every dollar that Mobilicity spends is going into investment in growing our business in Canada. This investment will far exceed our revenue in the early stages of market development and every dollar will be focused on providing incremental value to Canadians so Mobilicity can win subscribers and grow our business. Mobilicity wants to ensure that the 700 MHz framework will support the follow-through of the competitive

entry that was enabled by the AWS framework. Canadians have seen the consequences of industry consolidation that followed the Clearnet and Microcell acquisitions, and this was certainly not to the benefit of consumers, businesses or public institutions.

195. Mobilicity recommends that in addition to the points noted above, that mandated national roaming for any new entrant, as defined by the AWS consultation, including 3G and 4G services be extended for another five years.

196. In addition, Mobilicity recommends that 700 MHz spectrum auction fees be permitted to be paid over a ten year period in annual installments. This would permit the large capital outlays required upfront to be deferred over a period of time and thus more funds would be freed up to invest in building networks and offering choice to consumers. With a 20 year licensing period for the 700 MHz spectrum and the amortization of spectrum costs over this period, a ten year payout for the spectrum seems reasonable.

197. Acquiring additional spectrum is a necessity, not an option, for sustained viability of new entrant operators. The challenge is that spectrum is all risk capital that needs to be spent upfront under past auction rules. While the AWS 40 MHz set-aside was a good starting point, with 3G and 4G networks there will be significant need for spectrum amongst the four new entrants that are already offering service, and the two (Eastlink and Shaw) that are expected to offer service in the future. This does not even consider the implications of additional new entrants winning spectrum in the 700 MHz auction. Thus it is important that there is sufficient spectrum set-aside, and that barriers to capital access are removed.

## **7.2 SPECIFIC MECHANISMS APPLICABLE TO THE 700 MHz AND 2500 MHz AUCTIONS**

**7-4. The Government of Canada has undertaken a consultation on potential changes to the foreign investment restrictions that apply to the telecommunications sector. How would the adoption of any of these proposed changes impact your responses to the questions above? Provide supporting evidence and rationale for all responses.**

198. Mobilicity participated in the consultation on potential changes to the foreign investment restrictions that apply to the telecommunications sector. Mobilicity has maintained the position that access to foreign capital is not as acute an issue as some of the other new entrants state. In any event it should have no bearing on this auction what position the government takes on this issue as spectrum capacity is a very real issue for new entrants.

**7-5. If the Department determines that there is a need for measures to promote competition, which of the above mechanisms would be most appropriate and why should this mechanism be considered over the other? Comments should also indicate if further restrictions should apply so that policy objectives are met, for example, over a given time period?**

**There is a need to promote competition and the best means is through a complete Set-Aside of 700 MHz spectrum.**

199. Yes, there is a need to promote competition and it is most effectively realized through a complete set-aside of spectrum for new entrants. The AWS auction demonstrated the effectiveness of this approach in that it drove high auction values totaling over \$4.3 billion and it enabled a number of new entrants who are offering service today with more will follow in the future. If there was simply a spectrum cap, there is a high probably that the Big Three would have acquired all of the spectrum under the imposed cap and that there would be no entrants in the market. The lack of success of new entrants in acquiring spectrum in the AWS open auction bands demonstrates how difficult it would be to acquire spectrum. AWS new entrants only won 10 MHz spectrum in open block E with population coverage of less than 2.8 million.

200. As the U.S. Department of Justice Antitrust Division noted:

*“... But that approach can go wrong in the presence of strong wireline or wireless incumbents, since the private value for incumbents in a given locale includes not only the revenue from use of the spectrum but also any benefits gained by preventing rivals from eroding the incumbents' existing businesses. The latter might be called “foreclosure value” as distinct from “use value.” The total private value of spectrum to any given provider is the sum of these two types of value. However, the “foreclosure value” does not reflect consumer value; to the contrary, it represents the private value of forestalling entry that threatens to inject additional competition into the market.”<sup>86</sup> (emphasis added)*

A spectrum cap cannot adequately deal with the existence of foreclosure value unless all incumbent operators are restricted under the cap. **In other words, in establishing a cap, one must assume that incumbent operators will effectively acquire all spectrums made available to them under the cap.**

201. There is further evidence to support that bidding is not only based on value, but on budgets.<sup>87</sup> Budgets can be set based on foreclosure value and use value, the trade-off value of spectrum relative to capital to build incremental cell-sites (not really relevant given excess spectrum capacity but can be used to justify budget amounts). Charles Hoffman of Rogers noted the following after the PCS auction, which was conducted with no set-aside. “We actually got double what we hoped for, and we're now set at least through 2007,” says Hoffman. All told, Hoffman expected Ottawa to fetch perhaps \$1.6 to \$2 billion for the licenses. Thanks to Sprint's early retreat, the bidding was largely

<sup>86</sup> TechLaw Journal.com, “Antitrust Division Urges FCC to Make More Spectrum Available for Wireless Broadband”, January 4, 2010 <http://www.techlawjournal.com/topstories/2010/20100104.asp>

<sup>87</sup> Jeremy Bulow, Jonathan Levin and Paul Milgrom, Winning Play in Spectrum Auctions, February 2009, page 2.

contained among the established fraternity.<sup>88</sup> How is a new entrant bidder to compete with budgets from incumbents who are earning excessive profits (per Merrill Lynch, to the tune of about \$1.4 billion per year)? Rogers and Bell returned \$1.2 billion to shareholders in the third quarter of 2010 alone. We are certain that in the absence of a set-aside that budget will be available to restrict the success of new entrants and reduce competitive intensity to the detriment of consumers.

202. A spectrum cap as defined in the Consultation applies to a single eligible bidder. The concern in Canada has not been that of a single hoarder of spectrum, but the persistence of a three way disciplined oligopoly which has permitted excessive profits relative to other developed markets that have real competition. Therefore a spectrum cap would not meet the objectives of Industry Canada in the 700 MHz auction.

203. Mobilicity's position is that there needs to be continued access through the 700 MHz auction and through other auctions in the planning process to ensure spectrum is made available to continue to sustain competition beyond the oligopolistic practices that continue to exist. A set-aside should be established through upcoming auctions to ensure that at least 35% of the total aggregate spectrum issued in the cellular, PCS, AWS, 2500 MHz bands (on a population weighted basis) is reserved for new entrants. This will provide an ability for all existing licensees and new bidders to have visibility to future spectrum allocations.

204. This 35% of total aggregate spectrum will be achieved over time, increasing with each new auction. Given estimates of the spectrum that will be made available for auction for the 700 MHz and 2500 MHz, the percentage can be established after each auction.

205. The 35% target is best achieved through set-asides being established in the 700 MHz auction and further set-asides in follow-on auctions. This approach is viewed as easier to implement than explicit spectrum caps based on varying Tiers of geographic service with different populations and coming up with a weighted average population coverage cap.

206. The 700 MHz auction set aside should be all of the spectrum. This acknowledges the spectrum imbalance that exists today between new entrant eligible bidders and incumbent operators (the Big Three, SaskTel and MTS).

207. The 700 MHz auction must exclude SaskTel and MTS from being considered new entrants in their respective incumbent territories. The AWS auction experience suggests this is in the best interest of consumers.

208. A set-aside per spectrum auction recognizes the different characteristics of the spectrum frequencies. Incumbent operators have access to both low frequency spectrum (under 1,000 MHz) and higher frequency (PCS, AWS, BRS). It is imperative that new entrants be given priority access to low frequency spectrum in order to deliver on the Industry Canada policy objectives.

209. There are several theories put forth by the incumbent operators, based on the results of the AWS auction, as to why a set aside is not the best mechanism for achieving

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<sup>88</sup> Gearing Up for 3G, Andrew Tausz, June 4, 2001 Connected Planet

Canada's competitive goals: (a) the set-aside created an artificial scarcity of spectrum available to incumbents, which increased its value and generated competition among the Big Three, (b) the open-market spectrum was not divisible by three, which further increased its value for incumbents; and (c) the open-market spectrum was also available to new entrants, which further increased competitive bidding for it and let new entrants use that spectrum for strategic bidding to retain auction points

210. Mobilicity would suggest that these arguments are fallacious and unfair as they suggest the Big Three have some sort of pre-ordained right to acquire spectrum. The incumbent operators have no obligation to acquire spectrum, nor do they clearly have any desperate need, as evidenced by the lack of deployment in the band. Further, to suggest that Industry Canada had some sort of obligation to make the available portions of spectrum divisible by three is offensive to any new entrant. If anything, the Industry Canada should have required Bell and TELUS to share a set amount of bidding points as they share spectrum and effectively operate as one company from a network perspective. Finally, with respect to the "artificial scarcity of spectrum" that existed in the non-set aside portion, how was that "scarcity" any different for that experienced by the new entrants who were forced to compete, nine-abreast, for a paltry 40 MHz cumulative portion?

211. In the absence of a complete set-aside structure, Mobilicity recommends at least 56 MHz of spectrum be set-aside as well as an aggregate cap be established for low frequency band (under 1000 MHz) and another cap be established for the 1000 MHz to 3000 MHz spectrum.

**In light of your response above, and recognizing that pending decisions on the specific band plan, spectrum for public safety system, tier sizes and open access requirements could influence your response:**

**7.6 (a) If the Department were to implement spectrum aggregation limits (caps):**

**i. Should the cap apply to the 700 MHz band only or be broader?**

212. For the 700 MHz auction, a specific cap would not be as effective as a set-aside in meeting policy objective of bringing new, advanced and affordable telecommunications services to all regions of the country. A cap, as pointed out by the Consultation document, if it is set too high, might fail to meet the goal of preventing spectrum concentration. A set-aside within an individual band can more directly align with the policy objective. Canadian telecom is still highly concentrated among three operators on a national level, and there are strong duopolistic tendencies on provincial levels in many markets. Whether one of the three major market participants, in any given market is constrained by a cap is irrelevant to competition. What is relevant is that facilitating new entrants *will* stimulate new, advanced and affordable services.

213. The Big Three, SaskTel and MTS were the beneficiaries of the 50MHz of spectrum that was granted in 1984. There was no upfront payment required for this spectrum. Bell and TELUS share 25 MHz or more of the frequency spectrum (less than 1 GHz) in the 850 MHz range in markets outside of Manitoba and Saskatchewan. Rogers has 25 MHz of spectrum in the 850 MHz range on a national basis.

214. A spectrum cap could be applied on an overall basis but this would not deal with the imminent challenges associated with the requirement for 700 MHz spectrum by new entrants. In fact, if overall and regional caps are not set correctly, then it is conceivable that all of the 700 MHz spectrum could be acquired by national and regional incumbent operators.

215. By establishing spectrum set-aside, as a preferred mechanism to stimulate competition, in advance for future auctions, we can effectively get to a cap that would be applicable to the Big Three and regional dominant providers SaskTel and MTS. It is better to take the direct and simpler approach.

216. In total, the consultation refers to a maximum of 84 MHz of commercial mobile services spectrum. There were eight significant bidders in the new entrant block (MTS, SaskTel, Globalive, Videotron, Mobilicity, Shaw, Bragg/Eastlink, and Public Mobile in the G Band). Presumably all will be looking for additional spectrum to offer future services and new spectrum will be required by many if LTE is to be deployed (a single 2 x 5 MHz band cannot be shared by HSPA and LTE). The successful entrants will stimulate competition not only in the overall wireless market, but also there will be vibrant competition within an auction set-aside.

#### **A cap can be an effective policy tool as previously acknowledged by Rogers.**

217. Cantel notes that Industry Canada, in the face of strong opposition, went to great lengths to implement the spectrum cap in order *to safeguard against anti-competitive behaviour and to provide a greater opportunity for competition in the cellular/PCS market. The spectrum cap has proven to be an effective policy tool to achieve these objectives, clearly shown by the continued success and growth of the smaller players, and the lower prices and greater consumer choice in today's intensely competitive market (emphasis added)*. Therefore, the assessment of the usefulness of this policy tool must not be treated lightly, given that many of the safeguards in place to prevent anti-competitive behaviour have been removed with the release of the CRTC Decision 98-4, Joint Marketing and Bundling. Respondents should be granted the allotted time to carefully consider the potential impact of the removal or modification of the spectrum cap prior to any deviation of this policy.<sup>89</sup>

#### **If a Cap was the only option, Mobilicity would recommend a cap be applied for the low frequency spectrum, that under 1000 MHz and would be applied to the 700MHz and 850 MHz cellular bands on a combined basis.**

218. A cap on a combined basis (700 MHz and 850 MHz) recognizes that the low frequency spectrum shares common characteristics; better reach, better in-building penetration and better cell site area coverage with associated lower costs. The 850 MHz and the 700 MHz are considered the most attractive spectrum bands for rural and less densely populated areas since the larger radius of cellular coverage means fewer cell sites. This translates into less capital for site builds and lower ongoing operational costs.

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<sup>89</sup> Comments from Rogers Cantel Inc. - DGTP-017-98, November 30, 1998

Given that the 850 MHz spectrum was not acquired through a competitive auction process and was granted to stimulate cellular growth, this is not that dissimilar to providing at this stage an incentive to stimulate wireless penetration and innovation to offset the laggard status that Canada has developed in recent years.

219. Mobilicity recommends that caps be established on a Tier 3 territory basis, one for spectrum in the low frequency range, less than 1000 MHz and one for the range over 1000 MHz to less than 3000 MHz (including the 1900 PCS, AWS and 2500 MHz BRS Bands and excluding the 2300 MHz bands). This will prevent a particular operator from hoarding excessive spectrum in a particular region and it also recognizes that spectrum in the less than 1000 MHz range has different characteristics than those in the higher frequency ranges. A spectrum cap with a set-aside can also prevent new entrants from hoarding significant spectrum. In the AWS auction, Quebecor successfully bid on all 40 MHz of spectrum in the Quebec set-aside. If there is a 30 MHz cap on 700 MHz spectrum at the Tier 3 area, this will ensure that consumers have a better opportunity to realize the benefits of attractive mobile offerings from other New Entrant providers. These caps will help enforce the effective utilization of the scarce spectrum resource.

220. This approach is similar to the view taken by the mobile operator Everything Everywhere (the joint venture of Orange and T-Mobile) in the United Kingdom which is seeking a cap on low-frequency spectrum each operator can hold. O2 UK and Vodafone UK have 900 MHz spectrum in the UK but Everything Everywhere has licenses solely in the 1.8 GHz range. This will be a consideration when Ofcom releases its consultation document later in 2011 for the auctioning of 800 MHz spectrum in 2012<sup>90</sup>.

## **ii. What should the size of the cap be?**

221. The cap should be established at 30 MHz for the low frequency range (combined 700 MHz and 850 MHz spectrum) at a Tier 3 Level. Although an operator may have a license for Tier 2 coverage, the cap would apply based on a Tier 3 serving area. As an example, if a Licensee had 25 MHz in a Tier 2 band, an underlying Tier 3 band would be limited to an additional 5 MHz of spectrum. Mobilicity would further suggest that Bell Mobility and TELUS Mobility be considered one entity for the purposes of any evaluation against the cap as they strategically use their assets together as one operator.

222. Given the question as to whether there should be a broader spectrum cap (beyond 700 MHz and what the size of that cap should be, we have the following comments with respect to the 1000 MHz to 3000 MHz range.

223. Mobilicity believes that the current spectrum holdings in the 1000 MHz to 3000 MHz range of Bell, Rogers and their affiliate Inukshuk are already in excess of any reasonable spectrum cap. Bell and Rogers, through Inukshuk, acquired additional spectrum in this range from Look Communications and Craig Wireless in addition to Inukshuk's initial holdings. The Inukshuk partnership acquired this spectrum with the full knowledge that there was a required return of 1/3 of the spectrum if they wished to convert it to support mobile services. Furthermore, they would have implicitly acknowledged the regulatory risk and reflected that in their offer price for the purchased

<sup>90</sup> UK Set for 2013 LTE Launch, Mobilebusinessbriefing.com. November 18, 2010

spectrum. They were also clearly aware of the presence of spectrum caps being previously implemented and possibly being implemented again given their extraordinary holdings in this range in the British Columbia, Ontario and Quebec markets. Any further aggregation of this spectrum by Inukshuk could not possibly support the Consultation policy objectives. It is also important to note that this spectrum is the one true global frequency range so it has added value in terms of supporting future worldwide equipment and device alignment. Therefore, quite simply there should be no eligible participation in auctions by Inukshuk, Bell and Rogers in the 2500 MHz and any AWS follow-on auction in the provinces of Quebec, Ontario and British Columbia.

### **iii. Should bidders and their affiliates or associates share the cap?**

224. Given the limited spectrum available in the low frequency bands under 1000 MHz, Mobilicity recommends that affiliated parties and/or associated entities share the spectrum cap if there was not a complete set-aside of spectrum for new entrants. This would discourage gaming by wireless operators and bidders in an attempt to bypass the spectrum thresholds. The spectrum cap per party would be allocated based on the economic interest or voting interest, whichever is greater. Thus if a party had a 60% economic interest but only a 40% voting interest in 30 MHz of spectrum, 18MHz would be their share of the allocation for calculation purposes. The other party's 60% voting interest in the 30 MHz of affiliated spectrum would result in 18 MHz, being allocated against their cap as well.

225. An associated entity is defined as:

*“Any entities who enter into any partnerships, joint ventures, agreements (including agreements in principle) to merge, consortia or any arrangements, agreements or understandings of any kind, either explicit or implicit, relating to the acquisition of the licences being auctioned or relating to the post-auction market structure, will be treated as Associated Entities. The existence of such agreements, arrangements or understandings must be disclosed in writing to the Department at the time of application and this information will be disclosed to other bidders and to the public. Changes made after the application deadline which create an Association with another applicant are not permitted, and any applicant who has formed such an Association will be disqualified from participating in the auction<sup>91</sup>.”*

226. As stated previously, it is our assumption that Bell and TELUS, with their enhanced roaming/reciprocal resale agreement are indeed associated entities for the purpose of spectrum caps in that their networks share spectrum. We suspect that Bell and SaskTel are also associated entities in the province of Saskatchewan and were so in the AWS auction.

227. While Mobilicity recommends the cap above, we do recognize that there is the possibility, over time for mergers and acquisitions which may meet a test for being in the best interests of Canada. Should this transpire, there would be an expectation of a return

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<sup>91</sup> Licensing Framework for the Auction for Spectrum Licenses for Advanced Wireless Services and Other Spectrum in the 2 GHz range, Industry Canada Section 5.3 December 2007

of spectrum, but Industry Canada should have the flexibility to adjust the cap based on a net benefits assessment to Canadians.

**iv. How long should the cap remain in effect?**

228. The cap should remain in effect indefinitely. However the spectrum cap threshold may be reviewed from time to time such as at the time of future auction consultations to assess if a change is warranted.

**(b) if the Department were to implement a set-aside in the 700 MHz auction**

**i. Who should be entitled to bid in the set-aside block(s) and should the entitled bidders be restricted to bidding in the set-aside only?**

229. The spectrum set-aside should be reserved for those bidders and their affiliates and associated entities that are currently operating and represent less than 10% market share of total telecommunications carrier revenue. In addition, any incumbent integrated telecommunications carrier with less than 10% market share on a national basis, who is also an incumbent 850 MHz operator, should be restricted from participating in any set aside in their incumbent 850 MHz territory (“an incumbent operator”). Eligible bidders who meet these two criteria are considered “New Entrants”. This would restrict MTS to the open spectrum in Manitoba and SaskTel to open spectrum in Saskatchewan. They would also be subject to spectrum caps. Only a non-incumbent operator (“new entrant”) may bid in any set-aside.

230. If there is not a complete set-aside, there should not be any restriction in the open spectrum on New Entrants. The New Entrants have no spectrum in the low frequency range. Furthermore there are likely to be a significant number of New Entrant bidders. Per the AWS auction there were 12 license winners in the set-aside and only 40MHz of spectrum available. Even with the 50 MHz of open spectrum, the Big Three still managed to significantly limit the success of AWS new entrants in open bands. AWS new entrants only won 10 MHz spectrum in Band E with population coverage of less than 2.8 million.

231. As stated earlier in our response to section 7-5, Mobilicity suggests that there are several theories put forth by the incumbent operators based on the results of the AWS auction as to why a set aside is not the best mechanism for achieving the desired competitive environment in a spectrum auction. However, while we recognize there was concern expressed by the incumbent operators, with their 85% market share of spectrum holdings (post AWS auction), that AWS new entrant bidders were parking points in the open spectrum, and thus driving up the price. AWS bidders clearly accepted that they could win the spectrum. This is only an issue for the Big Three if they planned on acquiring the spectrum at any price. Furthermore, this is an issue related to the implementation of auction activity rules and should not be discussed in the context of set-aside or spectrum caps. The use of points and activity rules will be addressed in the follow-up consultation on the licensing framework for the auctioning of the spectrum.

**ii. How much spectrum should be set-aside and which block(s) should be set-aside?**

232. **Mobilicity recommends that all of the spectrum be set-aside for New Entrants in the 700 MHz auction. This is consistent with the Consultation’s policy objectives and the Spectrum Policy Framework for Canada.**

**Why there is a need for the set-aside to the extent recommended.**

233. Industry Canada stated in the Consultation’s Policy objectives section that it “is committed to ensuring that Canadian consumers, businesses and public institutions *continue* (emphasis added) to benefit from the availability of new, advanced and affordable telecommunication services in all regions of the country.<sup>92</sup>” Industry Canada goes on to express the view that the best way to pursue these objectives is to encourage a competitive telecommunications marketplace, as competition does stimulate investment and innovation which can lead to lower prices, better services and more choice.

234. The Consultation also considers the Spectrum Policy Framework for Canada (SPFC) policy objective to maximize the economic and social benefits that Canadians derive from the use of radio frequency spectrum.

235. Industry Canada has explicitly expressed the linkage between the SPFC policy objective of maximizing economic and social benefits and the need to encourage a competitive telecommunications marketplace. Clearly, without sufficient set-aside access to spectrum, recent entrants such as Mobilicity will not be able to continue to make the investments to offer more affordable services and better choice to consumers. The policy objective benefits can only accrue through the establishment of sufficient set aside in the 700 MHz spectrum range.

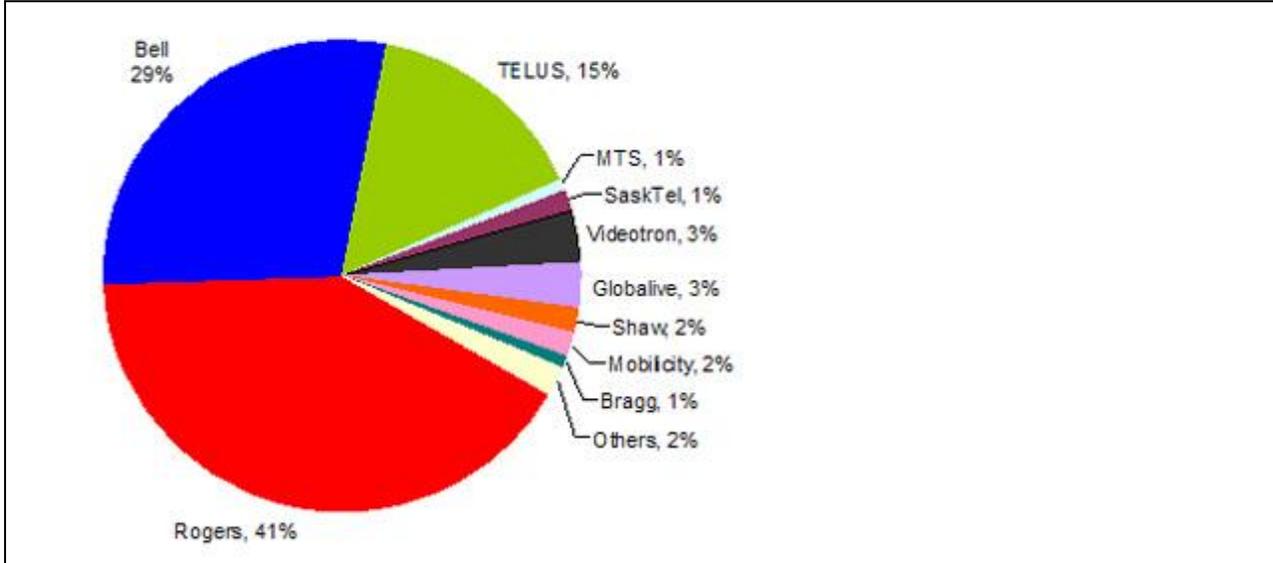
236. It is readily apparent from the information provided in the November 30<sup>th</sup> Consultation Report’s Figure 4.5 below, that in spite of the success of the AWS set aside in providing alternative wireless choice for Canadians, that much work needs to be done. Bell, TELUS and Rogers still hold 85% of the 460 MHz of available spectrum on a population weighted basis, while there are 7 other entrants with 1% - 3% of the available spectrum and the remaining 2% held by others.

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<sup>92</sup> Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum, November 30, 2010, Spectrum Management and Telecommunications, Section 2

**Figure 2: Consultation document Figure 4.5 – Summary of Holdings for Cellular, PCS, AWS and BRS spectrum**

**Percentage of Total Holdings (weighted by population)**



237. Even if all of the 84 MHz of planned spectrum in the 700 MHz is made available only to bidders who meet the qualifications of “New Entrants”, Rogers, Bell and TELUS would still hold Licenses covering approximately 72% of the spectrum.

238. For the 700 MHz auction a complete set-aside is also warranted for a number of reasons:

1) To provide new entrant bidders with access to low frequency spectrum with attractive propagation characteristics.

- Per the GSMA in a Letter to Dr. Ashok Chandra, Wireless Advisor to the Government of India, the best use of the 700 MHz spectrum is as follows:

“Deploying concurrently LTE in the 700 and 2600 frequency bands make for perfect complementary arrangement for the provision of mobile services:

- The 700 band promotes LTE deployment and ***makes cost efficient rural coverage and cost efficient early city wide area roll-out with excellent indoor coverage for mobile broadband (emphasis added).***
- ***The 2600 band (2500-2570 / 2620-2690) constitutes the perfect complement making it possible to achieve the capacity needed for handling greater traffic volume in city areas and providing sufficient aggregated bandwidth for deploying wider carriers such as e.g. A 20 MHz carrier” (emphasis added).***<sup>93</sup>

<sup>93</sup> Letter from Robindhra Mangtani, GSM Association to Dr. Ashok Chandra, Wireless Advisor to Government of India, London, Noember 10, 2010.

- ***A similar letter to the Australian government indicated***

***“Deploying LTE in the UHF band will perfectly complement deployment of LTE in the 2600 MHz band (2500-2690 MHz). Making the 700 MHz band available in a manner which promotes LTE deployment will make cost-efficient rural coverage and cost efficient initial urban area roll-out with excellent indoor coverage for mobile broadband happen and the 2600 MHz band will constitute the perfect complement making it possible to achieve the capacity needed for handling greater traffic volume in urban areas”<sup>94</sup> (emphasis added).***

This unbiased view from the GSM association supports the position that the best use of 700 MHz spectrum in urban environments would be for newer builds and that 2500/2600 MHz is a good overlay for established operators for increased capacity in urban markets. This may be why it is speculated that AT&T is looking to use the higher frequency AWS band and 700 MHz for its LTE deployments.

- 2) In fact 700MHz may not be that suitable for rural Big Three deployments either. Bell’s recently upgraded HSPA+ network can deliver maximum download speeds up to 42 Mbps. A carrier in Sweden has ramped its network up to 84 Mbps and Ericsson has indicated one of its customers is testing speeds of over 100 Mbps. With lower utilization on the rural part of networks, performance may in fact be better in rural areas than in metropolitan areas.

It is expected that in rural areas, the 3G HSPA+ networks should be sufficient to meet capacity needs for some time. In an application to Review and Vary Telecom Decision 2010-637, Bell Canada indicated that its HSPA+ wireless technology proposal (the revised proposal) would address the requirements identified by the Commission in Telecom Decision 2010-637 such that the approved communities in Ontario and Quebec would have access to a broadband service that was comparable, or in some cases superior, to what is available in urban areas<sup>95</sup>. Bell Canada also indicated that, as the Bell companies’ urban retail legacy DSL services change, their HSPA+ service offering would change in lockstep with the approved communities.<sup>96</sup> Bell and TELUS also state that the HSPA+ network already covers over 93% of the population.<sup>97</sup> Given these points, the case for high speed in rural areas as provided by the Bell/TELUS HSPA+ network seems marginal at best. In the U.S. the FCC has expressed concern that existing licensees may not fully utilize or plan to utilize the entire spectrum assigned to them; as a result, a substantial amount of spectrum may be underutilized, ***especially in rural areas*** (emphasis added).<sup>98</sup>

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<sup>94</sup> GSMA Response to Australian Government Digital Dividend Green Paper of January 2010, February 25, 2010

<sup>95</sup> Telecom Decision CRTC 2010-805, paragraph 5, October 29, 2010

- 3) Per GSMA's suggestion to use 2600 MHz where capacity is required in urban areas, 700 MHz may not be an ideal solution for the more densely populated urban areas for incumbent wireless operators with significant cell site density. A 700 MHz network is more complex to design and can be more expensive and less efficient, because of spectral reuse challenges, for high demand urban environments than a 1.7 GHz to 2.1 GHz type design. It can be done with a positive business case **but it's not the ideal spectrum for a high traffic dense urban demand set.**<sup>99</sup>
- 4) The conclusions above suggest that spectrum above 1000 MHz would be better in dense urban areas for capacity overlays. Therefore the AWS spectrum held by the Big Three and incumbent operators, that has not been deployed, is the better spectrum for the Big Three in urban focused Tier 3 serving areas. In addition, since HSPA+ is comparable to wireline bandwidth and can match DSL's evolution, the case for high speed in rural areas as provided by the Bell/TELUS HSPA+ network seems marginal at best. Bell and TELUS state that this already covers over 93% of the population.<sup>100</sup> Given Industry Canada's objectives, it is in the best interest of Canadians to ensure this spectrum goes to its best use, which is for new entrant deployments. New entrants deployed AWS spectrum and have growing spectrum needs. It is uncertain, based on the above points as to whether the need is real for incumbent operators or whether they are simply looking to warehouse more spectrum.
- 5) Incumbent operators Bell, TELUS, Rogers and MTS and SaskTel have access to 850 MHz spectrum which has attractive propagation characteristics. In comparison to AWS spectrum, it provides significantly expanded reach, better building penetration and therefore fewer cell sites are required to build in less densely populated areas. The 850 MHz spectrum license holders have recognized the attractiveness of this spectrum. As an example, when Rogers chose to deploy its HSPA 3G network it chose to deploy on its 850 MHz spectrum wherever possible as opposed to the 1900 MHz spectrum to increase its coverage footprint.
- 6) Cellular licensees have the opportunity to re-purpose 850 MHz spectrum as usage declines on their 2G networks. In fact in the United Kingdom, Ofcom recently permitted Vodafone and O2 to refarm their 900 MHz spectrum for 3G services<sup>101</sup>. Given CDMA deployments can have 1.25 MHz x 2 carriers, similar to LTE, it will be relatively easy to migrate this spectrum, from a capacity management perspective to better broadband utility.
- 7) The 700 MHz propagation parameters permit 700 MHz entrants to deploy capital cost effectively, and with a similar coverage basis to that which was permitted for Rogers, Bell and TELUS when they initially built their networks on the cellular 850 MHz spectrum.

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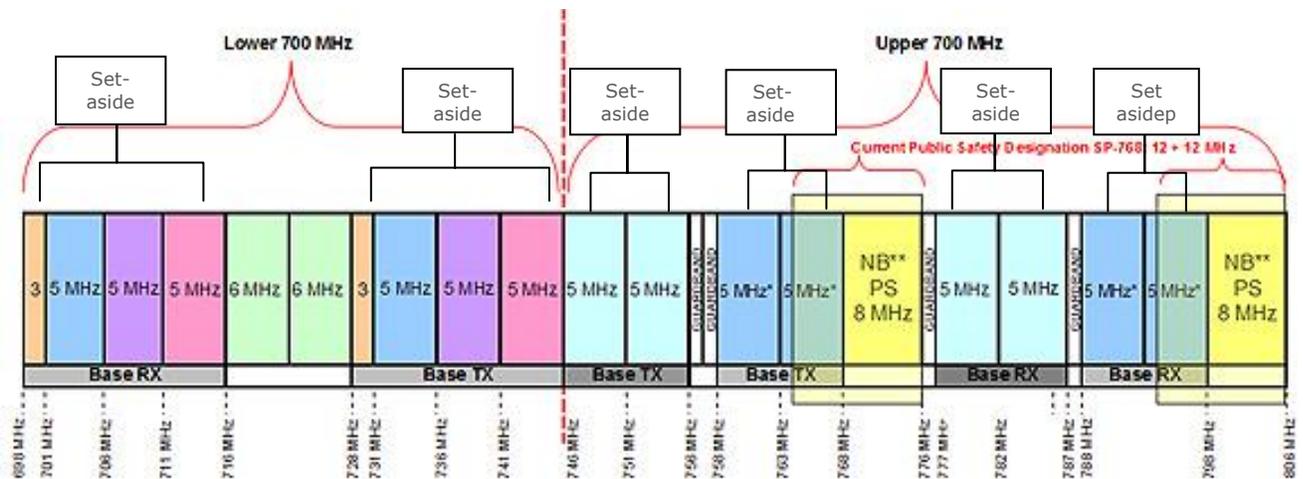
<sup>99</sup> 700 MHz Explained in 10 Steps, Om Malik, March 14, 2007, blog comments

<sup>100</sup> Comments of Bell Canada, Industry Canada Consultation on Opening Canada's Doors to Foreign Investment in Telecommunications: Options for Reform, July 30, 2010, page 8.

<sup>101</sup> UK green lights spectrum refarming January 7, 2011 [www.rethinkwireless.com](http://www.rethinkwireless.com)

- 8) The integrated incumbent telecommunications providers have wireline networks on which devices will be able to offload traffic via Wi-Fi or, in the future, femtocells and picocells to assist in effective spectrum management of their respective telecom consumers.
- 9) The cost to deploy networks is significantly reduced at 700 MHz. Given challenges AWS new entrants had in site sharing, it is an imperative that network costs for cell coverage be managed with the most efficient spectrum in order to compensate for the inability to share sites. According to the maximum allowable path loss formula, a 700 MHz cell site can cover an area up to 101 Km<sup>2</sup>, or nine times the coverage area of an AWS cell site. Consumer benefits are best achieved through operators deploying lower cost methodologies
- 10) Inadequate spectrum for LTE: 700 MHz entrants looking to deploy LTE networks may not have acquired enough spectrum in the AWS auction's 40MHz set-aside or may be new bidders. An AWS Licensee for example with 2 x 5 MHz in a market who has deployed the world standard HSPA networks will not be able to split that spectrum for 3G and 4G use. Additional spectrum is required for LTE.
- 11) The Big Three have not yet deployed networks on their AWS spectrum which can likely meet their needs for network expansions. Given this spectrum would have been identified for future needs for tower and site sharing by the incumbents thus limiting new entrant access to site sharing, it is particularly troublesome if these Licensees continue to warehouse this spectrum while bidding on 700 MHz.
- 12) Mobilicity remains unconvinced of the need for 700 MHz by the incumbent operators. If they forecast bandwidth shortfalls to be in the more densely populated areas, it seems that higher frequency spectrum will better meet their needs. It is conceivable that the business imperative for Rogers was simply to rush the 700 MHz auction process in advance of new entrant success and prior to any foreign ownership regulation changes which both might inhibit new entrants' ability to bid for spectrum.

239. Mobilicity recommends the following band plan:



**iii, If the set-aside were to include multiple blocks of spectrum, should they be contiguous?**

240. With a complete set-aside, all blocks would be contiguous in the band plan. The set-aside should include multiple blocks and they should provide flexibility for bidding by combining contiguous blocks, per the above chart. The ability to combine 2 x 5 MHz blocks or a 2 x 3 MHz and a 2 x 5 MHz block provides flexibility for bidders interested in acquiring more contiguous spectrum. If Industry Canada believed that incumbent operators made a case for some open spectrum eligibility, Mobilicity believes the maximum that should be available would be 20 MHz associated with the 746 – 756 MHz range paired with the 777 MHz to 787 MHz range consisting of two 2 x 5 MHz blocks.

**iv. What restrictions should be put in place to ensure that policy objectives are met (for example, should trading of the set-aside spectrum be restricted for a given time period)?**

241. The trading of spectrum in the 700 MHz set-aside among new entrants should not be subject to any restrictions but should be made subject to Industry Canada’s approval.

242. Upon a merger or acquisition, the spectrum cap would apply and any excess spectrum would be returned to Industry Canada. In the absence of any spectrum cap an acquisition by one of the Big Three would require a public consultation to assess the net benefit to Canadians that may be achieved by the transaction. With Rogers’ acquisition of Microcell, the lack of a spectrum cap led to not only a high concentration of market share and network assets amongst three national providers, but also led to a substantial consolidation of spectrum by Rogers well beyond its needs. Had a cap or an open consultation on net benefits test been conducted, spectrum could have been returned to Industry Canada for future release. We have seen what the wireless industry consolidation created when Microcell was acquired, a very profitable industry and Canada lagging in many international wireless metrics. If the incumbent operators were aware that returned spectrum could be auctioned in a competitive process, it may have led to less complacency in the marketplace. Having a spectrum cap (in addition to a set-aside), provides more process clarity and therefore is viewed as beneficial.

**7.7 Are there other mechanisms that should be considered and, if so, how should these be applied?**

243. No other mechanisms are recommended.

**7-8. The Government of Canada has undertaken a consultation on potential changes to the foreign investment restrictions that apply to the telecommunications sector. How would the adoption of any of the proposed changes affect your responses to the questions above?**

**Provide supporting evidence and rationale for all responses.**

244. Any change in foreign ownership does not change the need for spectrum caps nor set-asides. The objectives of these measures and of the policy objectives are to further competition for consumer benefit. Reducing or removing restrictions on foreign investment in the telecommunications sector does not address the spectrum scarcity issue for entrants. It does remove a potential barrier to entry in providing access to additional capital markets, but this is just part of the challenge.

245. Any foreign investor, like a Canadian investor, will look at the merits of the business case for investment. Incumbent operators, with their 25 year head start in the telecom market with infrastructure, strong brands and strong subscriber bases to protect, can justify in their business models paying substantially higher rates to reduce competitive threats by buying and warehousing spectrum. Thus without a set-aside the Big Three operators could justify a budget to prevent foreign investor entry as well.

## 8. PROMOTING SERVICE DEPLOYMENT IN RURAL AREAS

**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.**

246. As mentioned in the Consultation paper, there are a number of programs that have been enacted to support the development of broadband services in rural and underserved markets.

247. Through the 2009 Budget - Canada's Economic Action Plan the government provided \$225 million over three years for Industry Canada to develop and implement a strategy to extend broadband coverage. The biggest component of this program is Broadband Canada: Connecting Rural Canadians. The first three rounds of funding will permit the extension of high-speed broadband Internet connectivity to 250,000 households across the country<sup>102</sup>.

248. Bell Canada's use of \$306.3 million in deferral account funds will permit HSPA+ service to be expanded to 112 communities. Bell is obligated to offer service that is comparable with or superior to, urban broadband service, and to maintain comparability as urban broadband service improves.<sup>103</sup> Bell is also obligated to provide wholesale access to its HSPA+ wireless broadband service in these communities on terms similar to that offers under its Gateway Access Services (GAS) tariff in order to allow competitive providers to offer retail broadband services to end-users.<sup>104</sup>

249. In the first quarter of 2011, Barrett Xplore announced that it will be launching a 4G network to provide high speed rural internet services, with an objective to provide national coverage by the end of 2012. Barrett will be using a combination of wireless satellite technology on a Wi-Max 4G network.

250. Another option for accessing spectrum is per RP-19, where new parties who propose services in areas that are unserved or underserved can apply for a license for spectrum already licensed to a cellular incumbent.

251. Mobilicity believes in the direct or subsidized funding model for providing service to unserved or underserved communities. To the extent that this results in third party providers delivering service where a Licensee is not acting quickly enough to deliver service, Mobilicity supports the utilization of any licensed spectrum. Mobilicity does not see any benefit associated with segmenting the markets below a Tier 3 level into Tier 4, or new Tiered boundaries, nor for imposing any conditions of license to mandate the delivery of service to underserved or unserved communities.

<sup>102</sup> Industry Canada, *Government of Canada Announces Third Round of Broadband Canada Funding*, News Release, November 6, 2010

<sup>103</sup> Telecom Decision CRTC 2010-805 page 3

<sup>104</sup> Telecom Decision CRTC 2010-05 page 3

**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?**

252. Mobilicity believes that the current mechanisms to deliver broadband services to communities are proceeding well and do not see a need for further regulatory measures beyond what is currently being addressed through programs or proceedings.

**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.).**

**Rationale and supporting evidence that substantiate your responses should be provided.**

253. Mobilicity does not see a need for roll-out conditions because of the following:

- 1) There are programs being implemented to address the rural broadband divide per the above comments.
- 2) Bell and TELUS' national HSPA+ network is said to cover 93% of Canadians already. Per CRTC Decision 2010-805, Bell is committed to providing service on comparable terms to that provided in urban areas on DSL for the 112 communities for which it is using deferral account funds. Bell is also obligated to provide wholesale services. This in our view satisfies the objective of providing broadband service in a competitive environment. Any mandated requirement to overlay a new 700 MHz network in rural areas will provide minimal consumer benefit at a significant cost to Licensees and to consumers in all other markets as they will bear the cost of any mandated network overlay. The new entrants would bear an unreasonable amount of any mandated target costs due to the fact that they would likely need to in many, if not all, cases develop new sites as opposed to overlay the network on existing sites and towers. Such a burden would unduly penalize new entrants in their ability to bid for the 700 MHz spectrum with which they can deliver competitive choice to a large Canadian population.

## 9. OPEN ACCESS

**9-1 The Department seeks comments on whether there is a need for government intervention to promote open access, by increasing access by users to handsets and/or applications.**

254. No comment.

**9-2. If government intervention is needed, which of the following options should be implemented?**

**Option 1: Mandated open access requirements across all future commercial mobile bands**

**Option 2: Mandated open access requirements for the entire commercial mobile spectrum in the 700 MHz band.**

**Option 3: Mandated open access requirements for the "C Block" (746-757/776-787 MHz) as in the United States.**

255. If there is mandated open access for devices, Mobilicity recommends that this be applied to all Blocks. If there is open access mandated for applications, Mobilicity recommends that this be applied in the "C" block open bidding portion (2 x 5 MHz).

## 10. AUCTION TIMING

**10-1. The Department is considering three options to proceed with the 700 MHz and 2500 MHz bands auction processes:**

**Option 1: to conduct an auction for licences in the 700 MHz band first, followed by an auction for licences in the 2500 MHz band approximately one year later;**

**Option 2: to conduct an auction for licences in the 2500 MHz band first, followed by an auction for licences in the 700 MHz band approximately one year later;**

**Option 3: to conduct one combined auction for licences in both the 700 MHz and 2500 MHz bands, which would be six months later than the first auction in the case of separate auctions.**

**Industry Canada is seeking views on the merits or disadvantages of proceeding with each of the various options stated above. The Department seeks to understand the magnitude of interdependencies between the two bands from a business/operational perspective. Specifically, comments are sought as to the extent spectrum in these bands is interchangeable or complementary from both a technological and a strategic perspective. In addition, views on the business and financial capabilities of participating in a joint auction for both bands are sought. Comments should include the rationale for selecting one option rather than another.**

256. Mobilicity's preference would be Option 1 but would also support Option 3 provided that the timing of the auction(s) is/are after the end of 2012. It is important that the ground rules for the 700 MHz and the 2500 MHz auctions are understood and prepared prior to the first auction, however it is not viewed as necessary nor even preferable to have the auctions at the same time.

257. Clearly, with the current spectrum holdings of the Big Three, there is not a near term need to have the two auctions at the same time, thus the auction process needs to be driven by the needs of new entrants. While some new entrants may suggest that two auctions at the same time add certainty in making business plans, Mobilicity believes that concluding the consultations in advance of two distinct auctions provides that certainty.

258. Mobilicity views the 700 MHz and 2500 MHz bands as complementary and not interchangeable. They have very different propagation characteristics and therefore meet different needs. The 2500 MHz spectrum is more interchangeable with the AWS spectrum based on propagation characteristics. The 700 MHz spectrum is ideal for more widely dispersed coverage areas and where spectrum needs are driven by coverage area. The 2500 MHz spectrum is more appropriate where spectrum demands are driven by population coverage, or the need for smaller cell sites to maximize bandwidth utilization. With new entrants that have significant capacity within their AWS bands such as Videotron, Mobilicity does not see a need for any imminent need for the auctioning of 2500 MHz spectrum. Per comments earlier in this submission, the GSM Association has stated the complementary nature of the 700 MHz and 2500/2600 MHz spectrum. Given that 2500 MHz is more interchangeable with AWS, and 700 MHz is complementary, it stands to reason that the complementary 700 MHz should be the first spectrum auctioned.

259. Another reason that supports the 700 MHz auction to take place prior to 2500 MHz auction is that the North American deployment is already underway in the 700 MHz frequency and therefore access to devices and equipment for the North American marketplace is more developed. In contrast, the 2500 MHz deployments are being made on the TDD spectrum in the United States by Clearwire and Sprint. It is assumed that the primary interest in the 700 MHz auction is in the FDD bands and not the TDD bands since LTE is likely to be deployed by operators as opposed to Wi-Max, which as a technology is losing momentum to FDD based LTE.

260. In terms of planning, it remains a challenge to manage the complexities of one spectrum auction. The outcome of an initial auction permits time for an auction participant to assess what has transpired. The outcome of an initial auction might facilitate alliances and a reassessment of the competitive environment by Licensees might be to the benefit of consumers.

261. From an Industry Canada perspective, with independent auctions, they have time to assess the outcome of the auction relative to its policy objectives. If there are unintended consequences, they will be magnified if there are two spectrum auctions held in the same timeframe and there is no opportunity for corrective action. Erring on the side of caution with two distinct auctions is viewed as the prudent alternative.

262. An auction requires a significant commitment of upfront capital. Risk capital to build wireless networks is expensive. Having to commit more capital upfront than may be required due to two auctions at the same time is not an effective use of capital. It is preferable to be able raise capital for the 700 MHz auction and for the deployment of that spectrum in building network coverage rather than having it tied up in spectrum for which there is expected to be limited demonstrable need in the near term.