

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

**Reply Comments of Mobilicity
April 6, 2011**

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Executive Summary

1. Mobilicity is pleased to provide the following reply comments in response to Industry Canada's Consultation on a Policy and Technical Framework for the 700 MHz band and Aspects Related to Commercial Mobile Spectrum" (the "Consultation"). In reviewing the submission of other parties, we continue to maintain our view that a complete set-aside of spectrum for New Entrants, and a 30 MHz cap for spectrum under 1000 MHz best ensures sustainable competition to meet Industry Canada's policy objectives of providing lower prices, better services and more choice for Canadians.
2. The incumbent operators made many assertions in their submissions. One of these assertions continues to suggest that New Entrants are seeking subsidized financial access to the 700 MHz spectrum. To be clear once again, the set-aside is not about financial subsidies sought for new entrants. It is about preserving ongoing meaningful and sustainable choice for consumers; choice that permits much more than a territorial duopoly of operators in wireless and wireline, offering traditional services to their customer base and preservation of the status quo. Without a set-aside, incumbent operators will business case "foreclosure value" to outbid new entrants. Foreclosure value is a private value that only benefits the incumbents, not consumers.
3. The incumbent operators also asserted that there are good reasons for them to have access to 700 MHz spectrum other than capacity. Mobilicity herein challenges these assertions and would suggest that in order to properly support the assertion, the incumbents must show (i) that there is a need for the 700 MHz spectrum based on capacity, (ii) such capacity cannot be met by the existing unused spectrum holdings and or technological upgrades and (iii) such capacity cannot be met by "re-farming" some of their spectrum holdings. As further identified in these reply comments, when incumbent operators (i) hold the most spectrum among much larger and in some cases much more data intensive carriers around the world, (ii) have unused AWS spectrum and (iii) refused to "re-farm" their spectrum, Mobilicity would suggest to Industry Canada that the incumbents operator have failed all three tests.
4. Among the assertions is that rural and ubiquitous coverage can only be provided by Incumbents. We would argue that (a) this can be achieved with spectrum other than 700 MHz especially in rural areas where capacity remains in other bands with competitive propagation characteristics, and (b) incumbents have show little interest in rolling out HSPA networks in rural areas in the past. We question the sudden importance of providing high speed broadband to rural communities by Rogers, for example, as they've chosen not to deploy HSPA in many communities since its introduction in 2006. Bell suggests that market forces are sufficient to meet rural needs (while taking subsidies) and recommend the removal of RP-019 for "uneconomic" coverage areas. We continue to maintain the view that direct government programs are the best means for Canada to support these communities. An effective site sharing process will also facilitate real choice for rural consumers.
5. Comments are made by incumbents that the ecosystem for LTE requires them to have access to 700 MHz spectrum. This is not the case. LTE could be deployed on equipment

and devices in 2011 on AWS spectrum. AT&T devices will support both AWS and 700 MHz spectrum, and this fact has been solidified as part of the recent AT&T / T-Mobile merger announcement. Metro PCS with just over eight million subscribers, similar to the subscriber range of just one of the incumbent operators, have had LTE/CDMA devices developed specifically for them for AWS spectrum. New entrants do not have these options. In many cases emerging new entrants lack the spectrum to support LTE in AWS and the capacity to migrate from HSPA to LTE. New Entrants are further challenged based on their current subscriber scale to get the attention of vendors to build a device ecosystem for them.

6. Concerning some of the technical aspects of the consultation, Mobilicity believes that with respect to urban/rural coverage issues, Tier Three areas for all blocks provides flexibility for bidders to best align their capacity requirements and coverage goals.
7. Mobilicity supports the view of many respondents that bidders and affiliates should share a spectrum cap and that Bell and TELUS need to be treated as one entity for spectrum caps.
8. Similarly, we reiterate our view, along with the other new entrants that mandated national roaming and site sharing needs to be extended. As noted in these reply comments, the FCC in the U.S. now supports voice roaming with no term duration based on the consumer benefit.

The Competitive Landscape

9. The Canadian incumbent oligopoly has not delivered true competition as evidenced by submissions from Mobilicity and from others, that highlight the excessive incumbent financial returns on EBITDA, extremely low wireless penetration and high prices compared in particular to the U.S. market which remains the best benchmark.
10. Clearly three dominant wireless providers with 95% of the market have substantial market power. Ofcom noted in its 800 MHz/2600 MHz consultation that “some EU mobile markets where there were three national wholesale competitors, regulators either found joint dominance or reached an initial view that anticompetitive behaviour was present, particularly in terms of refusal to supply wholesale services.” Canada clearly fits with this pattern. Mobilicity would assert that such issue relating to anti-competitiveness amplifies when the three dominant wireless providers are also the three dominant providers for home phone, Internet and television.
11. The Consultation submissions on the state of competitive intensity are comprehensive. While we take exception to many of the references provided by incumbent operators, Mobilicity is comfortable that Industry Canada can parse through the submission contents and conclude that their AWS auction framework is bringing significant benefit to consumers but its sustainable success requires follow-through with a set-aside and spectrum caps for the 700 MHz auction.

Spectrum Holdings and Demand

12. The case is not made for the incumbents' need for 700 MHz spectrum as incumbent operators have not demonstrated through the public consultation process that they have properly managed their spectrum holdings and need additional spectrum. Given the amount of focus and detail in the consultation document on the current spectrum holdings, one would expect to receive feedbacks on how incumbent operators have managed such scarce resources to meet Industry Canada's Spectrum Policy Framework for Canada (SFPC) policy objective in maximizing the economic and social benefits that can be derived from the use of radio frequency spectrum. To the contrary, Incumbent comments on the public record are totally inadequate for such an important proceeding given the sheer quantity of their spectrum, their lack of deployment in the AWS band and their reluctance to "re-farm" their spectrum.
13. As noted by Industry Canada, Incumbent operators hold 85% of the spectrum in the cellular, PCS, AWS and BRS bands. In their public submissions, Bell, TELUS and Rogers provided no details as to when they will deploy on AWS. Bell Mobility indicates "it is currently using or plans to use its entire existing spectrum and does so in a spectrally efficient manner."
14. Bell references the U.S. National Broadband Plan's recommendation that an additional 500 MHz of spectrum be made available in the next ten years. Bell goes on to state: "Using this as a proxy (*emphases added*) Bell estimates that beyond the 700 MHz band, up to an additional 500 MHz of spectrum will be required in Canada beyond 2015." This suggests that:
- a) Bell asserts that on an industry basis, the 700 MHz auction should provide capacity until 2016 (excluding the BRS auction).
 - b) Bell accepts the U.S. National Broadband Plan as a proxy for Canadian industry needs in this important Consultation.
15. In looking at the first point in that spectrum should last through 2015, how has Bell been in previous prognostications? In the Department's 2003 Consultation on Spectrum for Advanced Wireless Services and Review of the Mobile Spectrum Cap Policy, Notice No. DGTP-007-03, October 2003 (the 2003 AWS Consultation) Bell Canada stated that "the new advanced wireless services, such as mobile data, high-speed Internet access and multimedia, are bandwidth intensive." Bell Canada indicated that "by 2008 it would likely require additional spectrum to both provide advanced wireless services as well as to continue to expand and improve its existing network."¹ This has not been the case, and as of March 2011, Bell has still not indicated its plans to deploy on AWS spectrum.

¹ Reply Comments of Bell Canada, Canada Gazette Notice No. DGTP-002-07, Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Services Published in the Canada Gazette, Part 1 Dated 24 February 2007, 27 June 2007 page 24.

16. TELUS also references the National Broadband Plan and states that “The model that calculates the national spectrum release needs for the U.S. has little that does not directly translate to the Canadian market ...”² Rogers also refers to the National Broadband plan and the need for 500 MHz of additional spectrum over the next ten years.

17. In Mobilicity’s submission, Mobilicity had provided a detailed assessment of the U.S. National Broadband Plan. There is no questioning the rapid growth in data usage, but one needs to be careful with the conclusion. The National Broadband Plan did not take into consideration items such as unutilized existing capacity, data usage caps being adopted by wireless providers, substitute technologies such as increased Wi-Fi and femtocell/picocell usage. In addition, Canadian incumbent spectrum requirements needed to be modified for a number of factors:

1. lower cellphone penetration
2. lower voice and data utilization
3. Canadian incumbent broadband plan caps at 5 GB to 15 GB
4. higher broadband pricing relative to the United States which results in lower adoption of broadband plans
5. lower initial spectrum capacity utilization
6. market share loss to new entrants from the 98% currently held by incumbents

18. Adjusting for these factors, we support the view of Bell Canada that there is sufficient spectrum to meet the needs of the Incumbents through at least 2015 in total, but based on the above adjustments, would suggest that even without the 700 MHz or BRS spectrum, current spectrum holdings are adequate on an aggregate level.

LeMay Yates Report re Rogers’ Spectrum Requirements

19. Rogers commissioned a study by LeMay Yates that looked at broadband spectrum demand and capacity utilization. In its modeling, under a section entitled “Assessing the Amount of Spectrum Needed”, it uses a target mobile broadband speed of 100 MBPS in its high usage scenarios. This is based on the FCC national broadband “objective” of delivering 100 MBPS speeds to homes. This home based (as opposed to mobile) broadband long term objective being applied to mobile broadband erroneously drives substantial bandwidth capacity requirements in the “high usage model” which in turn overstates the need for spectrum.

20. Although the LeMay Yates model adjusts experienced speeds to 80,000 KBPS (80 MBPS) as noted in Table 4 below, this is a 20 times multiple over what is used in the National Broadband Plan models. Per the Omnibus Broadband Initiative Technical Paper No. 1 “The National Broadband Availability target is download speeds of 4 MBPS and upload speeds of 1 MBPS.”³ In another comparison, the Ofcom LTE “Consultation on 800 MHz

² TELUS, *Response Of TELUS Communications Company To Canada Gazette, Part I Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum SMSE-018-10*, November 30, 2010, February 28, 2011, page 20, paragraph 83.

³ Federal Communications Commission, *The Broadband Availability Gap, OBI Technical Paper No. 1 Chapter 4 Network Economics*, page 71.

and 2.6 GHz competition assessment and award proposals” released on March 22, 2011 provides the following objective. “We propose to include a coverage obligation in one licence (2 x 5 MHz) for the 800 MHz spectrum to deploy an electronic communications network that is capable of providing mobile telecommunications services with a **sustained downlink speed of not less than 2Mbps with a 90% probability of indoor reception (emphasis added).**”⁴

21. The LeMay Yates benchmark significantly overstates the spectrum requirement in all data examples in this chart. Even the lowest data experience is represented at 5,600 kbps (5.6 MBPS).

Table 4 – Total MHz Required by a Carrier for Given Service Data Speeds – Scenario 2: 50% Subscriber Take-Up and Increased Data Usage

	Service characteristics			Total MHz required at 50% take rate		
	Data service speed - kbps		Network usage per average sub MB/month			
	Peak	Experienced		1 bps/Hz	3 bps/Hz	5 bps/Hz
<i>Large data-intensive carrier</i>						
Voice centric business model - low data	7,000	5,600	1,561	67.6	22.5	13.5
Data/video centric business model	28,000	22,400	6,246	269.5	89.8	53.9
Data/video centric business model - future	42,000	33,600	9,368	404.3	134.8	80.9
Longer term data/video centric business	100,000	80,000	22,306	962.9	321.0	192.6

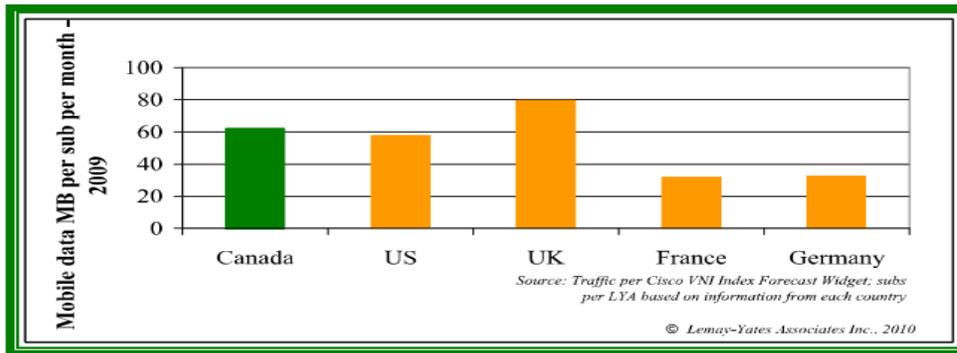
With 1300 subscribers per site and 6 sectors deployed per site on average
Service speed is for downlink; MHz calculated for downlink and multiplied by two assuming FDD spectrum
Network usage is per average user; assumes uplink is 10% of downlink usage; traffic spread over six busy hours
 © Lemay-Yates Associates Inc. 2011

22. This chart does not reflect a date at which this traffic profile exists or is expected to exist, which makes it difficult to make any assessment as to when this spectrum may be needed. In addition, the LeMay Yates model makes an assumption that is inconsistent with another of Rogers’ submissions claims.

23. We also question LeMay Yates’ assertion that Canadian data usage is equivalent to that in the United States per the following chart.

⁴ Ofcom, *Consultation on assessment of future mobile competition and proposals for the award of 800 MHz and 2.6 GHz spectrum and related issues, March 22, 2011, page7, paragraph 1.26*

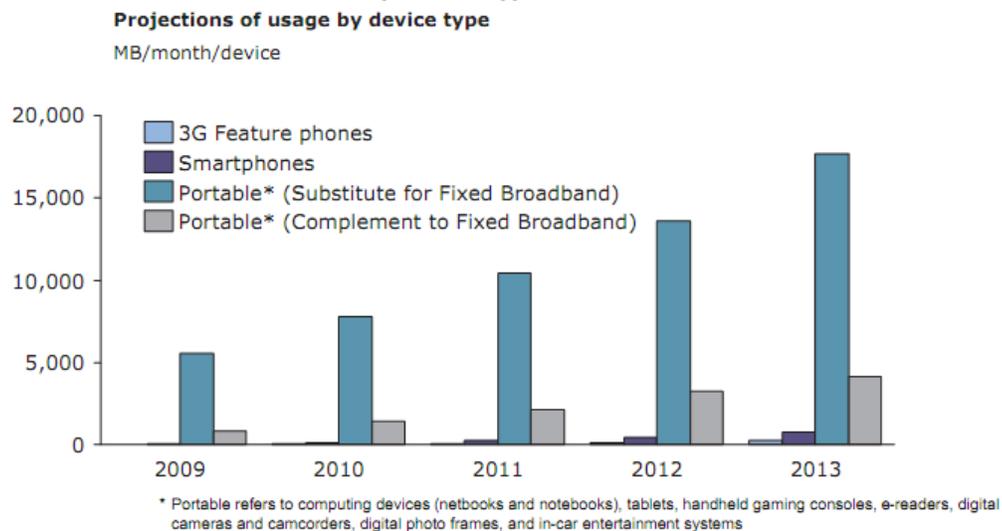
Figure 4 – Comparison of Mobile MB Consumption per Month per Subscriber in 2009



24. The National Broadband Plan reflects an average data used per line on a quarterly basis average at over 93 MB/ per month or 50% more than reflected in this chart and 50% higher than that reflected for Canadian usage.⁵

25. The following chart provided in the National Broadband Plan is instructive for comparison purposes to the LeMay Yates report. In 2013, one will note that, except for portable computing devices (netbooks and notebooks, tablets etc.) designed either as a substitute for or complement to fixed broadband, all other categories are estimated to use fractions of a GB/month. This is in comparison to the LeMay Yates report which has voice centric – low data usage at 1.561 GB/mth and high data usage at over 22 GB/mth. Clearly, the LeMay Yates assumptions overstate spectrum requirements relative to the National Broadband Plan.

Exhibit 5. Estimate of mobile traffic by device type and forecasts



⁵ Federal Communications Commission, *Mobile Broadband: The benefits of additional spectrum*, OBI Technical Paper Series, October 2010, page 4.

26. Since Rogers is an incumbent provider of wireline broadband Internet, Mobilicity would also be surprised if Rogers focuses its efforts in marketing and promoting “portable as a substitute for fixed broadband”. Therefore Mobilicity believes there will be limited high data usage subscribers in the 15GB+ range associated with fixed broadband substitution and this would require further adjustments to the LeMay Yates model.
27. Further, LeMay Yates notes in its report that Cisco recently reported that 1% of mobile data subscribers account for 20% of mobile data traffic.⁶ This usage is built into the LeMay Yates modeling as over 440 GB/month for these users. It should be pointed out that Rogers’ effective management of 1% of potential customers would decrease LeMay Yates’ proposed spectrum requirement by twenty percent (20%).
28. Mobilicity would urge Industry Canada to view certain elements of this report appropriately given the analysis discussed herein.

Spectrum re-farming is practical and necessary

29. Rogers submits that one of the reasons it needs 700 MHz spectrum in spite of its massive spectrum holdings is that spectrum re-farming is difficult. Rogers declares “The cost and impracticality of re-farming existing mobile bands for LTE deployment are significant and would apply both to operators and their customers.” However, we would suggest spectrum can be re-farmed and that spectrum can be freed up for new services.
30. AT&T re-farmed spectrum to offer HSPA services in the 850 MHz band. AT&T has indicated that it will eventually use its 850 MHz spectrum for LTE. Telstra operating in Australia, a country with a similar population distribution to Canada, has re-farmed its 850 MHz spectrum twice, most recently for HSPA and is now in the process of re-farming its 1800 MHz spectrum currently used for 2G services for LTE. Telstra expects to commercially launch LTE in 1800 MHz before the end of 2011.^{7,8}
31. Mobilicity continues to suggest that Rogers and other incumbents should make use of their AWS spectrum and deploy LTE under the AWS spectrum. However, incumbents also have the option of re-farming its other spectrum for the deployment of LTE if they so choose.
32. By way of example, the rapid growth in 3G/4G smartphones (as represented in the Incumbents’ submissions) is expected to be matched with a conversely equal rapid decline in 2G services. The following chart highlights the decrease in Telstra’s 2G usage which demonstrates about a 70% reduction in 2G services in operation from mid 2006 to October

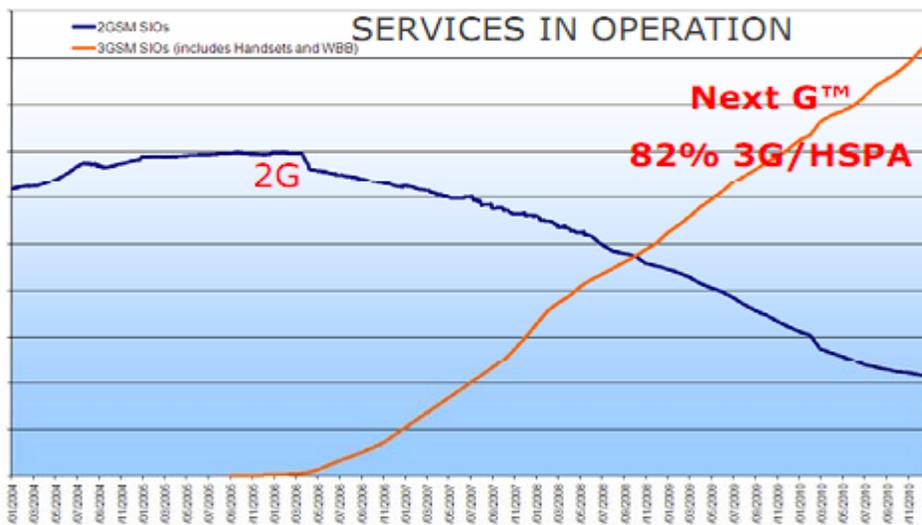
⁶ LeMay Yates, *Ibid*, page 34.

⁷ Mike Wright, Telstra, *Building the Mobile Broadband Ecosystem for LTE in 1800 MHz*, GSMA Mobile World Congress 2011,

⁸ Global mobile Suppliers Association (GSA), *GSM/3G and LTE Market Update, March 3, 2011, slide 38*
http://www.gsacom.com/downloads/pdf/GSA_GSM_3G_and_LTE_market_update_030311.php4

2010. Mobilicity believes that the following chart on Telstra's 2G usage is an accurate representation of the service evolution for Canadian 2G networks.⁹

TELSTRA WIRELESS FACTS AND FIGURES



33. The rapid decline of 2G services presents a unique opportunity for Incumbents to re-farm the spectrum associated with their 2G services for LTE. Since LTE can be deployed in carrier ranges as small as 1.4 MHz, the Incumbents' re-farming exercise can be a gradual transition if required.

Spectrum management is the issue, not capacity

34. Mobilicity believes that real world facts are always more useful than hypothetical models. Mobilicity's submission provided a detailed spectrum usage comparison between Toronto and New York. It indicated that in 2009 AT&T in New York had 5.5 million AT&T subscribers on 45 MHz of spectrum. The GTA has about 4.9 million people. Given that the incumbents each have 50 MHz or more of spectrum in Toronto (counting only their Cellular and PCS spectrum), Mobilicity concluded that all three Incumbents could handle at least 4 times the current traffic if their use and management of spectrum were as efficient as AT&T in New York City. It is hard to reconcile this fact with TELUS' representation that TELUS is undersupplied with spectrum relative to its customer base.¹⁰ One should never forget that the Incumbents also have 50 MHz of unutilized AWS spectrum in Toronto, enough to support the equivalent another 6 million subscribers, using spectrum in the same manner as AT&T. If spectrum capacity requirements can be met in Toronto, given the similar

⁹ Mike Wright, Telstra, *Building the Mobile Broadband Ecosystem for LTE in 1800 MHz*, GSMA Mobile World Congress 2011,

http://www.gsmamobilebroadband.com/mwc/Presentations_Hall_2/4.Mike_Wright_Telstra_Hall_2_Seminar_Final.pdf

¹⁰ TELUS, Response Of TELUS Communications Company To Canada Gazette, Part I Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum, SMSE-018-10 November 30, 2010, file February 28, 2011, page 20, paragraph 84

substantial spectrum holdings by incumbents in smaller population markets, Mobilicity further concluded that less densely populated areas also would not be subject to spectrum capacity restrictions through well beyond 2015.

Spectrum distribution is the Issue, not the total availability

35. The issue with spectrum is not the general availability of spectrum, it is the current distribution. Mobilicity and other New Entrants were largely limited to sharing 40 MHz of AWS set-aside spectrum given the limited ability to outbid incumbent operators for open spectrum in the AWS auction. Distribution is not solely on the total amount of spectrum distributed to each party, but also on the diversity in the propagation characteristics of the spectrum held.

36. Currently, AWS New Entrants have no access to spectrum under 1000 MHz. Given the record of this process on the growing bandwidth demands, it is evident that New Entrants will need over time more than 20 MHz of spectrum in a given territory, and that in order to be competitive with incumbents, they will need spectrum in the less than 1000 MHz range given its advantageous propagation characteristics.

The importance of 700 MHz spectrum

37. There is clearly a strong consensus that 700 MHz is the most attractive new spectrum for wireless operators due to its propagation characteristics that permit more range and fewer cell sites to cover a served territory. In addition, the enhanced in-building penetration relative to spectrum in the over 1000 MHz range is widely accepted. From a capacity perspective, as indicated above, we do not believe a compelling case has been made by incumbent operators who have significant spectrum options in the near term. For new entrants the 700 MHz spectrum is not a “nice to have” as it is for incumbent operators, it is a necessity. With 10 MHz of HSPA in a given market, there is no spare carrier capacity to add new technologies or even an ability to migrate to LTE for better spectral efficiency. Mobilicity and other new entrants are investing in total billions of dollars in their Canadian operations and in doing so have brought tremendous value to Canadians across the board. Only a substantial set-aside will ensure that incumbent operators cannot use bidding strategies to eventually drive new entrants out of business. Having said that, the following sections assess the incumbent operators’ positions with respect to their need for 700 MHz spectrum.

Incumbent Argument: 700 MHz is required to provide national ubiquitous high speed innovative services to all Canadians

38. A common theme stressed amongst the incumbent operators in trying to ensure access to 700 MHz spectrum, is that they are the only parties that can deploy advanced technological innovations to Canadians in all parts of Canada. This is patently false and their comments on the public record do little to inspire confidence that they would follow-through in the near to mid-term in satisfying the needs of rural consumers with the 700 MHz spectrum.

39. In paragraph 149 of its filing Bell Canada states that if spectrum set-asides or spectrum caps are imposed, national LTE roll-outs are at risk. This implies that rural areas will be left behind. However two paragraphs later, in paragraph 151, it states that “Bell Mobility’s position is that it is extremely important not to have any mandated commitments or restrictions regarding service deployments in rural or remote areas that remain unserved and/or underserved as defined by RP-019.” It is a hollow position when one is not willing to commit to any roll-out conditions.

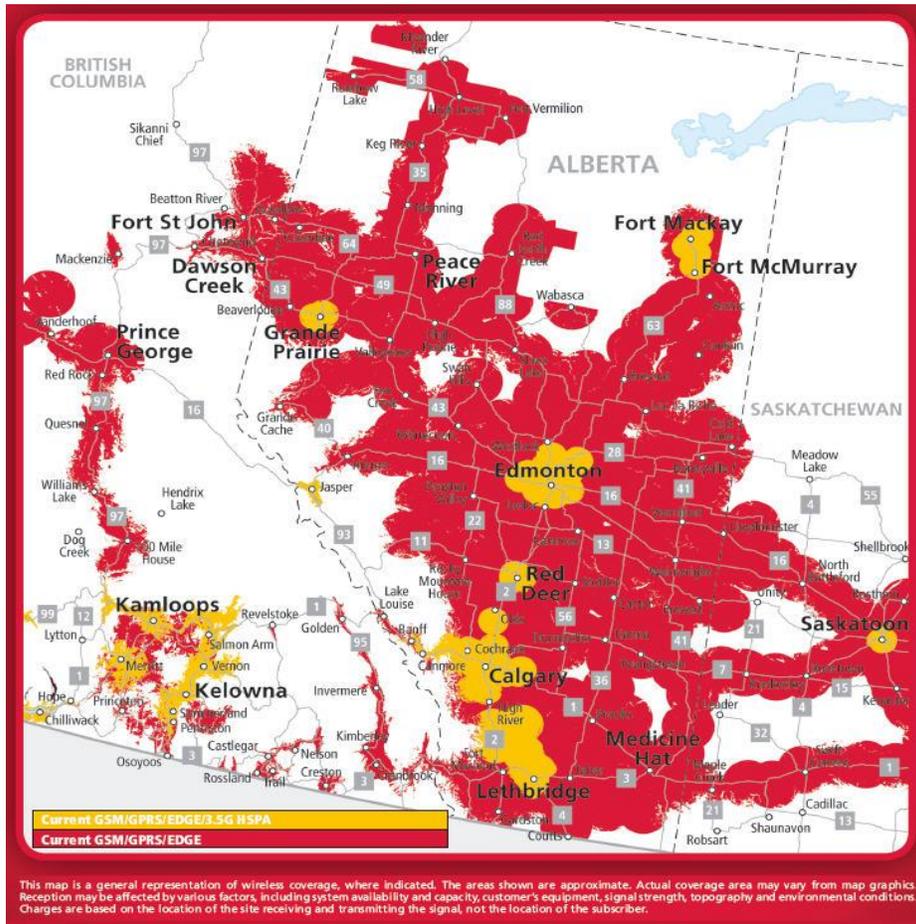
40. Rogers indicates it needs 700 MHz spectrum so it can provide ubiquitous LTE mobile coverage to Canadians living and working in urban, suburban and rural Canada.¹¹ In fact it mentions ubiquitous LTE coverage sixteen times in its submission. Rogers’ submission to Industry Canada is that spectrum holders must roll-out service “to a percentage of the population that ensures customers outside of the major urban centres, including suburbs, and rural areas receive service using the 700 MHz spectrum within a reasonable amount of time from the end of the auction.”¹² This is hardly a firm commitment that will ensure ubiquitous coverage. As per Eastlink’s submission, despite the fact that Rogers owns more spectrum in the Maritime provinces than any other provider, it provides 3G (HSPA or HSPA+ service) to only a handful of communities per the following map. Rogers has had plenty of time to deploy HSPA on 850 MHz spectrum, which is roughly equivalent to 700 MHz spectrum in its propagation capabilities, in these markets but has chosen not to deploy beyond a few communities.



¹¹ Rogers Ibid, page 3, paragraph 1

¹² Rogers Ibid, page 96, paragraph 268

41. Neither has Rogers felt compelled to offer ubiquitous HSPA mobile broadband coverage in other regions of Canada. The map below was posted on retailer Wireless Wave's website as of March 22, 2011. Rogers first launched HSPA based service in 2006. The yellow indicates the extent of Rogers' HSPA/HSPA+ network coverage. Given the poor spectral efficiency of 2G networks, Rogers should be encouraged to migrate from 2G to 3G/4G services to "mine" the existing 25 MHz of spectrum in the 850 MHz range rather than be entitled to new 700 MHz spectrum which is a scarce resource.



Rogers argues the new entrant case for site acquisition challenges

42. It was interesting to note that Rogers provided a heading in the submission entitled "Site Acquisition Challenges are increasing" and uses this as a means to rationalize their need for 700 MHz spectrum.¹³ We found this to actually be an argument in support of new entrant positioning, particularly with respect to mandating tower sharing.

43. This same or a greater inability to access existing incumbent sites has substantially raised the cost of network deployments for AWS new entrants while deploying their entire network

¹³ Rogers Ibid, page 18

from zero. Rogers indicated that in 2010, it took them 776 days to acquire a site. If this is the case then Mobilicity and Wind Mobile who turned up more than 500 combined sites in Toronto by December 2010 should be commended on their proficiency and innovation.¹⁴

44. Per our initial submission, high frequency spectrum is viewed as the preferred spectrum for handling capacity issues in urban areas as evidenced by 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)*.”¹⁵
45. Bell also identifies issues with 700 MHz in urban settings in this Consultation. Bell stated “the propagation characteristics of 700 MHz are lower attenuation, better penetration ability and better refraction around obstacles than that of higher frequency bands. However, this positive characteristic has a *negative side in that adjacent cell interference levels are more difficult to control. Interference is a major limiting factor to reliability and performance (emphasis added)*.”¹⁶ Clearly the best use of the scarce 700 MHz spectrum is where it provides the greatest benefit to Canadian consumers and that is being deployed by New Entrants in a hybrid low frequency (less than 1000 MHz)/high frequency spectrum network similar to that provided by the Incumbents and other incumbent operators today.

Incumbent Argument: There is a need to have access to 700 MHz spectrum in order to deploy advanced LTE systems?

46. Rogers submits that “... an advanced technology ecosystem is developing for the 700 MHz band in North America and 700 MHz spectrum is needed so that we can be part of that ecosystem and provide our customers with the best and most advanced LTE devices.”¹⁷
47. Bell states that “...it is critical to note that Canada needs to be a part of the larger North American wireless ecosystem. 700 MHz is powering 4G/LTE networks in the U.S., which means that the latest mobile devices are being built to accommodate 700 MHz spectrum. Canada's wireless carriers therefore all require a fair opportunity to bid for 700 MHz spectrum...”¹⁸
48. Rogers recognized there is a broader ecosystem for LTE in its submission in stating “In the near term, LTE technology and consumer devices will also be available in the 1700/2100

¹⁴ Quebecor Media, *Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum Canada Gazette Notice SMSE-018-10 Submission of Quebecor Media Inc., on behalf of itself and Videotron G.P. February 28, 2011* submission, Table 4, page 14.

¹⁵ GSMA Response to Australian Government Digital Dividend Green Paper of January 2010, February 25, 2010

¹⁶ Bell Ibid, page 16, paragraph 52.

¹⁷ Rogers submission, page 3 paragraph 1

¹⁸ Bell submission, page 46, paragraph 117

MHz AWS band, the 2500 MHz BRS band (and, possibly, the 1900 MHz PCS band), but the technology ecosystem for these spectrum bands is lagging that of the 700 MHz band.”¹⁹

49. These statements are not accurate, and have been made outdated by the news of the impending AT&T / T-Mobile, which has, at its core, the intention of constructing LTE networks in BOTH the AWS and 700 MHz spectrum bands thus ensuring both (a) the utility of BOTH bands with respect to LTE technology and (b) a virtual certainty of backwards compatibility in both those bands from 3G to LTE, given that T-Mobile already has tens of millions of customers currently using state-of-the-art 3G AWS devices, and that number increases each and every day.
50. Even prior to the merger announcement, at the 4G World Trade show Kris Rinne, AT&T’s Senior Vice President, Architecture and Planning said AT&T will require LTE device makers to support both 700 MHz and AWS spectrum bands.²⁰ The near term appears to be here from a device perspective. In the GSA Report: *Status of the LTE Ecosystem, March 16, 2011*, it lists two AWS/700 MHz LTE modules, three AWS/700 LTE Modems as well as two AWS LTE phones.²¹
51. Rogers is in a position to exploit the AWS band for LTE in 2011 from an ecosystem perspective if desired. If Rogers becomes capacity constrained for LTE in the AWS band, given the ample capacity that Rogers has in the 2500 MHz range, as well as 2300 MHz range (which is expected to be converted to mobile use in the future), 700 MHz is only a “nice to have” option. In contrast, Mobilicity requires the 700 MHz spectrum to support customer growth. There are no other viable spectrum options. Other new entrants are in a similar situation due to the limited AWS spectrum set-aside and number of new entrants. As a result the scarce 700 MHz spectrum resource should all be set aside for new entrants.
52. The Big Three operators are also large enough to generate an ecosystem for devices outside of the 700 MHz spectrum. As an example, Metro PCS with 8.1 million subscribers at the end of 2010 is comparable in size to each of the Big Three and has been able to drive unique device development for AWS LTE. Conversely, New Entrants are not large enough at this stage to cost effectively drive the manufacture of custom devices suited to their own networks and Metro PCS AWS devices are not an option since they are not HSPA compatible.

Incumbent Argument: Set-asides increase the costs for Incumbent operators, through auction gaming

53. Bell submitted that “The spectrum set-aside in the AWS auction increased the costs to the Canadian wireless industry by hundreds of millions of dollars ...” Bell goes on to state that “The average price paid in the U.S. AWS auction was \$0.54/MHz-Pop, and the analyst consensus for the Canadian AWS auctions was \$0.41/MHz-Pop. The actual outcome in the

¹⁹ Rogers submission, page 17, paragraph 38

²⁰ Mike Dano, *AT&T’s Rinne details LTE plans: VoLTE in 2013*, Fierce Broadband Wireless, October 20, 2010

²¹ http://www.gsacom.com/downloads/pdf/GSA_LTE_ecosystem_report_March_2011_160311.php4

Canadian AWS auction resulted in the new entrants paying an average of \$1.27/MHz-Pop and the incumbents paying an average of \$1.78/MHz-Pop.” New entrant eligible bidders alone paid over \$1.6 billion, more than the initial auction estimates of \$1 billion in total. New entrants paid three (3) times the average spectrum price of the U.S. auction. This is hardly a subsidy. The reason that incumbents paid more for spectrum is simply because they were willing to pay any price to foreclose others from obtaining any spectrum. AWS new entrants only won 10 MHz spectrum in Band E with population coverage of less than 2.8 million.

54. 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 AWS band. With respect to the weak incumbent argument of the “artificial scarcity of spectrum” that existed in the non-set aside portion, how was that “scarcity” any different from that experienced by the AWS new entrants who competed nine-abreast for a paltry 40 MHz?

The true gaming in the AWS auction was by incumbent affiliate practices.

55. With respect to gaming, the true gaming that took place was around affiliate rules. The definition of an affiliate includes:

“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.”

56. Given this definition, it is possible to conclude that Bell and TELUS should be considered an affiliation, and if not, perhaps the definition should be properly expanded for every upcoming auction, to end the ambiguity regarding these two companies completely sharing infrastructure.

Incumbent Argument: Incumbents are “entitled” to 700 MHz spectrum

57. TELUS makes the extraordinary claim that they will be disadvantaged by both a set-aside or a one size fits all auction framework. “Due to the history of past allocations and interventions, all incumbents are not equally supplied with spectrum. Despite similar size customer bases, TELUS has 15% of commercial spectrum allocated in Canada relative to Bell at 29% and Rogers at 41%. ***This means that TELUS would be arbitrarily disadvantaged, relative to the other incumbents who currently hold a deeper pool of spectrum to meet smartphone demand, by either a set aside or a one-size-fits-all 700 MHz band cap*** (emphasis added)

58. In response to this, Mobilicity would like to restate the point that Bell and TELUS are operating a single HSPA network and in effect should be treated as a single entity for the 700 MHz auction. With their substantial available spectrum capacity and the duopolistic

nature of the telecommunications market structure on a regional territory basis, they should not be permitted to participate in the 700 MHz auction.

Incumbent Argument: There is no need for Spectrum caps

59. Spectrum caps support a pro-competitive environment that benefits consumers. Ofcom is proposing the implementation of spectrum caps in the less than 1 GHz range. In the 800 MHz consultation they note that there are only two of four national wholesalers with spectrum portfolios that include sub-1 GHz spectrum. Ofcom goes on to state that “We therefore consider that, depending on the outcome of the auction, there is a material risk of a lower number of competitors providing higher quality data services, compared to the number of competitors in the wholesale market today and compared to what might reasonably be possible.”²²
60. Similarly, Mobilicity has advocated a spectrum cap of 30 MHz in the less than 1 GHz band in recognition of the importance of the propagation characteristics in the sub 1 GHz band and the need to promote meaningful competition. Rogers submitted that “Should Industry Canada adopt a spectrum aggregation limit, it should apply an auction cap and not a spectrum cap. While both types of caps distort markets, the auction cap creates far less damage than a spectrum cap and for a shorter period of time.”²³ In Mobilicity’s view a cap for less than 1GHz and one for over 1 GHz is the appropriate compromise between the auction cap and the broader market spectrum cap. This also addresses the ability of a regional integrated telecommunications New Entrant from potentially using foreclosure power to restrict competition in a combined wireline/wireless broadband market.

A Set aside of 700 MHz spectrum is the best means to promote sustainable competition

61. Mobilicity made the case for a complete set-aside for 700 MHz spectrum based on the need to sustain the competitive environment that flowed from new wireless entrants. The likelihood of new entrants being blocked from acquiring spectrum is significant without spectrum caps and set-asides. The U.S. Department of Justice Anti-Trust Division supported the need for regulatory intervention in an environment similar to that experienced in Canada. It stated that wireless broadband could become a competitor to wireline broadband provided by cable and telecom companies. Their filing on the National Broadband Plan 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.

“We do not find it especially helpful to define some abstract notion of whether or not broadband markets are “competitive” The operative question in competition

²² Ofcom, Ibid, paragraph 5.56

²³ Rogers Ibid, page 87, paragraph 241.

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."

"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."²⁴ (emphasis added)

62. Foreclosure value does not reflect consumer value and in fact reduces consumer value by removing competition from the marketplace.

63. This is the basis for imposing both a spectrum cap and a set-aside in our proposal. The spectrum cap as proposed by, for example, incumbent cable providers only ensures that customers in their territory have a choice between the incumbent cable operator, an integrated incumbent telecommunications provider (Bell/TELUS as affiliated parties, or SaskTel and MTS in their respective incumbent territories) and the dominant wireless provider (Rogers). True broadband choice would remain limited. It would be easy to imagine these parties offering packages that do not motivate customers to "cut the cord" of wireline telephony and broadband Internet if these incumbent providers controlled all of the spectrum.

64. Ofcom in its 800 MHz/2.6 GHz consultation recognizes the importance of spectrum in the less than 1 GHz range in stating

"We therefore consider there is a risk that sub-1 GHz spectrum gives an unmatched competitive advantage. Our view of the importance of sub-1 GHz is

²⁴ 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>

consistent with the position taken by other European regulators in recent and upcoming auctions.”²⁵

65. To reiterate, Mobilicity wishes to use the 700 MHz spectrum based on its propagation characteristics to provide Canadian consumers with a hybrid of low and high frequency network in order to meet customers’ demand and to further promote competition.

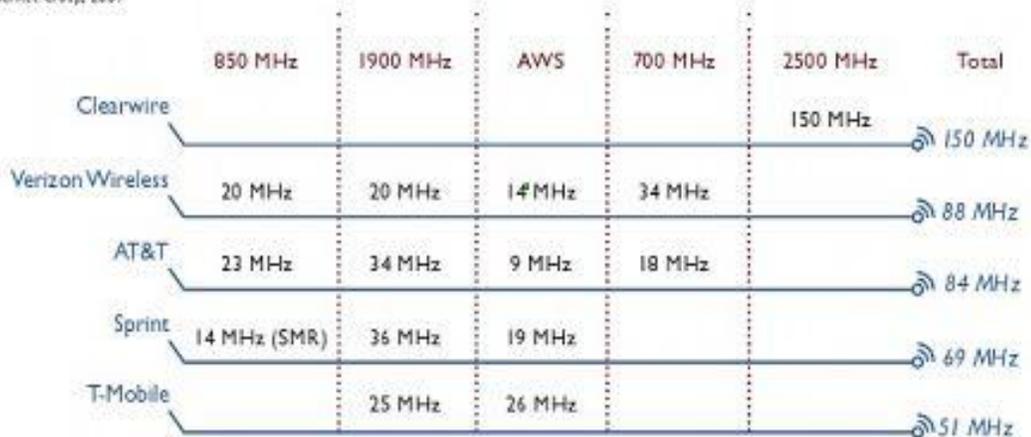
Impact of the AT&T / T-Mobile Acquisition

66. We believe that in the 700 MHz auction framework, Industry Canada has an opportunity to avoid the risks faced today by consumers and the wireless industry in the United States that arise from the potential acquisition of T-Mobile by AT&T Corp.

67. The lessening of competition that would flow from this consolidation is creating concern about the potential consumer impact. The combined concentration of market share among Verizon and AT&T/T-Mobile is referenced in some media outlets as being in the 75% - 80%²⁶. Interestingly, this concentration of market share is approximately the same as the duopoly market share that Canadians experience today in most regional markets.

68. Bell noted that there was no set-aside of spectrum or spectrum caps in the United States for the 700 MHz auction. This is true, and this proposed U.S. consolidation demonstrates why there is a need for spectrum caps and a set-aside. The fact that Verizon and AT&T were willing and able to buy most of the desirable 700 MHz spectrum led to a situation where T-Mobile is spectrum disadvantaged in offering services in the sub 1 GHz band where it has no spectrum in the top 100 markets. It is likely a key contributing factor in the proposed sale of T-Mobile by Deutsche Telecom.

Exhibit 5.
Aggregate Spectrum Assets of U.S. Players in Top 100 Markets
Source: Tinker Group, 2009



²⁵ Ofcom, *Consultation on assessment of future mobile competition and proposals for the award of 800 MHz and 2.6 GHz spectrum and related issues*, March 22, 2011, paragraph 5.44

²⁶ <http://www.mobilecrunch.com/2011/03/22/sprint-to-fight-the-attt-mobile-merger/>

69. With pre-established spectrum caps, in a merger situation any excess spectrum is automatically returned to Industry Canada to ensure that it is available to best meet the needs of Canadians. This also provides in advance, certainty to parties contemplating a merger and does not subject all stakeholders to uncertainty during a potential major industry transformation.

Tier sizes

70. We maintain our position that all Tier 3 Blocks best meets the needs of consumer in rural and urban areas and provides the most flexibility for bidders to determine their needs from a geographic and capacity perspective. Rogers also supports this view and noted “that Tier 3 service areas strike a reasonable balance between the need for larger areas for the purpose of facilitating high mobility services and reducing the need for coordination between licensees, and the objective of allowing service providers to concentrate on the geographic markets of most interest.”²⁷

71. Tier 2 markets as proposed by Bell, Quebecor and Shaw serve only to benefit national and incumbent regional providers. There is no benefit to consumers that flows through these larger serving areas. Parties with an interest in providing service to Tier 2 areas can clearly bid on Tier 3 areas to aggregate their coverage area, but parties interested primarily in Tier 3 cannot disaggregate bidding to meet their coverage and capacity needs.

Roaming and site sharing

72. Mobilicity identified at length its concern with the monopoly roaming supply position that existed when new entrants were required to negotiate fair and equitable terms. Mobilicity recommended an extension of mandated roaming and elimination of any exclusivity roaming arrangements imposed by Rogers. Shaw and Globalive recommended extensions (both 10 years from the date of License) and Public Mobile recommended roaming be extended for the duration of the term of the License.

73. In the United States the FCC has recognized the importance on ongoing roaming access. In April 2010, the FCC voted unanimously to reverse a 2007 order that did not require carriers to offer roaming services to other carriers in areas where they owned spectrum but had not built out network coverage.²⁸

74. We believe that alignment with the duration of the license provides the most consumer benefit and will not impact network roll-outs, per the evidence in the United States.

²⁷ Rogers Ibid, page 32, paragraph 88.

²⁸ Phil Goldstein, FCC Takes Action on Mobile Roaming, USF Reform, Fierce Wireless

<http://www.fiercewireless.com/story/fcc-takes-action-mobile-roaming-usf-reform/2010-04-21>

75. Similarly, the new entrants identified above are joined by Eastlink in requesting that soft hand-offs should be mandated. Rogers indeed exacerbated the situation in attempting to exploit dropped calls with its Chatr brand.
76. Many parties in addition to Mobilicity identified the importance of an improved and expedited resolution process for dealing with disputes in tower and site sharing. Mobilicity looks forward to participating in any Industry Canada processes to improve effective resolution of these matters prior to an auction of the 700 MHz spectrum.