



Submission by TELUS Communications Company

In response to
Gazette Notice No. DGTP-002-07:
Consultation on a Framework to Auction Spectrum in the
2 GHz Range including Advanced Wireless Services

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EXECUTIVE SUMMARY

In just a few short years, TELUS has evolved from a regional provider of wireless services in Alberta and B.C. to Canada's third national wireless provider.

TELUS accomplished this by investing more than \$7 billion in a national wireless network that now delivers advanced third generation (3G) services to more than 67% of Canadians, including almost 100% of wireless subscribers in Alberta.

TELUS' success in creating a competitive and sustainable third national network must not be undermined by either uneconomic or unfair initiatives to support potential "competitors" who are unwilling to undertake the same risks that TELUS undertook to achieve its success.

Most importantly, potential new entrants should not be favoured in accessing spectrum. Spectrum should only be available in an open auction in order that market forces can drive competition.

To favour certain companies in accessing spectrum is tantamount to a rejection of the government's recently announced policy "to rely on market forces to the greatest extent possible".¹

Wireless industry is vigorously competitive

The test for deregulation in telecommunications is the presence of at least three facilities-based competitors in a market. Given that there are four national

¹ Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, December 18, 2006, paragraph 1 (a) (i).

wireless networks in Canada, controlled by at least three different parties, the Canadian mobile wireless industry; according to this criteria, is competitive. Ongoing and significant shifts in market share amongst major carriers provide clear evidence that such competition is dynamic.

The existence of a competitive wholesale or mobile virtual network operator (MVNO) business merely reinforces this conclusion.

Regulatory interventions are costly

It must be remembered that set-asides,² mandatory roaming³ and forced tower sharing are the kind of regulatory interventions that led to uneconomic entry in the past. The consequences of making the wrong decision can be costly.

Economists⁴ calculated that the failure of set-asides in the U.S. cost consumers about \$5.4 billion between 1996 and 1998.

It is further estimated that the U.K. set-aside in the Universal Mobile Telephone Service (UMTS) auction induced an inefficiency of approximately £450 million.⁵

Spectrum caps⁶ and set-asides reduce the number of bidders for certain spectrum bands and ultimately reduce the price paid for that spectrum. This in turn results in a material loss to taxpayers, in effect a gift to the entrant. Alternatively, a set-aside reduces the spectrum supply available to incumbents and thereby increases

² Reserving a portion (e.g. 30%) of new spectrum for bidding by new entrants only. This can artificially deflate the cost of spectrum for some bidders at the expense of others.

³ Forced access to or regulated sharing of a competitors' network.

⁴ Thomas W. Hazlett & Babette E.L. Boliek, *Use of Designated Entity Spectrum Preferences in Assigning Wireless Licenses*, 51 FED. COMM. L. J. 639, 648-49 (May 1999), pages 655-58.

⁵ R. Crandall and A. Ingraham, *The Adverse Economic Effects of Spectrum Set-asides*, May 24, 2007, page 15.

⁶ Spectrum caps artificially restrict the amount of spectrum any one carrier can bid on.

their cost resulting in a subsidy from incumbents to new entrants. The latter is a particularly offensive form of intervention since incumbents underwrite their competitors' cost of entry. This, coupled with other policy measures which would force incumbents to share their network with the entrant, is not remotely close to reliance on market forces.

Of greater concern, from a public policy perspective, is the potential for a firm to receive government assistance when it is not needed to enter the marketplace. Amongst the potential entrants into this auction are companies that include a regional telephone company (ILEC), a large cable company and at least one hydro company. All of these companies have the opportunity to acquire the backing of U.S. carriers and private equity funds.

Fairness dictates opportunity to fully bid

For TELUS in particular, which has neither the same amount of spectrum nor the video presence of its competitors, additional spectrum is crucial for its plans to introduce more wireless entertainment options for consumers.

Eliminating an opportunity to fully bid on a significant portion of the new spectrum is economically damaging and inflicts a disproportionate penalty on TELUS relative to larger competitors that have more spectrum.

TELUS is in a unique position relative to other incumbents. TELUS' 800 MHz⁷ spectrum covers a much lower population than either Bell or Rogers. TELUS also has significantly less spectrum in total than Rogers. Finally Bell and Rogers share 100 MHz of spectrum across Canada that can be used to support WiMAX, an alternative advanced wireless service technology.

⁷ 800 MHz frequencies were the original frequencies licensed for analog cellular service.

TELUS believes that a fair evaluation of this issue leads to the conclusion that while the opportunity for new competitive entry should be made available, there is no convincing policy rationale to impose spectrum caps or a set-aside. That is, *if a prudent business case exists for a new entrant to acquire spectrum under the same terms and conditions as other bidders, then the market will lead to that outcome.*

Canada is not falling behind in wireless penetration

It has been argued that Canada is “falling behind” in terms of wireless penetration; yet, there is already clear and unambiguous empirical evidence of year-over-year growth in Canadian penetration, as the industry continues to add record numbers of subscribers.⁸ In other words, irrespective of how penetration is measured, a rate of constant growth suggests a dynamic market.

The U.S. typically exhibits a more competitive environment than most European countries, yet has a lower penetration rate. Different penetration rates are simply the consequence of different underlying variables in different countries.

Many Europeans enter into multiple subscriptions (SIM cards) to avoid high roaming charges. North Americans tend to have one subscription per person. When penetration numbers are normalized for these factors, we would expect to find more comparable results between Canadian and European countries.

One of the best examples is Italy; the reported penetration rate was 130 per cent at the end of September 2006, yet penetration in terms of individual subscribers is

⁸ The wireless industry added another 1.6 million subscribers in 2006 for an annual increase of 10% (source: CWTA).

much closer to 80 percent of the population, suggesting that active mobile users have 1.6 subscriptions each on average.⁹

Affordability concerns have kept Canadian local telephone prices amongst the lowest in the OECD. Arguably Canadian regulatory policy has dampened wireless growth but increased overall access to phone service and productivity. Lower wireline to wireless substitution is a regulatory issue not a competitiveness issue.

Wireless is now a highly-penetrated market, particularly in the urban areas where the new entrant(s) will focus. By 2009, national penetration is expected to exceed 70%, making it difficult for new entrants to gain sustainable market share. Product differentiation will be extremely problematic with over fourteen brands already in front of Canadian consumers, continuing price declines and an increased penetration of 3G services.

Increasing array of innovative services

As discussed above, not only are our 3G builds extensive, including almost 100% in Alberta, our investment in Spark content services (mobile TV, satellite radio) and partnership with Amp'd Mobile put TELUS on the leading edge in North America when it comes to wireless entertainment.

Since the market remains highly competitive, there is no justification for Industry Canada to abandon its recent objective to rely on market forces to the greatest extent possible. The wireless market is characterized by continued record growth, declining prices and an increasing array of innovative 3G services from mobile TV and satellite radio to mobile computing. Carriers continue to invest in expanding 3G facilities and in even faster speed, by rolling out Evolution Data Optimized

⁹ Thomas Wehmeier, *3GSM World Focus 2007*, January 2007.

(EVDO) RevA¹⁰ and High-Speed Downlink Packet Access (HSDPA)¹¹ overlays. In addition, new service providers like Amp'd Mobile expand the choice of available multi-media products. Finally, as noted earlier, and perhaps most important in determining if price competition exists, TELUS notes that ongoing and significant shifts in market share amongst major carriers provide clear evidence of dynamic competition.

TELUS has offered EVDO 3G service since 2005 and provides coverage to most of its subscriber base in Alberta and British Columbia, as well as an increasing number of its subscribers across the rest of Canada. In Alberta, the TELUS footprint now extends to virtually 100% of its coverage area and the EVDO footprint nationally now reaches 67% of the population.

New handset options (camera, video and MP3 player) and services (GPS, mobile TV) have also proliferated. Mobile TV (video clips, movies, multimedia clips) music services and ring tones are driving the pace of innovation for content in the mobile market. TELUS also offers business users a choice of networks and capabilities. Our Mike service, which is aimed at business and public safety users, uses our completely separate digital network across Canada.

Valid comparisons show Canadian prices are competitive

Often biased and highly inaccurate criticism should not obscure the facts. In TELUS' view, the facts are that Canada has a highly competitive wireless industry offering the most up-to-the-minute services at competitive rates.

¹⁰ EVDO is the 3G standard for CDMA networks operated by many carriers in North America. TELUS is CDMA based.

¹¹ HSDPA is the 3G standard for GSM networks like those in Europe. Rogers utilizes GSM.

Critics like to “cherry pick” price/penetration comparisons. Canada seems to be often compared unfavorably to Denmark, a country one-third the size of Newfoundland, with beautiful but flat terrain and a population of only 9 million. Some argue our performance relative to Gabon is a “national disgrace”. Gabon is a relatively impoverished African nation with a wireline penetration of 2%. The World Bank has been funding the creation of wireless infrastructure to encourage economic development in that country.

Perhaps the more valid comparisons are between Canada and the United States, putting aside the fact that the United States, while smaller in geography, has 10 times the population. But even when Canadian prices are compared to those in the U.S., prices are comparable except for high-volume users. In the case of low-volume users, prices are actually much lower in Canada. As much as 27% lower according to one study,¹² which is otherwise critical of the industry.

Mandatory roaming is contrary to reliance on market forces

Mandatory roaming is not necessary or helpful to new entrants. The existing competitors, including both facilities-based providers and MVNOs, have negotiated satisfactory commercial roaming agreements without government intervention.

If such a mandatory scheme were put in place, new entrants will lack incentives to build out their network facilities. This concern is especially acute if concessions on spectrum price are offered to new entrants, or new entrants bid on one or two metro areas and try to leverage that opportunity into a preferential arrangement by piggybacking on competitors’ networks.

¹² SeaBoard Group, *Lament for a Wireless Nation – A Cross-National Survey of Wireless Service Prices: Canada, the United States and Europe*, March 2007.

The lack of mandated roaming clearly is not a natural barrier to entry into the wireless market. A variety of carriers have negotiated commercial arrangements that reflect and vary by their particular circumstances. In fact, supporters of set-asides and mandatory roaming like MTS Allstream and Videotron have negotiated such agreements in an open market. Other commercial arrangements underlie MVNO agreements. TELUS suspects that what proponents of mandatory roaming really want is a regulated price discount for arbitrage purposes.

Conclusion

The overwhelming conclusion of independent analysts and relevant government agencies is that the Canadian wireless market is already highly competitive.

Research Study Conclusions on State of Competition

	CONCLUSION: Industry Is Highly Competitive	CONCLUSION: Industry Is Not Competitive
Financial Analysts		
ScotiaBank	YES	
TD Newcrest	YES	
Genuity	YES	
UBS	YES	
Industry Analysts		
Wall Communications	YES	
SeaBoard		YES*
Government Agencies		
CRTC	YES	
Competition Bureau	YES	

* It should be noted that SeaBoard has used selective and partial evidence to reach their conclusion.

TELUS has already helped create the competitive dynamic that Industry Canada seeks, by building a competitive and sustainable third force nationally. In fact, within the span of a few short years, our national market share exceeds that achieved by virtually any other third carrier around the globe. Why punish true entrepreneurial achievement?

An open auction remains the most efficient way to allocate spectrum and to ensure that true and accurate market signals drive competition.

1. Introduction

In just a few short years TELUS has gone from being a regional provider of wireless services in Alberta and BC to becoming Canada's third national wireless provider

The following comments are being filed by TELUS in response to “Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services”, Gazette Notice No. DGTP-002-07. In just a few short years TELUS has gone from being a regional provider of wireless services in Alberta and BC to becoming Canada's third national wireless provider after Rogers Wireless and Bell. TELUS did not achieve this because of spectrum set-asides, forgivable loans or other types of government concessions. We accomplished this by investing over \$7 billion dollars in a national wireless network that now delivers 3G services to over 67% of Canadians (including almost 100% of subscribers in Alberta). At a time when those companies who are now interested in entering the market were exiting or passing on a potential Microcell acquisition, TELUS risked its future on wireless and won.

TELUS now has a significant need and interest in acquiring additional spectrum to deliver next generation broadband wireless services to Canadians. We believe our record of investment and innovation has earned us the right to participate fully and without prejudice in the evolution of the wireless business. We believe that the creation of a competitive and sustainable third national network (*i.e.* TELUS wireless) should not be undermined by misguided and unnecessary initiatives to support potential competitors that are unwilling to undertake the same risks TELUS undertook to achieve its success.

While TELUS applauds the Department's plan to release more spectrum, we are concerned that some proposals set out in the consultation, particularly set-asides and spectrum caps, may undermine our ability to compete effectively with the other national carriers, Rogers and Bell. To be more specific, these carriers have significantly more spectrum than TELUS. As a consequence, any effort to restrict access by the existing national carriers to spectrum hurts TELUS more than it hurts TELUS' competitors.

TELUS is not requesting that the government set-aside spectrum for us, although based on our record of investment in creating a third national 3G network we believe we would clearly qualify under any "beauty contest." We are not requesting this because we recognize that is not how markets operate. TELUS only asks that its rights to fully compete in this auction not be curtailed in order to create advantages for corporate interests that have no record of risk or investment in building this market. To restrict our access to essential spectrum resources would be a betrayal of the shareholders that risked so much when risk was required and the employees that built this company.

To favour certain companies in accessing spectrum is tantamount to a rejection of the government's recently announced policy "to rely on market forces to the greatest extent possible"

Wireless is today, and has been from its inception, a competitive market. In 2007 the wireless market is characterized by an enormous array of consumer choices, continued record growth, declining prices and innovative 3G services from mobile TV and satellite radio to mobile computing. Carriers continue to invest in more capacity including new 3G facilities and new service providers, including multimedia service providers like Amp'd Mobile who are launching a new generation of value-added services. Finally, TELUS notes that ongoing and

significant shifts in market share amongst major carriers provide clear evidence of dynamic competition.

Rather than re-assessing whether the market is competitive, TELUS recommends the government assess the record and intent of those that now call for intervention and prejudicial concessions to support their corporate interests.

2. **Reliance on Market Forces Remains the Correct Approach**

One of the key objectives of the government is to ensure an ongoing competitive market place. It is therefore reasonable to periodically consider whether the government needs to intervene in the wireless market to enhance the state of competition or whether it can continue to rely on market forces. TELUS is not questioning the validity of the objective to promote competition. TELUS is well aware that consumers will typically benefit when competition intensifies.

However, we would point out that there is ample evidence that *competition in the industry is vigorous*, both in comparison to other countries and as a stand-alone consideration of the Canadian wireless market. Intervention when it is unnecessary will undermine market forces, resulting in loss of consumer welfare and a destabilization of investment. Based on the lack of success that artificial measures have produced in Canada and abroad, it is fair to ask how much more competition, at the margin, is possible and sustainable, in the Canadian market?

We submit that an open auction remains the most efficient way to allocate spectrum and to ensure that true and accurate market signals drive competition. The government has posed several possible criteria that some parties have argued will result in greater competition. In particular, a spectrum set-aside (or some type of spectrum cap) has been suggested as the best means of bolstering competition.

Such schemes do not directly enhance competition – instead, they artificially create a new entrant in the market with the hope that the new entrant will lead to greater competition. In essence, these schemes result in a direct or implicit subsidy to new entrants, either funded by taxpayers or by higher spectrum auction prices paid by incumbents.

Spectrum caps and set-asides reduce the number of bidders for certain spectrum bands and ultimately reduce the price paid for that spectrum. This in turn results in a material loss to taxpayers, in effect a gift to the entrant. Alternatively, a set-aside reduces the spectrum supply available to incumbents and thereby increases their cost resulting in a subsidy from incumbents to new entrants. The latter is a particularly offensive form of intervention since incumbents end up underwriting their competitors costs of entry. This, coupled with other policy measures which would force incumbents to share their network with the entrant, is not remotely close to reliance on markets.

It is the view of TELUS that the government should bring a balanced and reasoned approach to assessing the arguments for artificially incenting or subsidizing new entry. More specifically, TELUS believes that the *costs from subsidizing entry should be weighed against the potential benefits from enhanced competition*. If, at the end of this evaluation, the government is convinced that the likelihood of substantive net benefits to Canadians is highly probable, then there is a public policy case for spectrum constraints. However, TELUS submits that the record of such intervention in other jurisdictions is one of failure and inefficiency. To support its position, TELUS has submitted evidence in this proceeding from Donald McFetridge¹³, a leading Canadian authority on industrial economics and

¹³ D. McFetridge, *Competition in the Canadian Mobile Wireless Telecommunications Industry*, May 24, 2007.

from Robert Crandall and Allan Inghram¹⁴, two American economists with considerable credentials.

TELUS believes that a fair evaluation of this issue leads to the conclusion that while the opportunity for new competitive entry should be made available, there is no convincing policy rationale to impose spectrum caps or a set-aside. That is, *if a prudent business case exists for a new entrant to acquire spectrum under the same terms and conditions as other bidders, then the market will lead to that outcome.*

As Industry Canada officials have acknowledged on many occasions, the Government is not, and should not be, in the business of picking winners and losers in the market place.

3. **Wireless Remains a Competitive Market**

The status of competition in the Canadian wireless market has been studied extensively in the last few years. These assessments can be divided into three categories: examination by financial analysts, examination by industry analysts and examination by Government agencies. The evidence from each source is described and assessed below.

a) **Financial Analysts Agree the Market Is Competitive**

Financial analysts tend to bring a rigorous approach to market competition analysis, focusing almost exclusively on the quantitative evidence related to a market's performance. As such, several financial analysts following the wireless industry have examined numerous aspects of the industry's competitiveness. We

¹⁴ R. Crandall and A. Inghram, *supra* note 5.

will describe the evidence and conclusions from a recent representative Canadian financial analyst report (Scotia Capital) as well as briefly summarize the findings of several other financial analysts.

Scotia Capital concludes that the Canadian market is highly competitive based on two key pieces of evidence¹⁵. The first is the relatively high degree of wireless usage in Canada. Scotia Capital argues that the appropriate performance measure of usage is not a simple penetration ratio (which can be misleading for a number of reasons) but rather the monthly Minutes of Use (MOU) per capita per month. If only the simple penetration figure is considered, Canada is the lowest of all countries compared below. However, Canada's average MOU per capita in 2006 was 210 minutes (see Table below) which compares favourably with most European countries.

Monthly MOU per Capita and Penetration (Various Countries)

	MOU per Capita 2006 (Rank)	Penetration 2006 (Rank)
US – Average	614 (1)	76% (10)
Finland – TeliaSonera	317 (2)	111% (5)
Ireland – O2	277 (3)	118% (1)
Norway – TeliaSonera	250 (4)	111% (5)
Canada – Average	210 (5)	57% (11)
U.K. – Average	188 (6)	118% (1)
Sweden – TeliaSonera	183 (7)	117% (3)
Spain – Average	162 (8)	114% (4)
France – FT	160 (9)	84% (9)
Germany – O2	131 (10)	103% (7)
Czech Republic – O2	122 (11)	101% (8)

Source: Scotia Capital, 2007

¹⁵ John Henderson, Scotia Capital, Presentation to the CWTA forum on the AWS Spectrum Auction, April 23, 2007. See also “Fourth Wireless Entrant Economics Don’t Work”, Scotia Capital, May 16, 2006.

The second key piece of evidence that Scotia Capital relies on to demonstrate the healthy state of Canadian competition is the relatively low monthly Average Revenue per Minute (ARPM) for Canadian users, which provides a proxy for the average price of wireless service per minute of use. By this metric, Canada is surpassed by only the U.S. and Finland.

Monthly ARPM (Various Countries)
2006

	ARPM (Euros/Min)
U.S. – Average	0.046
Finland – TeliaSonera	0.086
Canada – Average	0.101
Sweden – TeliaSonera	0.119
Czech Republic – O2	0.139
Germany – O2	0.146
Ireland – O2	0.150
U.K. – Average	0.153
France – FT	0.153
Norway – TeliaSonera Netcom	0.172
Spain – Average	0.177

Source: Scotia Capital, 2007

We would note that virtually every other Canadian financial analyst working in the telecom area has arrived at similar conclusions regarding the state of wireless competition in Canada.

TD Newcrest has concluded: “(D)espite having the second lowest penetration in the OECD, we believe Canada has developed a vibrant wireless industry with a preponderance of postpaid versus prepaid customers who get a lot more usage and productivity out of their phones than most other nations. In addition, we have not seen any concrete evidence to show that wireless pricing in Canada is abnormally

high versus the rest of the OECD.” (“The Fourth Wireless Carrier Debate”, December 5, 2006). Genuity Capital has concluded: “Canadian wireless is highly competitive”. In explaining their conclusion Genuity noted that “recent media pieces on the Canadian wireless sector have debated whether there is enough competition in the Canadian wireless sector . . . the empirical evidence that we have gathered suggest otherwise”. They further noted that the top two wireless carriers in Canada have a 69% market share versus 82-83% share in Korea, France and Finland and 78% share in Japan.¹⁶ Finally, UBS examined several international markets and concluded that Canada did not have supportive conditions for aggressive new entry – implying that conditions in Canada are already highly competitive.¹⁷

b) Industry Analysts

Canada compares well on critical measures of competitiveness

Amongst domestic industry analysts, the key reference works on the state of competition have been prepared by Wall Communications and SeaBoard. Wall Communications examined the state of competition in 2001 and more recently in 2006.¹⁸ In both its studies, Wall concluded that the industry was experiencing a vigorous level of competition. Key evidence for the conclusion was provided by (1) price indicators (e.g. a falling Average Revenue per Minute - which is an implicit price indicator - and the fact that Canadian wireless usage rates and prices generally compare very favourably with those of other OECD countries), (2) the ongoing introduction of service choices for consumers, including self-selected packages that permit a given consumer to lower their bill, and (3) the high degree

¹⁶ “In Defense of Canadian Wireless”, January 25, 2007.

¹⁷ Presentation by J. Fan to the CWTA forum on the AWS Spectrum Auction, April 23, 2007.

¹⁸ The 2001 study was commissioned by Industry Canada while the 2006 study was commissioned by the CWTA. The methodology employed in both studies was similar.

of rivalrous behaviour between facilities-based carriers (and MVNO's more recently) to lure customers away from each other.

While recognizing that all international price comparisons suffer from a variety of methodological issues, Wall does note that one of the most comprehensive studies has found that wireless pricing in Canada is below the 30 country OECD average. OECD data, released in 2005, indicates that Canadian rates for low volume users were the 10th lowest among the 30 OECD members, rates for medium users were 7th lowest and Canadian rates for high volume users were 13th cheapest. In other words, Canadian rates ranked more than favourably compared to those in other OECD countries including the U.S. except for comparisons to the U.S. rates for high volume users.

Big bucket pricing unique to U.S. market

The U.S. market is characterized by highly discounted “big bucket” plans. U.S. operators offer their highest volume users anywhere from 700 to 1000 anytime and often anywhere minutes for an all-in-price. The U.S. is unique amongst OECD countries in offering such high volume discounts. These buckets are designed for a population more than ten times the Canadian population, packed into a smaller geographic area and thus making the network build and logistics less challenging. While the big bucket plans seem to have gained some consumer acceptance in the U.S. market, there is also a comparative absence of more affordable low use plans. In Canada, plans for low volume users start at or near \$20 a month, while in the U.S. these plans typically start at \$40 per month.

Basic Canadian service more affordable than U.S.

Even SeaBoard found that low volume users pay 27% less for service in Canada relative to the U.S. This is an important finding because it is the low volume user that needs an incentive to subscribe in order for penetration to rise at an increased rate.

Minutes of use or MOU is another indicator of both the affordability of mobile wireless rates and how much subscribers value their mobile wireless service. At close to 400 minutes per subscriber per month Canada has the second highest MOU in the OECD to the end of 2005. As Wall Communications noted:

Most other countries (including OECD countries) lag significantly behind the U.S. as well as Canada in terms of average monthly MOU per subscriber levels. For instance, in European countries where mobile wireless penetration rates are very high (*i.e.* much higher than both the U.S. and Canada), such as the U.K., Sweden and Italy, average monthly MOU per subscriber rates are only 148, 139 and 127, respectively, as of the first quarter of this year. Other European countries, such as Germany, are even lower still at 83. The low usage rates in these countries may be explained in part by the very high ratio of pre-paid to post-paid users (pre-paid users typically use fewer minutes per month than post-paid subscribers). On the other hand, Japan has relatively few pre-paid users, yet its average monthly MOU per user is only 145.¹⁹

Revenue per minute (RPM), which is an implicit price measure, has been falling over the last five years in Canada and it has declined more than most other countries (see Table below). This price performance provides another indication of the healthy level of competition in the industry.

¹⁹ Wall Communications Inc., *A Study on the Wireless Environment in Canada*, September 29, 2006, page 47.

**Average Revenue per Minute (RPM)
First Quarter 2006**

Country	RPM US\$	5-Year Growth Rate
Canada	\$0.11	-43%
France	\$0.12	-29%
Germany	\$0.20	-35%
Italy	\$0.16	-24%
Japan	\$0.27	-17%
Sweden	\$0.13	-47%
U.K.	\$0.17	-27%
U.S.	\$0.07	-62%

Source: Wall Communications from data found in Merrill Lynch GWM 1Q06.²⁰

Canada has the second lowest RPM rate of the countries included in the table and also the third largest decline in rates over the last five years at 43%.

Another indicator of mobile wireless affordability is Average Revenue per User (Subscriber) or ARPU. As noted in the Wall Study:

ARPU levels in Canada have fallen significantly since the mobile wireless services were launched in Canada. Canadian ARPU levels have dropped from close to \$175 in the late 1980s to roughly \$75 in the mid 1990s, and dropped further still to roughly \$50 as of 2001. Since that time, ARPU levels in Canada have increased gradually to \$52.50 as of the first quarter of 2006. The more recent reversal in the trend reflects increased MOU per subscriber and increased usage of pre-existing and new service features (e.g. data services).²¹

The Wall Study also examined innovation and technological change, choices of suppliers, service and rate packages and degree of rivalry, concluding that the

²⁰ *Ibid.*, page 46.

²¹ *Ibid.*

Canadian market exhibited the hallmarks of healthy competition and that “Canadian consumers still enjoy a healthy and growing number of alternatives, both in suppliers (at retail) and in mobile services and features.”²²

SeaBoard findings are undermined by methodological problems

SeaBoard has produced the other well-known domestic study of competition conducted by industry analysts.²³ In contrast to the comprehensive approach adopted by Wall Communications, SeaBoard utilizes only a few select performance parameters, primarily a price comparison and an examination of wireless penetration. They conclude that Canadian prices are relatively high, and that has led to a relatively low wireless penetration in Canada. They claim that this demonstrates a lack of “competitive intensity”. SeaBoard goes on to suggest that Canada needs more competitors.

It should be noted that the conclusions of SeaBoard are in stark contrast to virtually all other studies of wireless prices and competition. Wall Communications prepared a critique of the SeaBoard analysis and noted that the conclusions drawn by SeaBoard go well beyond the evidence they consider.²⁴

As a fundamental concern, SeaBoard has ignored the methodological complexities of pricing comparisons.

Mobile wireless service prices comprise numerous rate elements including up-front handset and set-up costs, base monthly recurring charges, local, roaming and long distance per minute charges or overage charges (subject

²² *Ibid.*, page 67.

²³ SeaBoard Group., *supra* note 12.

²⁴ Wall Communications, *A Critique of the Methodology used in the SeaBoard Group’s March 2007 Cross-National Comparison of Wireless Service Prices*, March 20, 2007.

to time of day variations), optional feature charges (such as voice mail and call display) and data charges (text or multimedia messaging and Internet access), among others. As well, there are pre-paid and post-paid pricing options available, along with a variety of promotional offers to attract new customers and retain existing customers. Consequently, comparing overall service prices between service providers within a market can be difficult and, moreover, comparing prices across countries can be even far more difficult still. In the latter case, adjustments for currency differences also come into play.

More generally, **in comparing wireless service rates across countries there are inherent problems with standardizing products and product baskets as well as selecting a meaningful exchange rate formula.** As a result, the results of such comparisons should be viewed with caution.²⁵

The pricing comparisons conducted by SeaBoard use selective cities, selective carriers, and selective service elements – they are not comprehensive and contain numerous biases. Nor has SeaBoard established that prices and penetration are correlated as they suggest. In fact, many European countries with high penetration rates have (according to SeaBoard) higher prices than the U.S. – thereby disproving the SeaBoard theory. Moreover, simply examining (limited) pricing and penetration characteristics is insufficient to determine the state of an industry's competitiveness. A thorough competitive analysis requires an understanding of other performance characteristics such as innovation, rivalry, consumer choice, market share patterns, and entry conditions.

Finally, while SeaBoard has concluded (again, on the basis of incomplete and problematic analysis) that Canada needs another competitor and that entry should be underwritten by the government (through a spectrum set-aside), they have not considered the costs and benefits of that approach.

²⁵ Wall Communications Inc., *supra* note 19, page 39.

4. **Penetration Comparisons**

Penetration is not the best way to assess competitiveness and productivity

Supporters of government intervention like to point to Canada's comparatively low rate of penetration relative to other OECD countries. TELUS submits that comparative penetration rates are of little value in measuring either productivity or competitiveness. As discussed above,²⁶ minutes of use per capita is a much better measure of productivity because a wireless device has limited value to the economy if it is not used. Canada has the second highest MOU in the OECD.

Most of the wireless comparisons that have been used to argue that Canada is "falling behind" simply ignore per capita penetration or the percentage of the population that have access to the national telecommunications networks on a regular and continuous basis. Teledensity, the measure of wireline, wireless and broadband penetration, quality and cost, is the only meaningful way to calculate productivity. Access to the national telecommunications networks by Canadians, is the more relevant metric because it reflects the true purpose of telecommunications in an economy, *i.e.* as a facilitator and as a tool to enhance productivity. On such a comparison Canada stacks up extremely well within the OECD. Ignoring these factors, as one such study published by SeaBoard did, throws off skewed and highly erroneous comparisons such as between Canada and Gabon, a country that has less than 2% wireline penetration.

European and North American penetration comparisons are not instructive

International penetration comparisons are also rife with problems. As discussed below, comparing Europe and North America (or virtually any two distinct

²⁶ Henderson, *supra* note 15.

countries) is like comparing apples and oranges. For instance, the U.S., with some of the lowest prices in the world, seems to have amongst the lowest penetration in the OECD. In fact its penetration rate normalized for time of launch in the mid-1980s and is not materially different from Canada's. The reason obviously is not competitiveness. The U.S. typically exhibits a more competitive environment than most European countries yet has a lower penetration rate. Different penetration rates are simply the consequence of different underlying variables in different countries.

It is important to note that Europe is characterized by geographically smaller countries, very high population densities, high international roaming rates²⁷ and a single mobile wireless handset technology – Global System for Mobile communications (GSM). Europeans also have local measured wireline service, which tends to make wireless more attractive relative to countries (such as Canada) which have flat rate wireline pricing. Many Europeans enter into multiple subscriptions to avoid high roaming charges. North Americans tend to have one subscription per person. If penetration numbers were normalized for these factors we would expect to find more comparable results between Canadian and European countries.

Robust subscription growth across Europe has undoubtedly been supported by the phenomenon of multiple-SIM²⁸ ownership – the increasing tendency of users to take out two, three or more subscriptions simultaneously to avoid high roaming rates. The fact that in several markets throughout the region up to 30 percent of subscriptions are dual or multiple SIMs serves to massively distort penetration

²⁷ Roaming charges for calls when traveling in other countries are high, according to the E.U., and many customers have multiple subscriptions to avoid these charges.

²⁸ Sim card: Europeans are all on a GSM-based network. When Europeans want to switch to another carrier to avoid high roaming costs, they switch memory cards (SIMs) in their GSM phone to enable another carrier.

rates. One of the best examples is Italy; the reported penetration rate was 130 per cent at the end of September 2006, yet penetration in terms of individual subscribers is much closer to 80 percent of the population, suggesting that active mobile users have 1.6 SIM cards each on average.²⁹

As Thomas Wehmeier suggests:

... it is not just penetration rates that are being distorted by the growing multiple-SIM usage; many of the industry's best loved metrics are being rendered less and less meaningful. As an example, the relevance of ARPU in a multiple SIM world as a benchmarking metric to calculate spend per user is compromised. This is because ARPU in fact refers to average revenue per subscription and not average revenue per user; ARPU therefore becomes diluted as users split their mobile spend across several subscriptions.³⁰

Higher penetration of post-paid in Canada translates to greater productivity

The mix of post-paid to pre-paid subscribers is also an important metric in assessing penetration and productivity. Canada has a much higher ratio of post-paid to pre-paid customers than Europe. Typically pre-paid customers account for at least 40% of the penetration in Europe. Post-paid subscribers are typically the heaviest users of wireless services and also tend to subscribe to the most value added services. Arguably that makes them more productive, at least in the business market.

From a carrier perspective, predictability of cash flow from post-paid, because of planning certainty, is more likely to contribute to additional CAPEX expenditures in building out the network. There are also advantages for subscribers in that price

²⁹ Thomas Wehmeier, *supra* note 9.

³⁰ *Ibid.*

points on post-paid are generally lower than pre-paid plus many post-paid plans provide for free evenings and/or weekends. The higher percentage of post-paid plans in Canada encourages greater usage as evidenced in a much higher MOU in Canada compared to European countries.

Canada has the highest penetration of Blackberries in the world. One of the reasons is that post-paid contracts result in subsidies for higher end productivity tools like Blackberries. This in turn makes clients more productive and more apt to use mobile wireless services in all aspects of their lives.

Regulation has contributed to lower penetration

Regulation can also impact penetration. Calling party pays (CPP) has a measurable impact on penetration because under CPP the local wireline customer pays for all calls it initiates to the cellular customer.³¹ The use of CPP means the added expense of a cell phone is lower in virtually all other countries. An example is Mexico. Growth in wireless penetration in Mexico since CPP was adopted in 1999 is three times more than Canada and U.S. during the same period. The CRTC rejected an application for CPP in Canada in order to keep local phone rates more affordable.

Affordability concerns have kept Canadian wireline prices amongst the lowest in the OECD. Arguably such regulatory policy has dampened wireless growth but increased teledensity and productivity. In any event, the extent to which penetration may be comparatively lower due to an absence of CPP, Local Measured Service (LMS) or lower wireline to wireless substitution is a regulatory issue not a competitiveness issue.

³¹ In Canada, cellular customers pay for incoming as well as outgoing calls but local telephone subscribers can call cellular subscribers at no cost. European rates seem lower because much of the cost of service is hidden in local phone bills.

Penetration continues to increase in Canada

At the end of the day, it is unnecessary to calculate penetration per country to assess competitiveness in Canada. There is already clear and unambiguous empirical evidence of year over year growth in Canadian penetration, as the industry continues to add record numbers of subscribers. In other words, irrespective of how penetration is measured, a rate of constant growth suggests a dynamic market. By the time AWS networks begin to rollout in 2009, Canadian penetration rates will be over 70% nationally and over 80% in major cities. Arguably numbers will also vary across regions. Alberta already has a household penetration rate of 80.1%, the highest in Canada, while a province like Manitoba has the fourth lowest rate in Canada. However, that may be as much a factor of geography, household income and population density. TELUS is not trying to imply MTS Allstream is not competitive, merely to suggest that the use of simple statistical comparisons rarely reflect a complete and meaningful reality.

Proportion of households by type of phone service, December 2006			
	Land-line	Cell phone	Cable telephone/VoIP
Canada	90.5	66.8	10.6
Newfoundland and Labrador	95.0	61.8	4.9
Prince Edward Island	92.6	64.7	5.9
Nova Scotia	93.2	63.6	10.8
New Brunswick	94.5	57.5	5.4
Quebec	86.4	57.9	13.2
Ontario	92.5	70.1	9.6
Manitoba	90.7	62.4	11.5
Saskatchewan	95.5	67.9	6.4
Alberta	88.2	80.1	13.5
British Columbia	91.2	68.6	8.7

Statistics Canada. Definitions, data sources and methods: survey number 4426.

The microdata file *Residential Telephone Service Survey (56M0001XCB, \$535)* is now available. Information in this file is from the December 2006 survey and refers to telephone service penetration rates in all 10 provinces.

5. **Government Agency Examination of Wireless Competition**

Two government agencies have examined the wireless market relatively recently and both have concluded that the competitive state of the industry is healthy.³²

CRTC has found market to be competitive

The CRTC in its Telecommunications Monitoring Report and in recent decisions has concluded that the mobile wireless market in Canada is highly competitive:

*... In Application by Microcell regarding alleged contraventions of section 27(2) of the Telecommunications Act by Rogers Wireless and Bell Mobility, Telecom Decision CRTC [2003-26](#), 28 April 2003, the Commission considered that the wireless market was characterized by rivalrous behaviour and was robustly competitive. The Commission considers that this assessment continues to be valid with respect to the current state of competition in the wireless market. In this regard, the Commission notes that in its *Report to the Governor in Council: Status of Competition in Canadian Telecommunications Markets, October 2005*, the Commission reported that the wireless market continued to display strong growth and to be competitive.³³*

Moreover, the most recent CRTC Telecommunications Monitoring Report (July 2006) stated “The wireless market continued to display strong growth and remained competitive in 2005.”

³² It should also be noted that while the Telecom Policy Review Panel made certain pronouncements on the state of mobile wireless competition, they did not offer supporting evidence to reach their conclusions. See Wall Communications Inc., *An Examination of Issues raised in the Telecommunications Policy Review Panel's March 2006 Report regarding the Canadian Mobile Wireless Services Industry* (Prepared for the Canadian Wireless Telecommunications Association, September 2006).

³³ CRTC Telecom Decision 2006-33, *Part VII application by Superior Wire Inc. against TBayTel alleging unjust discrimination*, May 25, 2005 at par. 29.
<http://www.crtc.gc.ca/archive/ENG/Decisions/2006/dt2006-33.htm>.

Competition Bureau found market to be competitive

In its Technical Backgrounder on the acquisition of Microcell by Rogers (April 12, 2005), the Competition Bureau concluded that the Canadian wireless market was highly competitive.

There were a number of factors behind the Bureau's finding that there would continue to be vigorous and effective competition remaining following the merger, some of which included the introduction of a variety of new plans that combine minutes of use, handsets, service features and prices; the ability of competitors to add new customers, and; the willingness of Bell Mobility, Rogers and TELUS Mobility to respond to price changes by others and to go after each others' territories.³⁴

Wireless market passes Industry Canada test for competitiveness

Besides the two government agencies charged with the economic regulation and competitiveness of the Canadian mobile wireless industry finding the industry to be fully competitive, Industry Canada also has effectively found the same. The Minister of Industry, the Honourable Maxime Bernier in his proposed Directive to the CRTC regarding VoIP stated that with one (for business service) or with two (for residential service) other networks in a market the ILEC qualifies for forbearance³⁵ with respect to CRTC regulation. The *Telecommunications Act* provides for forbearance when “the Commission finds as a question of fact that to refrain from regulation would be consistent with the Canadian telecommunications policy objectives”³⁶ and further the Act prevents the Commission from forbearing if doing so would “be likely to impair unduly the establishment or continuance of

³⁴ <http://www.competitionbureau.gc.ca/internet/index.cfm?itemID=257&lg=e>.

³⁵ Order Varying Telecom Decision CRTC 2006-15, par. 2 (ii) and 2 (iii).

³⁶ *Telecommunications Act*, ss. 34(1).

a competitive market for that service or class of service.”³⁷ Given that there are four national wireless networks in Canada controlled by at least three different parties, the Canadian mobile wireless industry, by the Minister’s own criteria, is competitive. The existence of a competitive MVNO industry merely reinforces this conclusion.

The Department should be guided by the government’s policy direction, through the Minister, to the CRTC. On December 18, 2006 the government issued an “Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives” (the Direction) which contains a broad policy direction that clearly outlines how the Minister views telecommunications should be regulated. The Direction states, among other things, that the regulator should “rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives”³⁸ and further, when relying on regulation, to use measures that “if they are of an economic nature, neither deter economically efficient competitive entry into the market nor promote economically inefficient entry.”³⁹ To be clear, TELUS feels any special “measures intended to enable market entry” that do not apply equally to all participants, incumbents and new competitors alike, will result in economically inefficient market entry by those receiving such special measures and is in direct opposition to a reliance on market force to the maximum extent feasible.

³⁷ *Ibid.*, ss. 34(3).

³⁸ Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, December 18, 2006, par. 1 (a) (i).

³⁹ *Ibid.*, par. 1 (b) (ii).

6. **Conclusions on State of Competition**

The issue of competitiveness in the Canadian wireless industry has been studied by a variety of independent researchers and government agencies. The financial analyst community is unanimous in concluding that the industry displays a healthy level of competition. Amongst industry analysts, the conclusions are divided but only the Wall study (which concludes that competition is healthy) utilizes a thorough and detailed methodology to examine the state of competition. In addition, both government agencies that have statutory responsibility in these matters and that have specifically examined the wireless market have concluded that the industry is highly competitive.

Finally, the recent policy directive to the CRTC to rely on market forces and a three carrier test for local telephone forbearance that were championed by Industry Canada support a non-interventionist approach to the wireless market.

In sum, the overwhelming conclusion of independent analysts and relevant government agencies is that the Canadian wireless market is highly competitive.

Research Study Conclusions on State of Competition

	CONCLUSION: Industry Is Highly Competitive	CONCLUSION: Industry Is Not Competitive
Financial Analysts		
ScotiaBank	YES	
TD Newcrest	YES	
Genuity	YES	
UBS	YES	
Industry Analysts		
Wall Communications	YES	
SeaBoard		YES*
Government Agencies		
CRTC	YES	
Competition Bureau	YES	

* It should be noted that SeaBoard has used selective and partial evidence to reach their conclusion.

TELUS is not suggesting that the mobile wireless market, nor any market for that matter, cannot attain a greater degree of competition under certain conditions. In fact both continued record growth and significant shifts in market share suggest such an ongoing process. However, as suggested by the evidence reviewed above, the potential competitive gains are likely limited at this point in time. As discussed below and consistent with the very telecom policy principles championed by Industry Canada, the market place should determine whether further competition is warranted and whether new entry is sustainable.

7. Costs of Subsidized Entry

TELUS does not oppose the entry of a new national mobile wireless facilities-based carrier provided the entry decision is based purely on commercial considerations. TELUS remains opposed to the inducement of entry by preferential regulatory treatment. This will result in an inefficient mobile wireless market place in Canada and has a high probability of creating a new dependent

firm or class of firms in need of ongoing regulatory protection. As Crandall and Ingraham⁴⁰ suggest, such approaches have been tried in other jurisdictions and have generally failed, often at significant cost.

The Industry Canada Gazette Notice contemplates the use of a spectrum set-aside or other measures to subsidize the entry of new facilities-based carriers. TELUS believes the Department should fully account for the social and market costs of subsidization. The theory underlying spectrum set-asides is discussed below along with practical examples and considerations.

It must be remembered that set-asides, mandatory roaming and forced tower sharing are the kind of regulatory interventions that led to uneconomic entry in the past. The consequences of making the wrong decision can be costly:

- Taxpayers lose because spectrum is discounted to allow some bidders a leg up;
- Incumbents lose because their relative cost of spectrum rises and regulated discounts lead to irrational pricing often to gain market share prior to flipping a spectrum licence; and
- Average shareholders lose when irrational behaviour results in bankruptcies.

As is the case with most instances of a government subsidy targeted for economic objectives, the economics community is universally agreed on the undesirability of such subsidies. Markets work most efficiently when the proper signals are sent to investors and consumers. That is, prices (whether for a good or service, or for market entry) need to approximate marginal cost or the value of that resource in its next-best usage. By subsidizing new entrants, the government would be sending

⁴⁰ R. Crandall and A. Ingraham, *supra* note 5.

an incorrect market signal to investors, resulting in entry that may be uneconomic, preventing spectrum from being utilized by carriers who most need and desire it, and exchanging taxpayers dollars for those of private investors.

As suggested by McFetridge:

Inducing entry by concessionary pricing of spectrum provides the illusion of competition but not the reality.

That is, there are more competitors but competition may be less intense and the industry as a whole is less efficient. The prospect of future regulatory back-ins is likely to reduce the incentive to invest thereby resulting in an even less efficient industry in the future. An outcome in which consumer benefits are small and fixed costs are duplicated reduces productivity, reduces industry-wide efficiency and is harmful to the economy as a whole. While this type of inefficient entrants may ultimately be “bailed out” by subsequent mergers, sunk investments would be forfeit, employee and other adjustment costs would be incurred and the merger and acquisition process itself is far from costless.⁴¹

The Crandall and Ingraham study examines the use of spectrum set-asides⁴² and points out that the FCC used a type of set-aside to encourage new entrants into the U.S. mobile wireless market.

Crandall and Ingraham conclude that the concessions did not result in sustainable new entry – they merely created greater transaction costs and prevented spectrum from getting to those economic agents with the highest demand in a timely manner.

⁴¹ D. McFetridge, *supra* note 13.

⁴² R. Crandall and A. Ingraham, *supra* note 5.

In examining European experience, similar conclusions are reached.⁴³ Specifically, the auction for UMTS spectrum in the United Kingdom served only to subsidize Hutchinson, a large multi-national firm that would not require a subsidy were it efficient for it to enter the U.K. wireless market.

Cost of intervention will be high

Hazlett and Boliek have estimated the social welfare costs of the delay in the deployment of the C-Block PCS licences.⁴⁴ The authors concluded that by allocating spectrum to inefficient wireless carriers, the delay associated with the C-Block spectrum set-aside prevented the sale of that spectrum to a *viable* wireless carrier.⁴⁵ The authors found that the delay in the deployment of the C-Block spectrum cost consumers about \$5.4 billion between 1996 and 1998 and that each individual year of delay in the deployment of the C-Block spectrum cost consumers \$1.4 billion.⁴⁶

Crandall and Ingraham have estimated the inefficiency cost of the U.K. UMTS auction, proposing that the size of Hutchinson's subsidy serves as an estimate of the amount of the inefficiency caused by the set-aside in the U.K. auction. They estimate the set-aside induced an inefficiency of approximately 450 million pounds.⁴⁷

The costs to Canadian taxpayers and consumers would increase substantially if it should turn out that a new entrant (or multiple new regional entrants) is not financially sustainable. The government can avoid imposing such costs on the

⁴³ *Ibid.*, p. 12.

⁴⁴ Thomas W. Hazlett & Babette E.L. Boliek, *supra* note 4, pp. 655-58.

⁴⁵ *Ibid.*, pp. 656-57.

⁴⁶ *Ibid.*, p. 657.

⁴⁷ Crandall and Ingraham, *supra* note 5, p. 15.

industry and consumers by simply letting the market work through an open auction.

8. **The Innovation Debate**

TELUS already offers 3G service to a majority of its customer base

Recently, debate about set-asides and other interventions, like mandated roaming, has shifted from questions of pricing and penetration to an alleged 3G gap between Canada and other countries. Potential entrants that seek government intervention, argue that intervention is required in order to bring 3G services to Canadians. The only weakness in this argument is that such services are already, and increasingly, available to Canadian consumers and to TELUS customers in particular.

TELUS has offered Evolution Data Optimized (EVDO) 3G service since 2005 and provides coverage to most of its subscriber base in Alberta and British Columbia as well as an increasing number of its subscribers across the rest of Canada. In Alberta, the TELUS footprint now extends to virtually 100% of its coverage area and the EVDO footprint nationally now reaches 67% of the population.

Province	Population covered				Area covered				Total Canadian territory	
	EDGE	HSDPA	1x	Ev-DO	EDGE	HSDPA	1x	Ev-DO	Population	Area (km ²)
British Columbia	4,064,714	0	4,163,369	3,060,182	107,693	0	127,857	13,644	4,272,547	929,150
Alberta	3,289,427	0	3,326,604	3,325,849	313,989	0	435,500	427,331	3,319,395	647,700
Saskatchewan	754,776	0	390,800	0	124,692	0	1,073	0	987,481	609,204
Manitoba	1,070,868	0	694,920	694,920	90,539	0	2,016	2,016	1,182,379	574,970
Ontario	12,595,696	6,032,473	12,610,873	8,813,744	168,463	3,484	172,452	16,432	12,741,356	943,307
Quebec	7,141,634	0	7,352,057	4,625,290	104,753	0	118,739	3,564	7,597,957	1,424,381
New Brunswick	676,457	0	699,389	319,044	44,110	0	49,916	3,803	750,531	72,448
Nova Scotia	872,616	0	934,113	620,207	33,209	0	45,130	6,627	938,002	55,089
PEI	132,898	0	138,902	64,564	5,475	0	5,876	916	138,902	5,876
Newfoundland/Labrador	196,411	0	453,916	167,318	5,714	0	34,984	713	511,198	383,518
Total	30,795,497	6,032,473	30,764,944	21,691,116	998,638	3,484	993,543	475,046	32,439,749	5,645,642
% covered	94.93%	18.60%	94.84%	66.87%	17.69%	0.06%	17.60%	8.41%		

EVDO provides advanced IP data services beyond the capabilities of CDMA 1x or EDGE-based GSM network services and provides air interface speeds up to 2.4 Mbps. TELUS has already begun to upgrade its EVDO service to EVDO RevA commencing in 2007. EVDO RevA will provide 3.1 Mbps, which is a robust competitive alternative to High Speed Downlink Packet Access (HSDPA) services being launched by Rogers.

Numerous EVDO capable handsets are now available to support 3G enabled services like mobile computing, GPS, mobile TV and satellite radio and music download services. In fact, TELUS' investment in data and in EVDO has resulted in a number of firsts for our customers.

- In 2007, TELUS partnered with Amp'd Mobile to bring to Canada the first integrated mobile entertainment company that fully optimizes 3G functionality. In the U.S., Amp'd Mobile operates as a premier mobile brand on the nation's best entertainment network. Capitalizing on TELUS' advanced EVDO service, the Amp'd Mobile partnership breaks new technological ground.

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- TELUS was also first to launch a music subscription service in North America in 2006. For a flat fee, you can access the first ever streaming mobile music library service in the world.
 - TELUS was the first Canadian carrier to fully integrate a robust mobile content offering into an original Canadian television series (Canadian Idol) via SMS voting and videos and ringtones of the performances. Even Cingular in the U.S. didn't have as wide an offering, and only announced this year that videos of competitor performances would be available.
 - In 2006, TELUS was the first in Canada with a cellular handset based Navigation service - TELUS Navigator.
 - TELUS was first in North America to launch XM satellite radio on mobile in 2006.
 - TELUS was first in Canada to introduce embedded EVDO laptops - Dell and Lenovo in 2006.
 - TELUS was first in Canada to introduce innovative converged data pricing model for mobile computing that spanned HotSpots, Wide Area Networking and Roaming with a simple to understand pay-per-day service model.
 - Our innovation predates EVDO. We launched Fastap devices in 2004, a TELUS world-wide first. Then in 2006 we launched fully integrated messaging devices with Fastap and IM/Email preloaded for North America.

Given our investment in 3G, extensive coverage and record of innovation to date, TELUS has more than earned the right to fully participate, through the AWS spectrum auction, in the evolution to a true broadband experience for our subscribers. Any limitation in our opportunity to acquire spectrum (relative to other parties) would unjustly prejudice our ability to serve our current customers and those we hope to serve in the future.

9. Fairness Dictates TELUS Has a Right to Fully Bid in Auction

A \$7 billion dollar investment earns the right to fully compete

Spectrum caps and set-asides are an unfair and unjustified response to a company like TELUS that has spent \$6.6 billion dollars investing in a national network through the acquisition of Clearnet. At a time when companies were exiting the market or passing on wireless investment, TELUS took one of the largest risks in Canadian telecommunications history. While this investment led to a massive drop in share price and tremendous pressure from the financial community, the investment turned out to be the right decision. Ultimately, TELUS reaped the reward for its foresight, conviction and willingness to persevere where others balked. That is what entrepreneurial spirit – the driving force underlying a successful economy - is about.

TELUS considers that there is a *prima facie* case to support first that the market is competitive and thus does not require any intervention and second that intervention in terms of set-asides, caps or non-market based rates for roaming would negatively impact the Canadian telecom sector. TELUS also submits that it would be patently unfair to its legitimate interests in continuing to invest and

deploy advanced services if the Department were to use the Minister's broad authority to circumscribe its right to fully participate in this auction.

TELUS has a record of innovation

AWS service applications include cellular telephony, data, multimedia, and Internet Protocol (IP)-based applications and broadband access, which may use 3G cellular and other advanced technologies. As discussed above under innovation, TELUS has already launched EVDO and now EVDO-RevA 3G-based services but TELUS needs more spectrum to offer an even faster generation of advanced mobile broadband services including 4G. The purpose of the auction, after all, is to ensure there is available network capacity to manage broadband and video demand. As the Internet has demonstrated, there is never sufficient capacity to meet demand. Wireless is no different.

AWS spectrum is the logical follow-up to the spectrum currently used by TELUS to serve the public. The ability to qualify for AWS spectrum is not of mere "ephemeral value." Adequate bandwidth is critical to continuing to grow advanced services and stay competitive.

Spectrum restrictions will punish TELUS more than other carriers

As a new entrant on the national stage, TELUS paid \$6.6 billion to acquire Clearnet and create a national network. That was the largest investment in the wireless market in Canada. There was no set-aside. In fact, not only was TELUS not given any incentive to invest, it was forced to give up spectrum under the then spectrum cap in place. Ironically the cap was subsequently removed prior to the Microcell purchase, thereby providing Rogers with a spectrum advantage in terms of total holdings.

TELUS is in a unique position relative to other incumbents. TELUS' 800 MHz spectrum covers a much lower population than either Bell or Rogers. TELUS also has significantly less spectrum in total than Rogers. Finally Bell and Rogers share 100 MHz of 2.5 GHz spectrum across Canada to support WiMAX, an alternative advanced wireless service technology. TELUS has no 2.5 GHz holdings.

WiMAX provides an alternative path or substitute in offering the same enhanced mobile services contemplated for AWS. Simply put, auction caps and set-asides disadvantage TELUS more than other incumbents. There is no justification, given our track record, to limit our opportunities for growth.

Eliminating an opportunity to fully bid on a significant portion of the new spectrum is economically damaging and inflicts a disproportionate penalty on TELUS. A "spectrum set-aside" rule or cap materially reduces the economic interest of TELUS to participate in enhanced wireless services because it compromises TELUS' ability to fully participate in AWS spectrum auctions and exacerbates the disadvantage it has relative to other incumbents. TELUS has committed no breach of its licences, legislation or policy that supports such limitations on its legitimate right to compete to the fullest. Further, there is no clear indication in the legislation, or elsewhere, that TELUS can be limited in bidding for the AWS spectrum simply because it already holds other licences.

The Consultation invokes the market forces objective to justify a measure that actually undermines those forces

The Consultation correctly observes that the Minister may have regard for the Canadian telecommunications policy objectives set out in the *Telecommunications Act*, including the objective of fostering increased reliance on market forces. However, what the Consultation says and what it actually does, are two different

things. The Consultation invokes the market forces objective to justify a measure that actually undermines those forces, and apparently disregards the market forces assessments of other, expert, statutory bodies.

On its face, restricting participation in the AWS auction is inconsistent with the statutory objective of increased *reliance* on market forces. Artificially limiting participants in a competitive auction is the antithesis of reliance on market forces. The “spectrum set-aside” policy would create a subset of market participants. The result would be a kind of “bureaucratic lottery” allowing those privileged to participate to gain an enormous advantage that would not otherwise be available if market forces were relied upon. Instead of *reliance* on market forces, the set-aside rules *pre-empt* market forces. In effect, the “spectrum set-aside” rule thwarts one of the key objectives of the legislative scheme.

The Department should not second guess the statutory expertise of the CRTC and Competition Bureau

The Department has no rational basis to conclude that concerns for the “competitiveness” of the wireless mobile industry justify restricting competition for the AWS spectrum. The CRTC, an expert tribunal that has a mandatory duty to apply the Canadian telecommunications policy objectives, prepares an annual report on the State of Competition in the telecommunications industry. In each year, the CRTC has found that the wireless mobile industry is fully competitive. Significantly, the 2006 State of Competition made this finding *after* the Department rescinded the spectrum cap. The CRTC has also made explicit findings that competitive forces will protect the interests of consumers in the forbearance orders it has issued and which remain in full force and effect today.

Similarly the Consultation tries to second guess matters expressly given to the Bureau under its constituting statute, the *Competition Act*.

The *Competition Act* explicitly states its purposes:

1.1 The purpose of this Act is to maintain and encourage competition in Canada in order to promote the efficiency and adaptability of the Canadian economy, in order to expand opportunities for Canadian participation in world markets while at the same time recognizing the role of foreign competition in Canada, in order to ensure that small and medium-sized enterprises have an equitable opportunity to participate in the Canadian economy and in order to provide consumers with competitive prices and product choices.

The Consultation refers to the competition principles underlying the Bureau's Guidelines on merger enforcement, but opines that a Bureau decision not to challenge a particular transaction does not amount to blanket approval of the transaction. In short, according to the Consultation, even if the Bureau elects to take no action in respect of a transaction following a full review, the market place might still be improved by other measures, for example the set-asides and aggregation limits proposed in the Consultation.

Notwithstanding the Department's efforts to explain why the measures proposed by the Consultation can be distinguished from the Bureau's duties, the spectrum set-aside rule seems to cross-over into the Bureau's jurisdiction. Indeed, as explained by the Consultation, the "spectrum set-aside" mechanism is an alternative or ancillary mechanism to deal with merger review policy on a preventive basis.

Intervening in a dynamic market has real and negative consequences

In comparison to the Bureau, the Department, in purporting to exercise its authority under the Act, has no special or statutory expertise in these matters. The Department has admitted an absence of ability to forecast market forces with accuracy. For example, in the paragraph immediately before presentation of the “spectrum set-aside” proposal, the Consultation says:

Not taking explicit action to enable entry may therefore have the consequence of preventing entry while taking explicit action runs the risk of potentially enabling an uneconomic entry. Since there is no way to forecast market forces at play with accuracy, the Department must consider on a balance of probabilities, which approach is most in the public interest. This could take into account factors such as: current market structure; market rivalry; pricing; express demand for the spectrum in question; and the potential for incumbents to preclude market entry by acquiring all of the spectrum available. [underlining added, italicised emphasis provided by the Department]

Yet, acknowledging its inability to forecast market forces, the Department would try to satisfy itself on a “balance of probabilities” assessment of a number of factors when designing the spectrum set-aside mechanism: current market structure; market rivalry; pricing; expressed demand; and the potential of incumbents precluding market entry by buying up all available spectrum. Such a course of action clearly does not rely on market forces, nor is it without significant costs.

As McFetridge notes:

Efficient use of spectrum requires that all purchasers of spectrum pay its competitive scarcity price. The abuse of

dominance provisions of the *Competition Act* are sufficient to discourage attempts to push the price of spectrum above its competitive scarcity value. Additional regulatory measures in the form of *ex ante* restrictions on participation by incumbents in the spectrum market, particularly set-asides, could have a number of adverse effects. **Set-asides would likely preclude all incumbents from bidding on the spectrum involved and may result in sales of spectrum at prices below its opportunity cost. This may attract bidders whose interest is in obtaining spectrum below market and flipping it in various ways. For a wireless entrant there are two possibilities. Either below market spectrum is either a windfall (because entry would have occurred anyway) or entry would not have occurred if the entrant were required to pay the competitive scarcity price of spectrum.** In the latter case, entry is inefficient. Entry that is, in fact, induced by the availability of below-cost spectrum cannot, virtually by definition, provide the robust, efficient competition that would make the industry more “vibrant.” Indeed, this is implied by the argument made by some that new entrants can only “afford” to compete if they are allowed to purchase spectrum on concessionary terms. Such competitors are likely to require an ongoing stream of regulatory favours. Moreover, to the extent that set-asides leave incumbents spectrum-constrained, it softens competition among them by reducing their ability to take market share from each other.⁴⁸

While the Minister has regard to Telecom Policy objectives, none of those subject matters is expressly assigned to the Minister under the Act. Even where a balance of probabilities assessment is concerned, the Department is not the most expert body to assess these competition related factors. The Department lacks the specialized expertise. In fact, the Department already dismantled the spectrum cap, presumably out of recognition for the Bureau’s superior expertise. Finally, the true expert body in this scenario, the Bureau, has asserted jurisdiction in this matter, saying that it (not the Department), “will look closely at competitive

⁴⁸ D. McFetridge, *supra* note 13, p. 40.

circumstances pertaining at the time in the affected markets and make a determination based on a careful examination of all the relevant facts.”

10. Examination on Balance

TELUS believes that a set-aside would artificially create a new entrant in the Canadian market place, under conditions where the market may have determined such entry was not sustainable. Evidence in both Canada and other jurisdictions suggests that on balance such entry is not sustainable. In order to take this risk of inciting market failure and market disruption, Industry Canada would have to believe that the Canadian market can sustain a new national entrant (or multiple regional players). Yet the best available evidence to date (*i.e.* the acquisition of Clearnet and the financial insolvency of Microcell) indicates that the Canadian market may only support three facilities-based suppliers. More importantly, the Department must believe that a new entrant can make a material difference to the degree of competition in the market place. As noted, virtually every rigorous examination of competition in the industry has concluded that the industry is in a healthy competitive state. This is an industry where price keeps going down, not up, and where new services are constantly introduced and new competitors have arisen in the MVNO space.

How much lower can prices go? How many more services/features could be offered? Will the pace of new offerings and innovation be quicker? There is simply no good evidence to suggest that there would be substantive changes in the consumer choices and market conditions that exist today.

To be clear, TELUS is not asking the Department to foreclose new entry. Rather, we are proposing that the Department let any party bid for spectrum under the same terms and conditions. Given that a new facilities-based entrant must first build out its network, establish its brand and gain market acceptance, any scheme that prevents spectrum from being utilized at its earliest opportunity by a supplier that needs it most would clearly harm Canadian consumers. Establishing an auction that does not favour any given bidder offers the greatest benefit to Canadian consumers in the long run and does not require the government to pick winners.

TELUS will now address the specific questions raised in this consultation.

QUESTIONS POSED IN CONSULTATION DOCUMENT

QUESTION 2.7 Addressing the Potential for New Entry

In consideration of the present circumstances, the Department seeks comments on whether there is a need for measures intended to enable market entry in the AWS spectrum auction.

TELUS submits that no measure(s) other than an open auction to enable entry are necessary or desirable

Since the market remains highly competitive, there is no justification for Industry Canada to abandon its recent objective to rely on market forces to the greatest extent possible. The wireless market is characterized by continued record growth, declining prices and an increasing array of innovative 3G services from mobile TV and satellite radio to mobile computing. Carriers continue to invest in expanding 3G facilities and at even faster speed, by rolling out EVDO RevA and HSDPA overlays. In addition, new service providers like Amp'd Mobile, expand the choice of multimedia products available. Finally, and perhaps most important in determining if price competition exists, TELUS notes that ongoing and significant shifts in market share amongst major carriers provide clear evidence of dynamic competition.

Maybe it's time to examine the critics more carefully

To risk distorting such a market when it meets all criteria for competitiveness sends the wrong message to investors. Further, if markets where continued growth, innovation and declining prices signal a need for government intervention, what remedies does government intend to apply to markets where prices are rising, like gas, hydro or cable? Calls for intervention, particularly from companies in

some of those very sectors, ring hollow given the present circumstance in their own markets.

TELUS recommends that the Department consider the source and accuracy of some of the arguments it will hear in support of intervention. One wireless carrier may argue that Canada lags in terms of price and penetration. Yet TELUS rates are as low and often more competitive than its critic. And the rate of penetration in our regional market is the highest in Canada while that of our critic ranks near the bottom of the pack. What about 3G? Again our critics argue we lag. One even suggests in speeches we don't have 3G networks. Wrong. As discussed above, not only are our 3G builds extensive, including almost 100% in Alberta, our investment in SPARK content services and a partnership with Amp'd Mobile put TELUS on the leading edge in North America when it comes to wireless entertainment.

Many of the international comparisons used by critics are simply silly

When considering the state of the industry, it is TELUS's opinion that Canadians have been well served by their wireless providers. In just over twenty years the Canadian wireless industry has built out four competitive networks, including Integrated Digital Enhanced Network (iDEN), that cover 97% of the population in the world's second largest country.

The success in overcoming challenges of terrain, scale, low population density and relatively lower household income, should be proof of our achievement; not held to ridicule by often specious international "comparisons".

Market structure can vary from country to country for many reasons and of itself is not a true indicator of competitiveness. Indeed comparing any market located in different countries is tricky and fraught with misunderstanding and error.

Measures of market structure are crude and provide an incomplete picture of the competitive environment of an industry. The relationship between market structure and the intensity of competition is noisy and non-linear. Individual performance measures often have little to do with the intensity of competition and, in any case, vary from country to country for a variety of reasons, many of which are difficult if not impossible to quantify and thus to take into account. Naïve international comparisons invite abuse and are a poor basis for public policy analysis.⁴⁹

Critics like to “cherry pick” price/penetration comparisons. Canada seems to be often compared unfavorably to Denmark a country a third the size of Newfoundland, with beautiful but flat terrain and a population of only 9 million. Some argue our performance relative to Gabon is a “national disgrace”. Gabon is a relatively impoverished African nation with a wireline penetration of 2%. The World Bank has been funding the creation of wireless infrastructure to encourage economic development in that country. Perhaps the more valid comparisons are between Canada and the United States, putting aside the fact that the U.S., while smaller in geography, has ten times the population. But even when Canadian prices are compared to the U.S., rates are comparable, except for high volume users, and in the case of low volume users, are actually much lower.

Canadians can choose from a variety of rate plans offered by competing carriers, e.g. local phone plans, bundled services, competing handsets. Arguably, Canadian carriers offer subscribers many choices comparable to those enjoyed by U.S. consumers often with better coverage. The number of base plans offered by

⁴⁹ D. McFetridge, *ibid.*, pp. 12-13.

carriers today exceeds what was available 5 years ago when there were four national carriers. And there has been an increase in network capacity in a three carrier environment.

New handset options (camera, video and MP3 player) and services (GPS, mobile TV) have also proliferated. Mobile TV (video clips, movies, multimedia clips), music services and ring tones are driving the pace of innovation for content in the mobile market. TELUS also offers business users a choice of networks and capabilities. Our Mike service which is aimed at business and public safety users uses our completely separate iDEN digital network across Canada.

Often biased and highly inaccurate criticism should not obscure the facts. In TELUS' view the facts are that Canada has a highly competitive wireless industry offering the most up to the minute services at competitive rates.

The number of competitors is a poor measure of market concentration or power

While it may be intuitive that more competitors lead to a more competitive environment, there seems to be no correlation between the number of carriers and the competitiveness of a market. Canadians are not suffering from lack of choice among mobile wireless service providers. Most Canadians have as many as six or more different brands to choose from other than the major carriers TELUS Mobility, Bell Mobility and Rogers on a national basis and SaskTel Mobility and MTS Mobility on a regional basis. In addition, a number of specialty providers add additional choices in particular market segments. These companies include Virgin, Amp'd, Videotron, EastLink, Primus, Petro Canada, President's Choice, Mike, Fido and Solo.

As pointed out by McFetridge, the number of competitors is a poor measure of market concentration or power:

The HHI (Herfindahl-Hirschman Index) which is defined as the sum of the squares of the market shares of the firms competing in the market, is a widely used measure of market concentration. It increases as the number of competitors decreases and as their respective market shares become more unequal. It reaches a maximum value of 10,000 when the market is a monopoly. It can be lower with three equally matched competitors than with four or more competitors some of whom have relatively small market shares.

Thus, for example we see that Canada's HHI of 3400 is lower than Sweden's (3566) or Denmark's (3593) both of which have four competitors. In fact, of developed countries with three carriers only, heavily concentrated Singapore has a marginally lower HHI at 3372. As Table 1 of this paper also shows, Canada's market place is more competitive than most with four carriers, demonstrated by the market share of the two largest firms in each market.⁵⁰

It should be borne in mind that the Canadian wireless industry added over one million new clients last year and the industry has a string of years of record growth. There is no need to attempt to interfere with the Canadian wireless market; it is healthy, thriving and competitive. TELUS believes that the Department's role must remain that of reliance on market forces to ensure that there are no distortions or inequities introduced into the spectrum auction process. TELUS believes there is a requirement to ensure that all rules and "measures" apply equally to every participant. TELUS believes that to be eligible to participate in the AWS spectrum auction the only qualification required is eligibility to be licensed as a radiocommunications carrier under the

⁵⁰ *Ibid.*

Radiocommunication Act. This is the only measure that the Department requires to ensure a continuation of a healthy competitive wireless industry.

TELUS submits that the act of introducing more spectrum into the Canadian market via the AWS auction is all that is needed to enable new entry at this time. Bidders, facing the same opportunities and rules, will determine to what extent new entry is economically prudent.

QUESTION 2.7.1 Spectrum Set-aside

The Department seeks comments as to whether a certain amount of spectrum should be set-aside for new entrants. Comments should include a precise description of those who should or should not be entitled to bid.

It is not Industry Canada's job to make up for bad business decisions at the expense of those that took a risk and reaped reward

As a new entrant on the national stage, TELUS paid \$6.6 billion to acquire Clearnet and create a national network. That was the largest investment in the wireless market in Canada. There was no set-aside. In fact, not only was TELUS not given any incentive to invest, it was forced to give up spectrum under the then spectrum cap in place. Ironically the cap was subsequently removed prior to the Microcell purchase, thereby providing Rogers with a spectrum advantage in terms of total holdings.

However, in spite of the lack of incentives, and acting purely on market conditions and signals of the time, TELUS has succeeded as a national carrier. We are not seeking help but don't wish to be subject to yet another prejudicial change of the

rules, when there is no need to give an unnecessary and uncalled for economic benefit to any new entrant.

Ironically, many carriers at the time of the Clearnet and Microcell acquisitions, decided the risk of investing in wireless was too great. Shaw and Videotron chose to give up their investment in Microcell, while MTS chose to pursue Allstream. It is not Industry Canada's job to make up for bad business decisions at the expense of those that took a risk and reaped reward.

Attempts to create a new carrier(s) by regulatory preferences are woefully misguided

As has been outlined above, interventions like set-asides are likely to undermine competition rather than enhance it. They may also delay or retard the introduction of the new technologies that are the true sources of new competition, as investment contracts and new entrants rely on arbitraging competitor networks to survive.

Financial analysts familiar with Canada's wireless market place agree; TD Newcrest, Scotia Capital, BMO, RBC and Genuity all suggest that the prospects for a fourth domestic carrier are bleak. Even with a very high degree of regulatory intervention to create entrant advantage, prospects for sustainability for any such entrant are low. Wireless is now a highly penetrated market, particularly in the urban areas where the new entrant(s) will focus. By 2009, national penetration is expected to exceed 70% making it difficult to gain sustainable market share. Product differentiation will be extremely problematic with over fourteen brands already in front of Canadian consumers, continuing prices declines and an increased penetration of 3G services.

As described by Crandall and Ingraham, intervention to create new entry can have negative consequences in terms of investment, where entry would not otherwise be rational. Entry should not be artificially forced into an already competitive market place; rather, entry should be based solely on a rational, economic business case. To do otherwise ensures that, because of the increased risk and slower growth faced by industry participants due entirely to such uneconomic entry, investors will begin to place their money in other industries that are not subject to such interference by government. That means slower investment, growth and coverage and resulting employment contraction. These results are the antithesis of good public policy and in direct opposition to the Government's stated goals and objectives.

Entry into wireless markets is often uneconomical and a spectrum set-aside may only serve to attract entrants that are not viable

As detailed above, the Crandall and Ingraham study examines the use of spectrum set-asides⁵¹ and finds many examples of failure both in North America and in Europe. In the United States, the authors point out that the FCC used a type of set-aside to encourage new entrants into the U.S. mobile wireless market at the time it introduced PCS. The FCC defined a "designated entity" that allowed only certain types of bidder to bid for PCS C-block and F-block spectrum.

In the original C-block auction in 1996, only designated entities were allowed to bid.

The end result of the C-block auction was that a number of the designated entities with winning bids could finance neither these purchases nor the subsequent costs of building out their networks. They subsequently declared bankruptcy

⁵¹ R. Crandall and A. Ingraham, *supra* note 5.

and tied up valuable spectrum without using it while bankruptcy litigation continued for nearly a decade. As a result, consumers were harmed by the regulators' inability to deliver valuable spectrum to the wireless carriers that were best suited to deploy that spectrum.⁵²

Subsequent auctions with set-asides ran into similar difficulties and included the formation of “bidding fronts” by incumbents to circumvent the criteria and inflated prices for set-aside spectrum due to favorable loan rates and related concessions. Crandall and Ingraham conclude that the concessions did not result in sustainable new entry – they merely created greater transactions cost and prevented spectrum from getting to those carriers with the highest demand in a timely manner.

In examining European experience, similar conclusions are reached.⁵³ Specifically, the auction for UMTS spectrum in the United Kingdom served only to subsidize Hutchinson, a large multi-national firm that would not require a subsidy were it efficient for it to enter the U.K. wireless market. Furthermore, new entrants throughout Europe have exhibited a high rate of failure, indicating that entry into wireless markets is often uneconomical and that a spectrum set-aside would only serve to attract entrants that are not viable.

While some new entrants appear to have some staying power in European wireless markets, they are virtually all foreign entrants—companies that would be precluded from competing for the AWS spectrum that Industry Canada would set-aside for a new entrant. While TELUS does not see any requirement to change the rules given the current state of competition, it is concerned that a set-aside may encourage foreign investors to more readily speculate on potential changes to the

⁵² *Ibid.*, p. 4.

⁵³ *Ibid.*, p. 12.

rules since a set-aside discount reduces the risk of that type of speculation. Such behaviour only serves to undermine legitimate investment.

Set-asides can have large and negative costs

Hazlett and Boliek have estimated the social welfare costs of the delay in the deployment of the C-Block PCS licences.⁵⁴ The authors concluded that by allocating spectrum to inefficient wireless carriers, the delay associated with the C-Block spectrum set-aside prevented the sale of that spectrum to a *viable* wireless carrier.⁵⁵ The authors found that the delay in the deployment of the C-Block spectrum cost consumers about \$5.4 billion between 1996 and 1998 and that each individual year of delay in the deployment of the C-Block spectrum cost consumers \$1.4 billion.⁵⁶ Therefore, by attempting to subsidize the entry of *inefficient* wireless carriers, the FCC neglected to allocate the spectrum in a timely fashion to the firm that valued it the most, which resulted in significant consumer harm.

Crandall and Ingraham have estimated the inefficiency cost of the U.K. UMTS auction, proposing that the size of Hutchinson's subsidy serves as an estimate of the amount of the inefficiency caused by the set-aside in the U.K. auction. They estimate the set-aside induced an inefficiency of approximately 450 million pounds.⁵⁷

⁵⁴. Thomas W. Hazlett & Babette E.L. Boliek, *supra* note 4, pp. 655-58.

⁵⁵. *Ibid.*, pp. 656-57.

⁵⁶. *Ibid.*, p. 657.

⁵⁷ Crandall and Ingraham, *supra* note 5, p. 15.

A set-aside effectively prevents TELUS from gaining all the necessary inputs for their current and future services

TELUS notes that it is anxious to acquire more spectrum to build on its existing investment in 3G wireless and a set-aside effectively prevents TELUS from gaining the necessary inputs for their current and future services. For TELUS which has neither the same amount of spectrum nor the video presence of its competitors, additional spectrum is crucial for its business plans. While it is difficult to estimate the cost to TELUS and its consumers of delayed services resulting from a set-aside, it is clear that TELUS could make use of the spectrum at an earlier date than a new entrant (who would have to build its network from scratch).

Corporations like cable companies, hydro utilities or regional ILECs with deep pockets and access to U.S. equity and/or U.S. carrier financing do not require taxpayer help or competitor concessions to compete

TELUS has outlined the many reasons why encouraging uneconomic entry should not be a goal of Industry Canada – it damages consumer welfare and undermines the prospects and efficiency of the industry. If a firm cannot enter the market place without a large handout from the Canadian taxpayer then its chances for survival are very slim and it will cause untold disruption to its shareholders, employees and customers a short distance down the road. The costs to Canadian taxpayers and consumers would increase substantially if it should turn out that a fourth entrant (or multiple new regional entrants) is not financially sustainable. The government can avoid imposing such costs on the industry and consumers by simply letting the market work through an open auction.

Of greater concern, from a public policy perspective, is the potential for a firm to receive government assistance that it does not need to enter the market place.

Amongst the potential entrants into this auction are companies that include a regional ILEC, a large cable company, at least one hydro company all with the opportunity to acquire backing of U.S. carriers and private equity funds. For the government to provide assistance to such firms would be a blatantly unfair and unnecessary intrusion in the market place and the very antithesis of a reliance on market forces.

Hoarding is not rational

TELUS notes that some advocates of a spectrum set-aside have argued that a set-aside is necessary because the incumbents will simply bid up the prices and buy all available spectrum as a means of preventing entry. This of course ignores the rational behavior of publicly traded companies that would risk severe shareholder backlash from such a strategy. It also assumes all incumbents have equal holdings of spectrum.

Moreover, as pointed out by Crandall and Ingraham, all AWS bandwidth is new bandwidth, and all providers (including incumbents) must incur large buildout costs. That creates a unique set of incentives.

Consequently, an incumbent carrier is willing to pay a premium for spectrum that it can easily patch into its existing network. By contrast, an incumbent carrier will discount its willingness to pay for new spectrum which must be built out with new network equipment, by the price of that equipment.

...

For this reason, it makes little sense to subsidize a new entrant since that entrant is at no cost disadvantage relative to the incumbent in deploying the spectrum.⁵⁸

⁵⁸*Ibid.*, p. 23.

Perhaps more importantly, the argument applies equally or more fittingly to new entrants. If new entrants can purchase spectrum at a below market-price, they have an incentive to hold on to spectrum (without developing networks) and resell it to those economic agents who are willing to pay a higher price for it. The willing purchasers could be incumbent mobile wireless firms, or it could be future foreign entrants in circumstances where foreign ownership rules are rescinded.

As to the concerns with spectrum hoarding, economic theory tells us that this is a concern in the case of a monopolist because in this situation a monopolist is likely willing to pay more to remain a monopolist than the new entrant is willing to pay to compete as a duopolist. This is an example of rational behaviour in the market place. However, economic theory also tells us that in a multi-party market with three strong players this is unlikely to occur. The reason is simple: there is no monopolistic advantage to be gained. 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.

TELUS has a greater need for spectrum than other incumbents because it has less

Spectrum set-asides also ignore the need for growth by the incumbent carriers. The very definite trend in services both today and those forecast for the future all require growing amounts of bandwidth in order to accommodate the high video content of these services. This is particularly true for TELUS because we have less than Rogers or Bell. Any spectrum set-aside not only provides for

uneconomic entry but penalizes the incumbents by introducing an artificial scarcity with respect to the remaining spectrum and thereby artificially increasing the price of this spectrum to the incumbents for no good reason.

To reiterate, TELUS believes that all parties qualified to bid in this spectrum auction should do so on an equal footing with no uneconomic incentives given to any party.

Comments are sought on the amount of spectrum that could potentially be set-aside. Comments should include whether a single block should be set-aside or if the set-aside could be broken up into 2 or more blocks.

Which new entrant does the Department prefer; cable, hydro or ILEC?

As outlined above, TELUS opposes any spectrum set-aside for this spectrum auction as uneconomic and unnecessary. However the question raises the classic dilemma for the Department. How many new entrants does the Department think is the right number? How should the set-aside be divided in terms of bandwidth or geographic tier? Each decision taken along these lines will result in advantage being bestowed upon one potential entrant over another. This type of intervention casts the Department in the role of market “conductor”. Simply put, in order to pick a model, the Department must choose which it prefers the most: the hydro company, the cable play, the regional ILEC or the one that will attract all the private equity. These decisions cannot be avoided once intervention becomes the chosen instrument.

Comments should stipulate how such provisions would be in the public interest, and provide supporting evidence or rationale.

A set-aside artificially reduces the cost of spectrum for a new entrant at either the expense of the taxpayer or incumbents

The only action that would be in the public interest is not to have a set-aside. A set-aside artificially reduces the cost of spectrum for a new entrant at either the expense of the taxpayer or incumbents. If a new entrant needs an artificial prop in order to enter a vibrant, competitive market place such as the Canadian wireless market then economic theory tells us they should not be there. If their business case is so unsound as to require taxpayer or incumbent funded subsidies before they even acquire spectrum then they are already unlikely to be able to compete. Alternatively, as was the case with Hutchison in the U.K., if they don't require a subsidy then they are already able to compete on their own and should not receive one.

There is no public policy justification for using taxpayers' money as a handout to corporations that do not need it. It is simply punitive and disingenuous to make incumbents underwrite the competition by forcing up the incumbents' cost to acquire spectrum made artificially scarce by government. There is simply no justification to set-aside spectrum to assist ILECs, cable companies, hydro companies, U.S. carriers or private equity pools.

Comments are sought on the implementation of the set-aside post auction and the duration of any conditions of licence specific to the set-aside that may affect the licence such as divisibility and transferability.

The department should be guided by the concern that led to this question, set-asides increase the likelihood of licence trafficking

As outlined above TELUS opposes any spectrum set-aside for this spectrum auction as uneconomic and unnecessary. TELUS notes that the Department is

concerned with the real possibility of speculation and licence trafficking. A set timeframe for holding the licence may be politically attractive in that it obscures future speculation. However it hurts incumbent carriers that may still need the spectrum. The problem with speculation is not just political. It is economically damaging in that it forces incumbents to initially pay more for spectrum in the auction and then to pay a premium later to acquire what it needed to begin with. These distortions also hurt in terms of delayed rollout and decreased investment, particularly in high cost areas.

The Department should be instructed by the concern that led to this question: set-asides increase the likelihood of licence trafficking. While the Department could include strict build-out requirements to avoid the very real threat that a new entrant will only invest the minimum and leverage roaming while it waits to flip the licence, any set-aside will still have undesirable economic consequences. Further, it hard to enforce a build-out if the goal is to flip and equally hard to take the spectrum back as the U.S. experience demonstrates.

QUESTION 2.7.2 Spectrum Aggregation Limit on Auctioned Spectrum

The Department seeks comments as to whether an auction spectrum aggregation limit should be placed on the amount of spectrum that can be acquired by a single wireless service provider and its affiliates. Comments should include the amount of spectrum for the auction spectrum aggregation limit, to which bands it should apply and the duration.

Any cap that applies equally to TELUS, Bell and Rogers handicaps TELUS more than the other national providers

A spectrum/auction cap would be unduly prejudicial to TELUS's interests. As discussed above, it would limit its right to fully compete in the auction process and build on its existing investment. Moreover any cap that applies equally to TELUS, Bell and Rogers handicaps TELUS more than the other national providers because they hold more spectrum nationally (Rogers and Bell) and at 2.5 GHz (Rogers and Bell).

TELUS is the third largest carrier in Canada. We have also spent more money than the other incumbents to build a truly national and sustainable competitive alternative. Competitively we are driving to close that gap as evidenced by our #1 ranking in net subscribers added in Q1 2007. To stay competitive we need more spectrum to catch the larger carriers. A cap undermines our ability to pursue market opportunities and bring value to consumers.

It would be highly punitive and prejudicial for Industry Canada to target TELUS for its competitive success

TELUS should not be disadvantaged by government intervention, in order to promote entry by carriers with already strong corporate credentials or U.S. backing. TELUS has already helped create the competitive dynamic Industry Canada seeks, by building a competitive and sustainable third force nationally. In fact, within the span of a few short years, our national market share exceeds that achieved by virtually any other third carrier around the globe. Why punish true entrepreneurial achievement?

TELUS does not believe that the Department should establish a spectrum aggregation limit on the auction spectrum available in this spectrum auction. Use

of such a device would see the Department fall far short of an increased reliance on market forces and furthermore in our opinion is not needed. In a free, unfettered auction participants will bid for and obtain the amount of spectrum that they need and value more highly than their competitors. Use of an aggregation limit introduces an artificial barrier to firms potentially acquiring the quantum of spectrum that their business case calls for and thereby serves to artificially drive down the total price for the spectrum received by the Canadian taxpayer.

QUESTION 3. Mandated Roaming

The Department invites comments on mandating incumbent mobile wireless operators to offer roaming services – to both competing and non-competing Canadian carriers – to foster the development of competitive wireless communication services.

Mandated roaming has the potential of discouraging the build out of competing networks – a new entrant can acquire one or two key cities and rely on mandated roaming at another party’s expense to provide high cost coverage

It has been argued by some that mandatory roaming arrangements should accompany new entry. Without it, it is argued, incumbents will prevent the new entrant from allowing their customers to economically roam outside of the new entrant network footprint.

TELUS understands the concerns of potential new entrants but does not see mandatory roaming as necessary or helpful to new entrants. The existing competitors, including both facilities based providers and MVNOs, have negotiated satisfactory commercial roaming agreements without government intervention. That includes potential entrants like MTS Allstream and Videotron.

There is no sound policy reason that new entrants should be accorded special treatment by regulators. Roaming can be negotiated on terms that reflect the circumstances of the arrangements sought. Moreover there are clear *ex post* remedies available in the regulatory scheme under 27(2) of the *Telecommunications Act* and under the powers of the Competition Bureau.

As McFetridge argues:

The decision to enter a new market should be made on the merits rather than being induced by regulatory favours or concessions. **New entrants should expect to pay competitive prices – no more and no less - for the inputs they require.** Industry Canada ought not to be concerned with abstruse arguments about the extent to which the mobile wireless market in Canada falls short of some competitive ideal. If the value propositions offered to mobile wireless consumers by incumbents are such as to leave profit opportunities open for new entrants, that is for them to decide. The role for Industry Canada is to determine whether there are compelling reasons why sanctions available under the *Competition Act* would be insufficient to provide a reasonable assurance that the price of spectrum and the access prices of any essential facilities in the hands of the incumbents are competitive and if they are not, to find the least intrusive way of providing the requisite additional assurance. This should not require the imposition of blanket *ex ante* obligations and restrictions on incumbents.⁵⁹

If such a mandatory scheme were put in place, new entrants will lack incentives to build out their network facilities. This concern is especially acute if concessions on spectrum price are offered to new entrants, or new entrants bid on one or two metro areas and try to leverage that opportunity into a preferential arrangement by piggybacking on competitors' networks.

⁵⁹ D. McFetridge, *supra* note 13, p. 42.

Competitive/non-reciprocal arrangements are not comparable and cannot be used as a proxy for international settlements

The Consultation paper points out “that digital telephony roaming is commonly available to foreigners traveling in Canada or to Canadians traveling in many regions of the world.”⁶⁰ For greater clarity, the current arrangements whereby this roaming takes place is via commercially negotiated agreements and not by regulatory fiat. Moreover, the terms of these agreements generally reflect reciprocal and non-competitive arrangements and circumstances.

Competitive/non-reciprocal arrangements are not comparable and cannot be used as a proxy for international settlements.

The Department has itself recognized the difference in DGTP-006-05 where the Department encouraged regional and national cellular/PCS carriers to provide special consideration, such as the provision of digital roaming arrangements, to non-competing rural wireless carriers to integrate their services.

Comments are invited on the extent to which the lack of mandated roaming could be a barrier to entry into the wireless market.

Roaming is not an issue – it is merely raised as a means of obtaining a regulated price discount for arbitrage purposes

The lack of mandated roaming clearly is not a natural barrier to entry into the wireless market. A variety of carriers have negotiated commercial arrangements that reflect and vary by their particular circumstances. In fact, supporters of set-asides and mandatory roaming like MTS Allstream and Videotron have negotiated

⁶⁰ DGTP-002-07, *Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services*, section 3, p. 24.

such agreements in an open market. Other commercial arrangements underlie MVNO agreements. By definition then there is no natural barrier. TELUS suspects that what proponents of mandatory roaming really want is a regulated price discount for arbitrage purposes. In other words, more reliance on regulation to determine market outcomes.

Regulated roaming rates is a serious concern given the requisite regulatory mechanisms that would be required to calculate, monitor and oversee the appropriate roaming rates. Equally troubling is the impact on various arrangements that were established by the market. In an era where the Minister of Industry has advocated a reliance on market forces wherever possible (in accordance with the *Telecommunications Act*), the return to micro-regulation of the industry would be a costly step backwards.

Comments are sought on what services should be included in any mandated roaming and to what specific frequency band(s) roaming should apply.

If TELUS investment in enhanced data and 3G networks is made available to our competitors, then our ability to differentiate is wiped out by regulatory fiat

In TELUS's view there are neither services nor frequency bands to which a mandated roaming regime needs to apply. Any agreement must be commercially negotiated in an environment where price reflects the costs and value of the arrangement.

However it seems obvious that if our investment in data and 3G networks is open to our competitors then our ability to differentiate is wiped out by regulatory fiat and competitor incentives to innovate and invest decrease. Ultimately if government subsidizes entry, raises our costs to compete by creating scarcity and

then hands over any competitive advantage we created to particular corporate interests, then competition is undermined. Under such a regime, spectrum policy would just become a tool to allocate market share.

Comments are sought on the mechanisms that would best implement the policy objectives regarding roaming.

Mandated roaming regime means regulated roaming rates at a discount

TELUS continues to believe that all resale and roaming agreements and arrangements should be commercially negotiated. The fact that Videotron and MTS Allstream have negotiated deals should provide government sufficient comfort that intervention is not required. A mandated roaming regime means regulated roaming rates at a discount, which will ultimately undermine the freely negotiated arrangements currently in place and will reduce incentives to build anything new.

Moreover, it is unclear who and how such regulated rates would be determined. What is clear is that a new onerous regulatory layer would be imposed on the wireless industry that has, to this point, been functioning effectively on the basis of market realities. TELUS would remind the Department that the costs of developing, setting and monitoring roaming rates (as well as operating dispute resolution mechanisms) are likely to be substantial.

In summary, TELUS believes that measures to induce entry by preferential regulatory treatment such as below-cost access to infrastructure and network capacity have an unfortunate history of arbitrage and regulated pricing dispute. Simply put, they do not result in healthy competition and are unnecessary in a vigorously competitive market place such as the Canadian wireless market. It is

not consistent with the direction of current telecom policy to impose remedies that have proved ineffective in wireline into wireless.

For all the reasons outlined above TELUS believes that the Department should not mandate roaming. To artificially induce competition into an existing competitive market by incenting arbitrage is damaging to the market and the wrong signal to future investments.

QUESTION 4.1.1 The Bands 1710-1755 MHz and 2110-2155 MHz

Comments are sought by the Department as to whether:

- 1. the band plan as proposed should be adopted in Canada – if not please provide specific alternative options and the rationale supporting your suggestion;*

The Department has always opted for harmonization with the United States where it was in the best interests of Canadians

TELUS believes that harmonizing the band plan for the bands 1710-1755 MHz and 2110-2155 MHz is an important instance where such harmonization is very much in the public interest. Although encompassing the same frequency range and using a 5 MHz block as the basis unit the band plan proposed in the Consultation paper is not the same as that used in the United States. This will create a needless made-in-Canada band plan that will make handsets and base stations more expensive than they need to be for no apparent reason. Equipment that is designed and manufactured for the American market can be available faster and cheaper in Canada if the band plan is aligned. Although there may be some

frequency-agile equipment available, it will be more expensive as it is very likely that base station equipment makers will deploy specific sub-band filters as will handset vendors. This would create needless base station and handset complexity instead of readily available, more economically viable equipment built for the American market place.

Allowing Canadian consumers to reap the advantages of economies of scale of an economy with ten times the population of Canada is very much in Canada's interest. Therefore TELUS recommends that the Department adopt the following band plan which is the same band plan adopted by the FCC in the United States.

Block Licences	Pairing	Amount of Spectrum
A	1710-1720 MHz and 2110-2120 MHz	2 x 10 MHz
B	1720-1730 MHz and 2120-2130 MHz	2 x 10 MHz
C	1730-1735 MHz and 2130-2135 MHz	2 x 5 MHz
C	1735-1740 MHz and 2135-2140 MHz	2 x 5 MHz
E	1740-1745 MHz and 2140-2145 MHz	2 x 5 MHz
F	1745 -1755 MHz and 2145-2155 MHz	2 x 10 MHz

This band plan not only contains all of the economic and spectral efficiencies brought by band plan harmonization with the U.S. but also addresses another difficulty with the band plan originally suggested by the Department.

A harmonized band plan still offers the flexibility for those who believe that they need 30 or more MHz of high mobility spectrum to deploy new services

In the Consultation Paper, the Department states “The Department also chose to include a 15+15 MHz block which represents three channels. This block could provide sufficient high mobility spectrum for providers to deploy new systems for voice, data and video applications.”⁶¹ TELUS respectfully suggests that the

⁶¹ *Ibid.*, section 4.1.1, p. 26.

Department should leave this determination to the market place. The harmonized band plan TELUS is suggesting offers the flexibility for those who believe that they need 30 or more MHz of high mobility spectrum to deploy new services to obtain that amount as easily as with the Department's proposal, without attempting to predetermine auction or market outcomes.

The addition of the extra 10 MHz block under the harmonized band plan, offers an equal chance for all auction participants to obtain the spectrum their specific business plans call for. It results in greater spectral efficiency as these blocks can be more easily assembled by those parties who value them more than other parties while still allowing for a participant to assemble a 30 MHz block if that is what their business case calls for. The recommended band plan gets the Department out of attempting to pick winners and losers and lets the market operate with greater efficiency.

- 2. the Department should allow TTD operation in these sub-bands if they meet the conditions listed above – if not, please provide the rationale supporting your view.*

TELUS agrees with the Radio Advisory of Canada (RABC) that TDD operation should be consistent with the technical rules for FDD deployment including the use of lower transmit power limits in the lower band as this will reduce the possibility of interference between operators as such. The proponents of TDD should conclusively demonstrate that such technologies could be used in these bands or some segments of these bands without causing interference to other spectrum users.

QUESTION 4.1.2 The Band 1670-1675 MHz

Comments are sought by the Department as to whether:

- 1. the band plan as proposed should be adopted in Canada – if not, please provide specific alternative options and the rationale supporting your suggestion;*

TELUS notes that the FCC licensed this as a single 5 GHz block. As TELUS supports harmonization with the FCC whenever possible as good public policy, we agree with the band plan proposed by the Department for the band 1670-1675 MHz.

- 2. the technological neutrality related to duplexing should be adopted in Canada – if not, please provide the rationale supporting your view.*

TELUS has no objection to the technological neutrality related to duplexing in this band.

QUESTION 4.1.3 The Bands 1910-1915 MHz and 1990-1995 MHz

Comments are sought by the Department as to whether:

- 1. the band plan as proposed should be adopted in Canada – if not, please provide specific alternative option and the rationale supporting your suggestion.*

TELUS agrees with the band plan proposed by the Department for the bands 1910-1995 MHz as it harmonizes with that adopted by the FCC and this is good public policy for Canada.

2. the standards for PCS should be applicable to this spectrum – if not, please provide the rationale supporting your view.

TELUS believes that the Department should apply the same standards used presently for PCS, *i.e.* SRSP-510 and RSS-133. TELUS assumes that these standards will be sent to the Radio Advisory Board for updating and TELUS will participate in this process in that forum.

QUESTION 4.2.1 AWS Service Areas, 1710-1755 MHz and 2110-2155 MHz

Comments are sought on the proposed tier sizes for AWS spectrum.

TELUS recommends that the Department utilize Tier 2 licences exclusively. First, Canada will always be challenged by scale considerations. Our largest carriers are relatively small by international comparisons. Creating even smaller carriers just exacerbates disadvantages attributable to the size of our market. Smaller carriers bring a higher risk of failure and more likelihood of regulatory intervention. Second, the smaller the serving area, the greater the opportunity to engage in cream skimming in one or two metro areas the greater reliance on roaming arrangements to minimize investment in high cost areas.

Simply put, the smaller the tier, the less likely the facilities build and the greater the pressure to use the regulatory process to piggyback on competitor networks and competitor innovation.

Canada has overcome huge barriers posed by geography, small population and lower income by recognizing the importance of scale. TELUS believes that in order to be economically and spectrally viable the licence areas must be large enough to allow a critical mass of customers to be achieved. Both Tier 1 and Tier 2 licence areas allow this critical mass to be assembled either through a national licence or through an ability to aggregate a small number of regional licences.

If AWS is about broadband content, small tier sizes do not work for Canadian producers of content

Spectrally Tier 4 blocks are the least efficient economically and the least likely to produce the scale necessary to support new wireless broadband and multimedia services across a region let alone the country. That lack of scale and reach puts Canadian content providers in a very deep hole from the get go. As broadcasting in Canada demonstrates even national providers have scale challenges. If AWS is about broadband content small does not work for Canadian producers.

Tier 3 blocks carry many of the same problems. With multiple licence holders across the nation, under Tier 3 and 4 scenarios, coordination on interference matters alone will consume spectrum for guard bands and other preventive procedures. In addition the smaller the licence the more reliance on someone else's investment in networks and services to survive.

Regional Tier 2 service areas provide the greatest degree of flexibility for those requiring spectrum for expansion or to meet capacity constraints in certain areas and licences can be aggregated by those wishing to provide national service

When examining the same question in 2000 for the PCS spectrum auction the Department concluded on balance that Tier 2 licence areas were the best solution to promoting competition.

In the consultation on the policy and licensing of the additional PCS spectrum in the 2 GHz, the Department sought comments on a number of matters including the most appropriate geographical breakdown of the spectrum licences, the rights associated with the spectrum licences, flexibility of use and opening bids. Given the likelihood that mobile services will be offered with this new spectrum, the Department proposed reasonably large geographical service areas. Smaller service areas for mobile operation would require many technical and operational restrictions that could impact on the development and deployment of service. In the comments received, support was expressed for national licences, regional licences and a combination of both national and regional licences. Based on these comments the Department determined that regional licences, using Tier 2 service areas, were the most appropriate. This provided the greatest degree of flexibility for those requiring spectrum for expansion or to meet capacity constraints in certain areas and licences could be aggregated by those wishing to provide national service.⁶²

TELUS respectfully submits that the logic still holds true for mobile spectrum and therefore all the licence areas for the present spectrum auction should be Tier 2 only. TELUS notes that it could compete on a Tier 1 basis if required, but to suggest emphasis on national scale would be misconstrued as self-serving and in

⁶² Amendments and Supplements and Clarification Questions to the Policy and Licensing Procedures for the Auction of Additional Spectrum in the 2 GHz Frequency Range, Industry Canada, October 2000, Question 59, p. 47.

the interests of incumbents. We believe that the value in a regional licence is that it attracts participants interested in both national and regional plays. It supports scale but does not exclude a regional player.

Tier 2 licensing with the FCC bandplan would result in 6 blocks of spectrum, 3 X 20 MHz blocks and 3 X 10 MHz blocks. This maximizes competitive intensity, allows carriers to pursue a 20 or 30 MHz national play if required or a play that varies bandwidth required by region. In the interests of scale, flexibility, regional balance and sustainability, TELUS recommends all blocks be auctioned on a Tier 2 basis.

Comments are sought on whether the block and tier sizes given above will allow the entry of new carriers in the market.

Spectrum, especially spectrum for mobile communication services, is a scarce natural resource. Industry Canada on behalf of the citizens of Canada has a fiduciary responsibility to manage this scarce resource in an economically efficient manner. The question should be whether or not the block and tier sizes are spectrally efficient for the industry because, if they are, then they will also be economically efficient. In this regard TELUS believes that there should be no Tier 4 licences offered in the spectrum auction. Tier 4 areas do not reflect and actually exacerbate scale disadvantages in Canada and are too small geographically to accommodate a service that the majority of Canadians expect to be readily available as they move about. Consumers view PCS service and its follow-on 4th generation as national services or at least, not regional service. In this we differ from the United States in that TELUS believes that Industry Canada got it right the first time, unlike the FCC, and has so far continued to get it right in that they have consistently realized that the key to successful deployment is to

license on a national or at least Tier 2 basis. This has ensured that the Canadian consumer has had a much more seamless user experience; with many fewer dropped calls or roaming charges than their American counterparts.

QUESTION 4.2.2 PCS Expansion Service Areas, 1910-1915 MHz and 1990-1995 MHz

Comments are sought on the proposal of Tier 2 service areas.

TELUS agrees that the block should be auctioned in Tier 2 service area licences.

QUESTION 4.2.3 1670-1675 MHz Service Areas

Comments are sought on the proposal of Tier 2 service areas.

TELUS agrees that the block should be auctioned in Tier 2 service area licences.

QUESTION 4.4 Adjacent Channel/Same Area Coordination

Comments are requested on technical considerations for AWS systems in the applicable bands.

TELUS notes that if AWS spectrum block structure proposed by TELUS and used by the FCC in the American AWS spectrum auction is adopted by the Department that this will facilitate and simplify coordination at the Canada/U.S. border as only a single co-frequency operator needs to be coordinated with. The Department's

suggested spectrum block structure would increase the complexity, cost and time required for such cross border coordination for no good reason.

QUESTION 4.5 Sharing Issues with Other Services

Comments are requested on technical considerations for sharing of AWS systems with other services in the applicable bands.

TELUS has no specific comments at this time.

QUESTION 5.3 Licence Term, Renewal and Implementation Requirements

Comments are sought on the licence term, implementation and renewal proposals. Specifically, comment is sought on:

- *the proposal to use a 10-year licence term;*

TELUS notes that the FCC set the licence term for AWS as 15 years, with the possibility of 10-year terms of licence renewal with no mid-term implementation requirement. Ofcom is exploring 20-year initial licence terms. TELUS proposes that Canadian licence terms should be harmonized with the licence terms set by the FCC. If concrete concerns are expressed at some point in the future, the Department should set them out in a public document so that the industry can address them. TELUS believes that the licence terms for AWS Spectrum in Canada should be an initial 15-year term with the high expectation of 10-year terms of licence renewals with no mid-term implementation requirement.

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- *whether an interim implementation requirement should be imposed;*
 - *if yes, respondents should provide a rationale and an explanation of the implementation parameter(s) the Department should consider, the time frame for such a measure and the means of determining compliance (e.g. technical measurement methods, affidavit, number of subscribers in area):*

TELUS does not believe there should be an interim implementation requirement imposed

TELUS believes, as the FCC must have as well, that bidders participating in and obtaining spectrum in an open spectrum auction will act in an economically rational manner. That is they will use the spectrum purchased to offer services in a technological and economically efficient manner in a timeframe where this can be achieved. Given that this spectrum has been paid for up front, carriers have an incentive to obtain economic rents from spectrum resources as soon as is economically feasible. Additionally, the spectrum must, at a minimum, be placed into use two years before the initial licence term expires in order to secure renewal of licence. The Department will already have secured the highest value for it in the spectrum auction, and with the latter proviso, also has a method of ensuring that the spectrum is placed into service without unnecessary interventions into carriers' network development plans and implementation timeframes.

- *whether the renewal expectancy provisions and process are suitable:*
 - *if not, respondents should provide a description of the rationale for different approaches:*

TELUS is strongly of the view that the licences offered in this spectrum auction should also come with a high expectation of renewal

TELUS does not agree with the renewal expectancy proposed by the Department. The Department has proposed that licences come with “the possibility of renewal for an additional term of up to 10 years.”⁶³ This is different and much less than the Department has used in all previous spectrum auctions. In each of those spectrum auctions the licences have been offered for an initial 10-year term with a high expectation of renewal. TELUS is strongly of the view that the licences offered in this spectrum auction should also come with a high expectation of renewal. Firstly, there is no apparent reason not to do so. Secondly, it would give bidders greater business certainty and allow them to confidently bid in the auction knowing that after the initial licence period there was a high expectation of renewal and thus they could invest in infrastructure and network build-out in the initial licence term knowing that they were not in danger of losing all such investment. Thirdly, these licences would accord with all other spectrum licences in Canada. Fourthly, in the Consultation document the Department stated “The licences will have the following attributes, as detailed in the *Framework for Spectrum Auctions in Canada* (October 2001, Issue 2) document.”⁶⁴ Consulting the referenced document at section 4.5 Licence Term, the Department states “and will have a high expectation of renewal for a further 10-year term ...”⁶⁵ TELUS requests that the Department restore the high expectancy of renewal provision. There are many reasons to do so and no good reasons not to.

- *whether requiring application for renewal 2 years before the licence expiry is appropriate;*

⁶³ DGTP-002-07, *supra* note 57, section 5.1, p. 32.

⁶⁴ *Ibid.*, section 5.1, p. 32.

⁶⁵ “Framework for Spectrum Auctions in Canada” (October 2001, Issue 2), section 4.5, p. 7.

For the Department to impose an artificial deadline is, in the view of TELUS, an act of interference in the market place that could be deemed inappropriate

If the Department adopts the TELUS proposals in this response, then requiring an application two years before the licence expiry is probably not appropriate. In the first place, a bidder acting rationally will have obtained the spectrum in an open market at its highest value. From that point on, whether or not the licence holder has placed the spectrum into service should be a decision left to the licence holder. The licence holder will have expended the market's highest value in the spectrum auction which is the goal of spectrum auctions, namely to place the spectrum in the hands of those that value it the most. This has been the goal of the Department which they enunciated when they adopted spectrum auctions as a licensing tool. The successful bidding party will not have expended the funds they did on the auction for any other purpose than to place the spectrum into service at the economically proper moment. In some cases this might not be the same time period the Department has in mind. In this case, TELUS suggests that the decision should always be in favour of the market place which should drive such deployment decisions. For the Department to impose an artificial deadline is, in the view of TELUS, an act of interference in the market place that could be deemed inappropriate. TELUS understands that the Department retains a proprietary interest in the spectrum but feels that the Department, having exacted the maximum economic rent it could during the spectrum auction, should allow the owners of this spectrum to use it as they see most economically proper, in other words in an economically efficient manner. TELUS feels that if the Department is concerned that the spectrum is not being used or insufficiently used by some standard yet to be determined, then the end of the initial licence period, which we continue to believe should be 15 years, is the appropriate time period to have the full discussion with respect to spectrum usage.

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- *the means of determining compliance (e.g. technical measurement methods, affidavit, number of subscribers in area): and*

No two roll-outs will ever be the same

The Department proposes to take into consideration a “satisfactory demonstration of substantial service in the licence area”⁶⁶ without defining any standard of measurement. The Department then continues by suggesting that other reasons for not renewing a licence could be such things as “changes or planned changes to the allocation usage in the spectrum in question”⁶⁷ or “any other pressing spectrum management issues.”⁶⁸ TELUS questions just what exactly it is the Department is selling in the spectrum auction. It seems to be a 10-year licence where the successful bidder must make substantial investments in infrastructure and service roll-out but is subject to losing the licence based on a finding that the roll-out was not substantial enough according to new or revised criteria or in the event that the Department has changed its mind on the allocation or just has a pressing spectrum management issue. Clearly, this is unsatisfactory and the Department must offer bidders a much higher level of certainty with respect to licence renewal.

Compounding the problem is that no two roll-outs will ever be the same. As the Department recognized in the Consultation paper, “a variety of business plans and technologies may be employed in these bands across markets of various sizes, leading to various deployment strategies.”⁶⁹ The Department runs the risk of being drawn into a quagmire of endless debate and consultation on how much is enough, how high is high, if it seeks to impose such a test.

⁶⁶ DGTP-002-07, *supra* note 57, section 5.3, p. 34.

⁶⁷ *Ibid.*, p. 35.

⁶⁸ *Ibid.*

⁶⁹ *Ibid.*

There is a further concern with the Department's proposals with respect to licence renewal. Currently, with spectrum licences won in an auction having a high expectation of renewal, the expectation is that the licence remains with the operator and is renewed providing the Conditions of Licence are in order. Under the new regime that is proposed in the Consultation paper, "licensees may apply for licence renewal for an additional term of up to 10 years as outlined below."⁷⁰ This is a change and one for the worse as it severely lessens any degree of business certainty that may have accrued to these licences. Under the current licensing regime, which comes with a high expectation of renewal, licensees have much more incentive to invest, deploy and make maximum use of the spectrum licence won at a spectrum auction. Under an ill advised licensing scheme whereby they must "re-apply" for these licences they will have much less incentive for the intensive capital deployment than they would otherwise have implemented. TELUS repeats that the department needs to reset the licence renewal parameters as coming with "a high expectation of renewal".

- *the provisions the Department should consider when a licensee is determined to not fully meet the renewal expectancy requirements (e.g. the revocation for part or all of the spectrum or geography).*

The Department has already recognized the potential mine field it is entering in determining whether or not a licensee has fully met the renewal expectancy

The Department has already recognized the potential mine field it is entering in determining whether or not a licensee has fully met the renewal expectancy requirements when it recognized that there will be a variety of business plans and technologies employed across markets of various sizes, and leading, naturally enough in TELUS's opinion to different deployment strategies. While there will

⁷⁰ *Ibid.*

almost certainly be some carriers deploying current generation technologies on AWS spectrum in the near term, AWS spectrum will, for the most part, likely be deployed to offer 4G services to Canadians. The technologies and services for 4G are still being debated and developed in international fora. The Department will recall the situation in 1996-1998 when CDMA 2G technology had technical challenges. These challenges delayed the rollout of PCS networks by those operators that had chosen the more spectrally efficient CDMA technology with which to launch PCS service. After some false starts, to be expected with any new technology, service was quickly rolled out even if it meant that the operators had missed the original deadlines set by the Department. In this case the Department had developed initial roll-out requirements that were not based on technological development time frames but rather on regulatory timeframes which clearly were not possible to meet at first. They were met once the technology was capable and were surpassed in the Canadian market place as competition intensified. A 15-year licence term, as TELUS is strongly recommending, or even a 10-year licence term with no revocation threat, means that an operator can hold spectrum in reserve, if that make sense – it having been paid for over the entire licence period – until a suite of services are developed that make good business sense to roll-out in a particular market. This could happen 2-3 years into the initial licence period or depending on the market could happen in years 14 and 15 of the initial licence period. If it happened in the latter period, under the Department’s proposal, then all of the investment and rollout by the operator would have come too late for the Department’s tastes. It would not matter that this was the economically correct time to roll this suite of services out in this market place. Even more egregious it would not matter that the operator has paid “up front” for the entire licence period and was only now about to reap the returns that over time would pay back the investment in the licence fees at the spectrum auction. This operator would, under the Department’s proposal, be treated not as a long term

strategic thinker and patient investor, but rather as a spectrum hoarder and summarily have their licences revoked. TELUS believes and will state once again that the Department first needs to restore the high expectation of renewal to any licences won in the spectrum auction and only ensure that the conditions of licence are in order and renew the licence as a reasonable and market rate justified fee.

QUESTION 5.4 Conditions of Licence

The Department seeks comment on the proposed conditions for the AWS, PCS expansion and 1670-1675 MHz spectrum bands.

TELUS strongly believes that the Department should set the initial licence term as 15 years with no interim mid-term implementation requirement. The Department, while noting that the FCC offered 15-year initial licence terms for the same spectrum, has offered any reason why Canada should not do like wise. The reasons why the Department should reject both interim mid-term and end-of-term licence requirements have been discussed above.

TELUS further believes, and reiterates, that the licences should come with a high expectation of renewal as have all of the other spectrum licences auctioned by the Department.

TELUS notes that the Canadian wireless industry has called upon the Department for further consultation on its proposed antenna tower siting policies and approval procedures. TELUS repeats the call for further meaningful consultation before the Department releases the new policy and approval procedure.

TELUS notes that the potential licence condition to provide lawful intercept capability on router-based networks is new. Any standard relied upon by the Department to generate this new condition of licence must be commercially available from more than one vendor and compatible with carrier's networks and the issue of compensation to the carrier needs to have been resolved. Further, given the planned introduction of legislation covering this requirement by the government, it is questionable whether this item should even be a condition of licence.

TELUS notes that the 2% of adjusted net revenue R&D expenditure requirement proposed by the Department is a requirement that is not imposed in any other regulatory jurisdiction. While this may have been an appropriate requirement in the early days of the Canadian wireless industry, it is no longer appropriate in a maturing industry. TELUS recommends that this requirement be dropped from the proposed conditions of licence for the spectrum on offer in this spectrum auction. In the event that the Department decides to retain this requirement, the expenditures should be averaged over the entire licence term rather than over 5 year periods as proposed.

QUESTION 5.5 Post-auction Licensing Process

The Department seeks comment on all aspects of the proposed post-auction licensing process for AWS, PCS expansion and 1670-1675 MHz spectrum.

There are two aspects of the Post-auction Licensing Process that TELUS intends to comment on; the first is the process covered by section 5.5 of the Consultation paper and entitled 'Post-auction Licensing Process'; and the second is the process covered by section 6.3 and entitled "Bid Payment".

With respect to the post-auction process outlined in section 5.5 (*i.e.* a potential re-auction of unassigned licences at a later date following the close of the auction), TELUS is favourably disposed. TELUS notes in this regard that the Department did this very thing after the initial spectrum auction for the 2.3/3.5 GHz Fixed Wireless Access band and it was highly successful. TELUS also recommends that the Department conduct a public consultation prior to any re-auction as some factors may have changed, and some licences may be better suited for a first-come, first-serve process given that demand will never exceed supply for some of these licences. In any event, a process open to all should be implemented by the Department for any spectrum left unassigned after this spectrum auction.

With respect to the bid payment process outlined in section 6.3, TELUS strongly disagrees with the proposed process. The Department is proposing the same process that TELUS and most other large Canadian owned and controlled carriers have been complaining to the Department about after every spectrum auction beginning with the first one. Simply put, the process is not fair and needs to be changed. Under the present process, carriers are required to pay 100% of their winning bids within 30 days of the auction's close. The Department takes this money, in some auctions amounting to hundreds of millions of dollars, and proceeds to examine whether or not the successful bidder is in fact Canadian owned and controlled and therefore eligible to hold the licences it has just won and paid for. If this examination were conducted in an efficient manner, say one to three months following the auction, this process might be workable. It is not and therefore the process does not work.

TELUS understands that the Department's process and legislation require that it assure itself of a bidder's eligibility, but the present process results in a successful bidder waiting well over a year after they have paid for their licences until they

receive them. The same process is repeated with the same timeframes after every spectrum auction. TELUS proposes that the Department change its process such that bidders would be declared eligible before the start of the auction, companies such as TELUS could declare that there are no material changes in their ownership structure since the last examination or, if there was a material change, outline exactly what it was and then have the Department examine the change and satisfy itself that the change was either not material or that it was material but did not alter the company's Canadian owned and controlled status.

By focusing on the changes, the work load and time frame taken by the Department can be shortened considerably. Alternatively, TELUS would be open to a new process where successful bidders paid 20% of the total to the Department within 15 business days of the auctions close and pay the final 80% upon receipt of their licences from the Department.

QUESTION 6.2 Pre-Auction Deposits

The Department seeks comments on the opening bids and pre-auction deposits for AWS licences.

TELUS has no comments on the pre-auction deposits.