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25 May 2007

By E-mail

Mr. Leonard St-Aubin
Director General,
Telecommunications Policy Branch
Industry Canada
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Dear Mr. St-Aubin:

Subject: Advanced Wireless Services Consultation DGTP-002-07, Comments of MTS Allstream Inc.

Pursuant to the Spectrum Management Notice number DGTP-002-07, *Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services* from Industry Canada dated February 2007, MTS Allstream Inc. (MTS Allstream) submits the attached comments. The comments include the following Appendices:

Appendix A – *Successful Wireless Auctions for Competitive Markets – the U.K Experience*, Towerhouse Consulting.

Appendix B – *Comparison of Wireless Service price levels in the U.S and Canada*, Lee Selwyn and Colin B. Weir.

Appendix C - *Mobile Demand and Service Pricing in Canada*, Lemay-Yates Associates Inc.

Yours truly,

Original signed by Teresa Griffin-Muir.

Attachments

***Consultation on a Framework to
Auction Spectrum in the 2 GHz Range Including
Advanced Wireless Services***

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Canada Gazette, Part I, 16 February 2007

DGTP-002-07

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**Comments of
MTS Allstream Inc.**

25 May 2007

Advanced Wireless Services Consultation

DGTP-002-07

Comments of MTS Allstream

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FOSTERING A COMPETITIVE WIRELESS ENVIRONMENT

1. Mobile wireless spectrum is a valuable and scarce public resource that is becoming an increasingly integral part of the Canadian economic fabric. There is no doubt that the use and proliferation of wireless services has greatly enhanced the ability and efficiency of Canadians to communicate and do business. This, in turn, has produced gains for the economy overall.
2. While Canada, given its telecommunications legacy, should be at the global forefront in innovation and deployment of wireless services, disturbingly, Canada is now lagging many countries. In fact, just last year, the Telecommunications Policy Review Panel (TPRP) found that "Canada's mobile wireless industry lags behind its major trading partners on a number of key measures" which led the Panel to conclude that "Canada should develop a more efficient and vibrant wireless industry".¹ Swift and decisive steps must be taken to reverse this alarming trend. The TPRP urged the Government not to be complacent in this respect:

"Unless it improves its performance in delivering advanced broadband and wireless services, Canada risks slipping behind other countries in providing the infrastructure to deliver the kinds of economic and social benefits needed to improve the productivity and competitiveness of the Canadian economy, improve the quality and efficiency of government and public services, and build a more inclusive society. In the Panel's view, Canada cannot afford to be complacent".²

3. The upcoming auction of Advanced Wireless Spectrum (AWS) represents the single most important tool that is in the Government's hands right now to achieve a state-of-the-art competitive mobile wireless industry – an industry that is defined by robust and intense competition, leading edge products and services and a proliferation of customer choices. The key ingredient to the achievement of these objectives is to

¹ TPRP, Final Report, March 23, 2006, page 1-21.

² Telecommunications Policy Review Panel (TPRP), Final Report, March 23, 2006, page 1-13.

establish a set of rules for the auction of AWS spectrum that will remove insurmountable barriers to and produce the maximum degree of, competitive market entry.

4. The Minister of Industry, Maxime Bernier stated that it is the Government's objective "to ensure that Canada's telecommunications industry is internationally competitive and successful and is shaped to best support our ever-evolving and rapidly changing telecommunications needs."³ The Minister of Industry also stated in the same press release that a key objective of the Government is to ensure that market forces are relied upon to the greatest extent possible as a means of increasing the level of competition and customer choice in Canada's telecommunications marketplace.⁴
5. Competition is the engine that drives innovation and economic growth and it is the key reason why companies continuously strive for excellence and invest in new networks, products and services. As matters currently stand, Canada has not attained this level of competition. Although Canada's performance in the mobile wireless market has been satisfactory, this industry sector is not growing at a pace which sets Canada apart or which makes it the world leader that it should be in this increasingly important sector of the economy.
6. If Canada is to become – and remain – an international leader in the telecommunications sector, and if Canadians are to reap the benefits of competition in the form of lower prices, increased customer choice and higher levels of product and service innovation, then the Government must embrace the opportunity to dramatically increase the level of competition that currently exists in Canada's mobile wireless market.
7. The wireless sector is not like other telecommunications industry sectors. Increased competition in this industry sector is only made possible if an entrant can secure a

³ Industry Canada, Press Release, Canada's New Government Issues Policy Direction to CRTC that Calls for Greater Reliance on Market Forces, 18 December 2006.

⁴ Industry Canada, Press Release, Canada's New Government Issues Policy Direction to CRTC that Calls for Greater Reliance on Market Forces, 18 December 2006. Minister Bernier stated that the Government's plan is intended to "increase competition in the marketplace, which ultimately will have a positive effect on the consumer who will benefit from greater choices and improved products and services."

spectrum licence from the Government. This is an absolute barrier to entry into the market and, absent auction rules which create AWS spectrum licences that are designated for entrant bidders, the evidence shows that the “Big 3” incumbent wireless operators⁵ will adopt auction behaviour that is pre-emptive of additional market entry by acquiring all of the licences available in the auction.

8. As the custodian of Canada's spectrum resources, the government must design the auction and the spectrum licence conditions so as to optimize the potential for new entry by awarding licences in a manner that will remove barriers to market entry and deliver on the Government's vision of a truly competitive telecommunications marketplace and will, to the greatest extent possible, fuel economic growth.
9. This will only be accomplished if the auction design designates spectrum for entrant bidders. The TPRP also identified this auction approach as a necessary component to achieve increased competition and innovation in the wireless market, stating:

“In developing the new spectrum policy, Industry Canada should take into account work completed as part of its ongoing spectrum policy framework review, and make certain to address the following areas: ... continuing the use of regulatory approaches to increase the opportunity for Canadians to have an expanded choice of service providers, such as spectrum caps and reservations for new market entrants.”⁶
10. The Government has frequently used these means to facilitate entry and to fulfill its policy objectives. For example, when Industry Canada first decided to award cellular spectrum licences in 1984, it decided to adopt rules which would ensure that a level playing field would exist among the companies that received these licences on the very first day of service launch. Specifically, the Department established a "no head-start" rule which essentially provided Rogers with an assurance that the telephone companies could not commence mobile wireless operations until Rogers had completed its network on an area by area basis.

⁵ Bell Mobility Inc., Rogers Wireless Communications Inc. and TELUS Mobility.

⁶ TPRP, Final Report, March 23, 2006, Executive Summary, page 8-9.

11. In fact none of the incumbent wireless operators had to participate in spectrum auctions in order to obtain their initial award of cellular and PCS spectrum. In 1984, for example, they participated in a comparative selection and review process which resulted in each of the Big 3 being awarded cellular spectrum without ever having to pay an up front auction amount for this spectrum.
12. The same is true for the award of PCS licences in 1995. Once again, none of the Big 3 had to participate in an auction in order to obtain one of the four PCS licences that were awarded at this time. In fact, when the Department awarded these licences, two of the licences were awarded to new entrants (Clearnet and Microcell) and two were specifically set aside for the incumbent wireless operators – a conscious regulatory decision which puts the lie to any claims that there have never been any spectrum "set asides" in Canada. In actual fact, there have been set asides – it's just that these set asides favoured the incumbents!
13. New entrant blocks have been a central feature of spectrum auctions in several other advanced economies (including the United States and the United Kingdom⁷) and the treasuries of these countries have significantly benefited from the use of these mechanisms.
14. The Government has a golden opportunity to place Canada at the forefront of the international community by establishing rules for the auction and licensing of AWS spectrum that will stimulate investment and competition in Canada's mobile wireless sector which, in turn, will lead to higher levels of product and service innovation and expand the overall economic output of this sector. In the final report of the TPRP, the panel recommended that public policy be developed to ensure a strong and vibrant industry:

⁷ A discussion of the experience in the United Kingdom using entrant blocks in mobile wireless auctions can be found in the attached report prepared by Towerhouse Consulting, *Successful Wireless Auctions for competitive markets – the UK Experience*, 24 May 2007, which is set out in Appendix A of these comments.

“To ensure that the full potential of wireless is exploited, Canada needs a policy framework that supports a strong and vibrant industry, enhances the efficient use of spectrum and facilitates the adoption of wireless. It should be a goal of Canadian spectrum policy to ensure that adequate licensed and licence-exempt spectrum is made available in a timely fashion to permit increased choice, encourage innovation and facilitate the deployment of advanced fixed and mobile wireless services with the appropriate level of oversight.”⁸

15. In its recent consultation document on the auction AWS spectrum, entitled *Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Spectrum* (the AWS Consultation Document), Industry Canada (or the Department) noted that “[T]he risk of having the spectrum bought by all the incumbents is that the opportunity of having further competitive entry into the market would be prevented.”⁹ The Department also observed that this problem is not easily solved on an *ex post* basis. According to the Department, “recent experience of regulators from other countries indicates that *ex post* solutions to wireless competition issues present a number of difficulties.”¹⁰ The Department, therefore, noted quite rightly that “[C]reating an opportunity for new entry at the time of auction is, in many respects, the only time to introduce further competition in the wireless market.”¹¹
16. MTS Allstream agrees. AWS spectrum has a tremendous amount of potential and offers exciting new product and service opportunities for Canadians. Not only can it be used for conventional mobile voice and data applications, its “3G” or third generation capabilities allow for the delivery of a whole new range of broadband products and services, including mobile health, mobile education, and mobile commerce applications. By designing rules for the auction of AWS spectrum that will increase the overall number of operators in Canada's mobile wireless sector, the Government can ensure that

⁸ TPRP, Final Report, March 23, 2006, page 5-21.

⁹ *Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Spectrum Canada Gazette*, Part I, 24 February 2007, DGTP-002-07, page 21.

¹⁰ *Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Spectrum Canada Gazette*, Part I, 24 February 2007, DGTP-002-07, page 21.

¹¹ *Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Spectrum Canada Gazette*, Part I, 24 February 2007, DGTP-002-07, page 21.

customers will receive all of the benefits that increased competition brings, including a whole new range of innovative products and services.

17. An AWS auction that is predicated on unconstrained bidding by the "Big 3" incumbent wireless operators would result in all of the licences in the auction being acquired by these companies – a result which does nothing to advance the Government's policy agenda of increased competition and customer choice.
18. In fact Industry Canada has rightly stated that, first and foremost, it is the public interest that should guide the design of the auction. According to the Department, "[S]ince 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.*"¹²
19. MTS Allstream submits that in any auction of AWS spectrum the public interest is best served by embracing the Minister's stated public policy goals of promoting competition and with it innovation and customer choice. Time and again, these principles have shown, beyond a doubt, to be the most effective means of ensuring that Canada's telecommunications industry is at the leading-edge of the communications sector and is internationally competitive.
20. The first step in achieving these goals is for the Government to establish a set of auction rules that will facilitate market entry by new national and regional wireless operators. By designating specific blocks of AWS spectrum for new entrant bidders (notably, the D and E blocks) and by creating licence conditions which require all AWS and PCS licensees to provide each other with roaming, resale and tower sharing on a non-discriminatory basis, the Government can increase the level of competition in the market which in turn will lay the groundwork for increased investment, innovation and economic growth.

¹² Consultation on a Framework to Auction Spectrum in the 2 GHz Range Including Advanced Wireless Spectrum Canada Gazette, Part I, 24 February 2007, DGTP-002-07, page 21, emphasis in the original and by MTS Allstream.

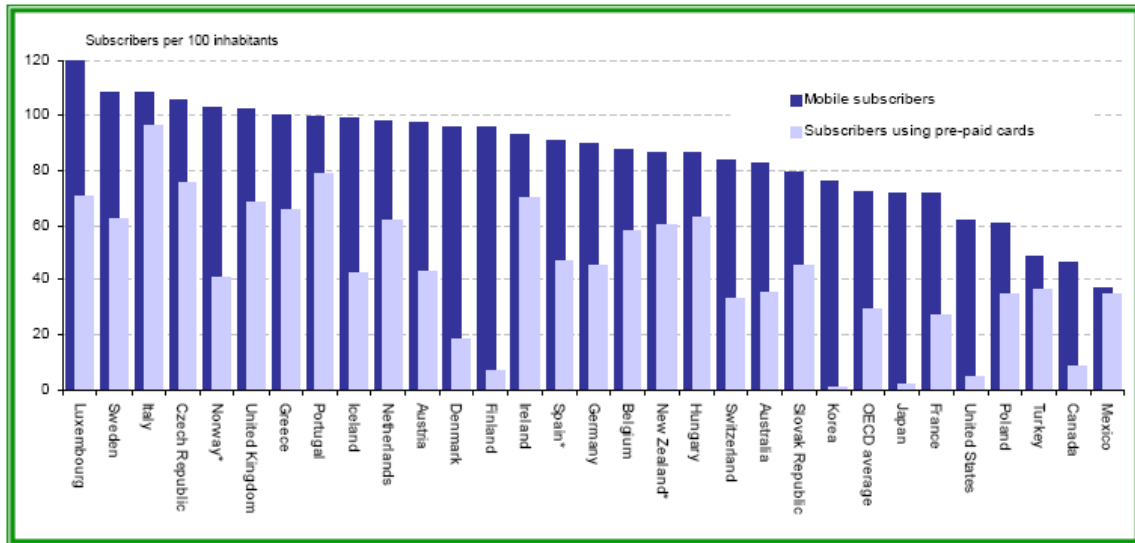
Canada Can Do Better and Should Aspire for More

21. In the years following the domestic launch of cellular service in 1985, the mobile adoption rate in Canada experienced a rate of growth that was comparable with other nations. For example, in 1995 mobile wireless penetration reached 10% of the population in Canada. In the US, the 10% level had been reached one year earlier in 1994.¹³ At the same time, Canada was ranked 10th among all OECD countries in wireless adoption.¹⁴

22. There is growing evidence, however, that Canada's international rankings on several important industry measures, including mobile wireless service penetration, have fallen precipitously since that time. The OECD and the ITU, for example, have both found that Canada's mobile market penetration levels lag the penetration levels witnessed in other developed countries. In particular, the ITU found that there were 47.2 mobile wireless subscribers per 100 inhabitants in Canada in 2004 versus 61.0 in the United States, 82.6 in Australia, 90.9 in Norway, and 102.8 in the United Kingdom. These results earned Canada the unenviable distinction of being second to last among the OECD in mobile wireless adoption.

¹³ Lemay-Yates Associates Inc., *Mobile Demand and Service Pricing in Canada*, September 25, 2006, page 12. A copy of this study is set out in Appendix C of these comments.

¹⁴ Cellular mobile pricing structures and trends, DSTI/ICCP/TISP(99)11/FINAL, OECD, 19 May 2000, page 78.

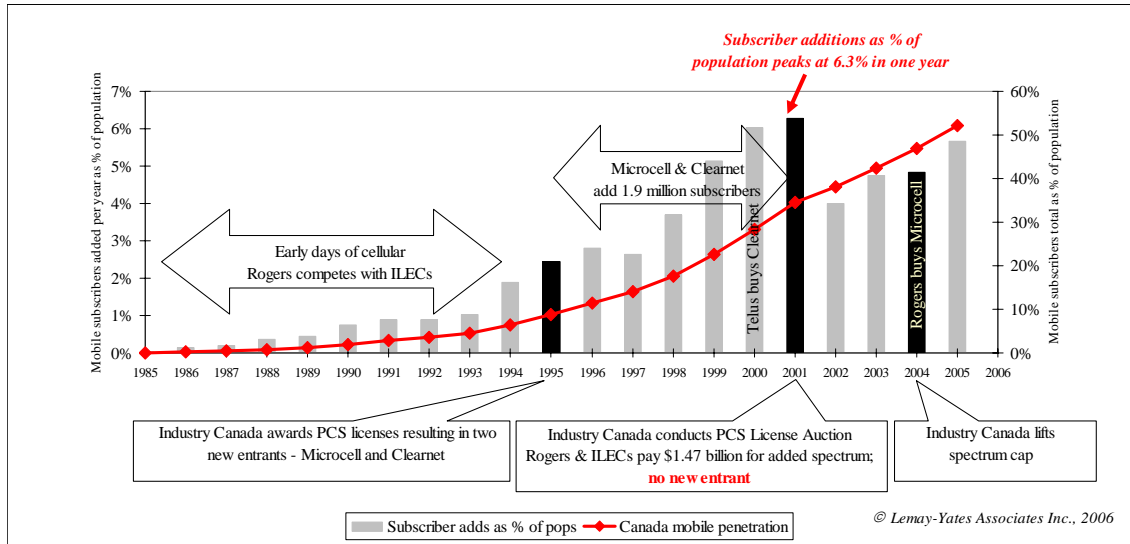


23. Although Canada's mobile penetration rate has now increased to 57%, the rates of other countries have grown even more. In fact, the gap between Canada's mobile wireless penetration levels and those of other countries appears to be increasing. In the United States, for example, the mobile penetration is 77% which means that out of 100 people roughly 20 more Americans use mobile phones than Canadians.¹⁵ In the European Union, mobile wireless penetration levels exceed 80%, 90% and even 100%.
24. Importantly, Canada experienced the strongest growth in its mobile wireless penetration rates when there were more than three national wireless operators in the market. Conversely, as the graph below shows¹⁶ it has experienced slower growth rates in the periods following industry consolidation, such as when the Big 3 incumbents acquired all of the spectrum licences in the 2001 PCS auction or when Rogers acquired Microcell in 2004.

¹⁵ The Economist, *Pocket World in Figures*, 2007 Edition.

¹⁶ Lemay-Yates Associates Inc., *Mobile Demand and Service Pricing in Canada*, September 25, 2006, page 21. A copy of this study is set out in Appendix C of these comments.

Canadian Mobile Timeline of Major Events



25. This graph shows that subscriber penetration rates increased every time Industry Canada took steps to increase the level of competition in the market, such as when the Department authorized additional market entry in 1995 by granting PCS licences to Clearnet and Microcell or when it announced that it would conduct a spectrum auction of new PCS spectrum in 2001. It was only when the market contracted as a result of certain licence acquisition events (e.g., the acquisition of Microcell by Rogers or the acquisition of all of the PCS licences in the 2001 PCS auction by the Big 3) that mobile wireless adoption rates in Canada began to languish.

26. There are other indications that Canada's performance in the mobile wireless sector lags behind other countries. For example, it is estimated that Canadian mobile wireless usage is approximately 52% of the average U.S. usage and even though Canada's usage appears to compare favourably with usage levels in European countries and Japan, Canada's data usage levels are much lower than what exists in these other countries.¹⁷

¹⁷ Merrill Lynch, *Global Wireless Matrix 2Q05*, December 2005.

27. Canada has also been slower than other developed countries to roll-out wireless local number portability and it has been slower to deploy the next generation of mobile wireless services and features, particularly those based on third generation or "3G" technology. For example, in its 2006 Report to the Minister of Industry, the TPRP noted that deployment of 3G systems in Europe took place more than four years ago in 2002 and in the United States in 2004:

Perhaps the largest gap between Canada, the U.S. and other countries is with respect to the implementation of third-generation (3G) high-speed data services. Canadian deployment of 3G wireless systems lags not only the U.S. (2004), where every major operator is in the late stages of building and marketing these services, but also significantly lags deployment in Europe (2002), South Korea (2002) and Japan (2001)...

28. With respect to wireless local number portability, Canada only recently rolled out this capability in March of this year, whereas the UK, Netherlands and Sweden introduced wireless number portability in the 1998 to 2000 time frame. The United States introduced wireless number portability in 2003.
29. Canada is also home to some of the highest mobile wireless service pricing in the OECD. For example, Canada is currently ranked 22nd out of the 30 OECD countries for "highest price" paid by "medium" users.¹⁸ Only a few years ago, the story was completely different. In 1999, before the consolidation of the mobile wireless industry in Canada, the OECD ranked Canada's mobile rates as some of the lowest in the world.¹⁹
30. Although these results are due in part to the higher than average prices that Canadians pay for domestic mobile wireless service plans, they are also due to the fact that Canadian wireless operators charge separately (and they charge higher rates) for a number of services and features that are included in the mobile wireless service plans of operators in other countries, such as long distance services, data services, voicemail and call waiting. For example, data access rates in Canada are priced many times

¹⁸ OECD, *Teligen Pricing Study*, 2007.

¹⁹ OECD, *Cellular Mobile Pricing Structures and Trends*, May 2000.

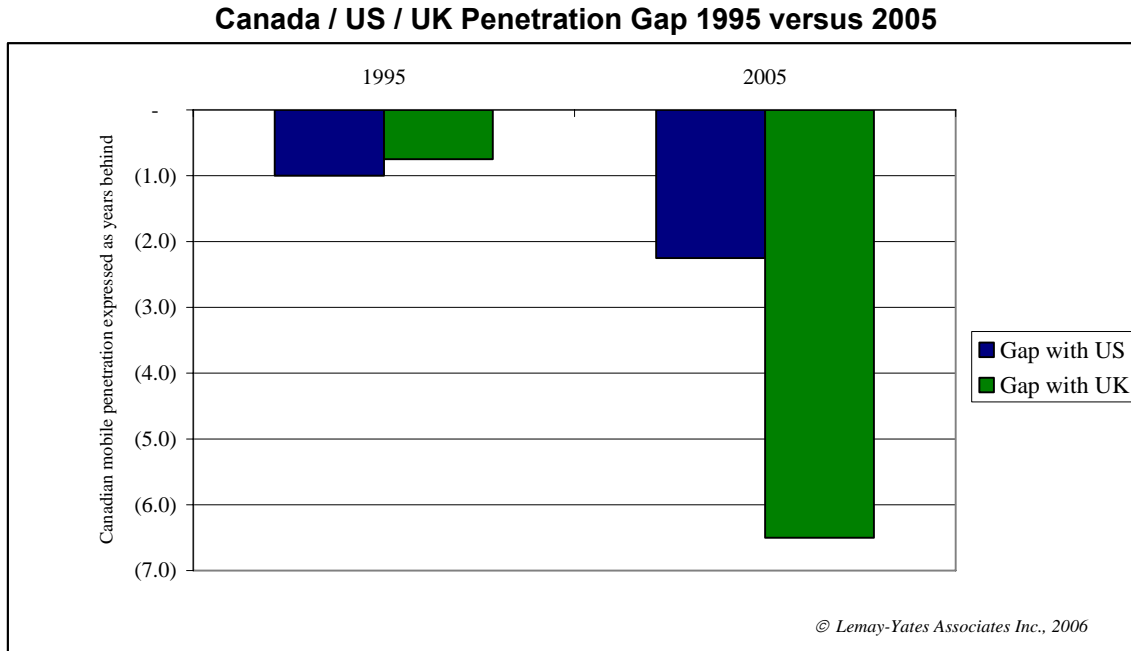
higher than they are in other countries around the world, including Australia, the United Kingdom, the United States, New Zealand, and even Rwanda.²⁰

31. A detailed comparison of mobile wireless service pricing in Canada versus the United States can be found in the attached study prepared by Economics and Technology, Inc., *Comparison of Wireless Service Price Levels in the US and Canada* which is set out in Appendix B.
32. Finally, in terms of investment, Canada's national wireless operators invested roughly 40% less per person on wireless infrastructure than wireless operators in the United States in 2006.²¹ In fact, when measured on a percentage of revenues basis, Canada's Big 3 have been investing a decreasing share of revenues in infrastructure as the market has consolidated.²²
33. Mobile wireless penetration rates should be treated as an important measure of Canada's performance in this increasingly important industry sector. While the Big 3 apparently quibble with OECD's European penetration numbers their complaints whether or not justified do nothing to explain why mobile wireless penetration rates in the United States are much higher than in Canada or why the gap between Canada and the United States (not to mention other OECD countries) is widening.

²⁰ Source: <http://www.thomaspurves.com/2007/04/09/canada-worse-than-3rd-world-countries-when-it-comes-to-mobile-data-access/>

²¹ CWTA, CTIA, US Census Bureau, and Statistics Canada.

²² Based on company annual reports and financial statements.



34. In fact, if this gap was measured in terms of subscribers, it would represent a total of 6.5 million subscribers – a potential customer base that any new entrant can and would be happy to claim as its own provided that the Department creates an AWS auction framework that is designed to facilitate additional market entry by designating specific blocks of AWS spectrum for entrant bidders. This base of un-served subscribers is huge. It is comparable to Rogers' existing base of 6.7 million subscribers and is larger than Bell's base of 5.8 million subscribers (including Bell affiliates) and TELUS' base of 5 million subscribers. There is clearly room in Canada's underperforming mobile wireless market for additional competition and market entry.

35. It is also worth noting that in relation to Canada's mobile wireless performance that even though Canada was slower than its neighbour to the south to licence and launch mobile wireless services, this lag occurred in the early- to mid-eighties and represented a one or two year period at most. Given the length of time that has passed since the award of cellular licences in 1984, this alone does not explain why Canada finds itself today at the bottom end of the OECD's ranking.

A Wake-Up Call from the Telecommunications Policy Review Panel

36. Despite Industry Canada's best efforts to promote competition and additional market entry in Canada's mobile wireless market, there is a very high degree of concentration of licence ownership in the hands of three companies, two of which are dominant in the supply of several wireline telecommunications services (i.e., Bell and TELUS) and the other of which holds 50% of all of the licensed mobile spectrum capacity currently in existence in the Canadian marketplace, while simultaneously operating the only GSM-based mobile wireless network in the country (i.e., Rogers).
37. This heavy concentration of ownership led the TPRP to express concerns in its Final Report regarding the small number of operators in the Canadian market, especially when compared to markets south of the border:

In the U.S., 97 percent of the population live in areas with three or more mobile providers, 87 percent live in areas with five or more mobile wireless operators, and 41 percent live in areas with at least six. This is in contrast to Canada where, although 94 percent of the Canadian population has access to three or more wireless service providers, the maximum number of wireless carriers in any given area is three.²³

38. In its March 2006 Report, the TPRP concluded that Canada's performance in the mobile wireless sector was lagging and that steps should be taken to remedy this problem. According to the TPRP:

The smaller number of mobile providers in Canada – and the fact that all three national wireless service providers are also owned by large telecommunications service providers that also provide wireline services – may mean that there is less competition in the Canadian wireless market than in the U.S. market, which consequently has resulted in higher prices, less innovation, lower uptake and lower rates of usage.²⁴

²³ TPRP, Final Report, page 1-21.

²⁴ TPRP, Final Report, page 1-21.

39. Thus, the TPRP recommended in its 2006 Report that the Government should continue to use regulatory mechanisms such as spectrum caps or aggregation limits where spectrum is scarce "***in order to provide an opportunity for new entrants to acquire spectrum and for Canadians to have an expanded choice of service providers***".²⁵
40. This approach is even more appropriate given the Government's decision to include a measure based on the presence of independent wireless service providers as an ingredient justifying deregulation of incumbent wireline providers.

An Auction Framework that is Based on Sound Public Policy Principles

41. As noted in the AWS Consultation Document, the Minister of Industry may have regard to the Canadian telecommunications policy objectives set out in the *Telecommunications Act* when issuing licences under the *Radiocommunication Act*, including the following objectives:
- to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;
 - to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications;
 - to promote the ownership and control of Canadian carriers by Canadians;
 - to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective; and

²⁵ TPRP, Final Report, page 5-21, emphasis added.

- to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services.
42. The Government's recently issued Policy Direction to the CRTC further directs the CRTC to rely on market forces to the maximum extent feasible as a means of promoting competition and customer choice in Canada's telecommunications marketplace.
43. The licensing of AWS spectrum provides the Government with an opportunity to promote these public policy objectives. Indeed, as the Department rightly points out in the AWS Consultation Document, "the government controls access to the underlying resource (spectrum) needed for market entry." It follows, therefore, that if the Department is to implement and pursue the Government's stated policy goals of promoting competition and customer choice in Canada's telecommunications markets, it is first necessary to create an auction framework that will facilitate additional market entry in Canada's mobile wireless sector. The Government has the tools to do so in the auction of AWS spectrum by designating specific blocks of spectrum for entrant bidders and by adopting rules for mandatory roaming, resale and tower sharing.
44. This is the best of all public policy outcomes and it will ensure that Canada's scarce spectrum resources are used in a manner which promotes competition, innovation and investment and maximizes the benefits of competition for all Canadians.

1.0 DESIGNATING AWS LICENCES FOR ENTRANTS

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.

(AWS Consultation Document, page 22)

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.

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.

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

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.

(AWS Consultation Document, page 22)

45. MTS Allstream's AWS auction proposal:

- For the reasons set out in this submission, MTS Allstream proposes that the E Block and D Block of AWS spectrum that are referenced in Figure 1 of the AWS Consultation Document should be designated as Tier 1 and Tier 2 spectrum for entrant bidders in the upcoming auction of AWS spectrum.
- Designating both the D and E Blocks as entrant blocks would facilitate more entry possibilities (e.g., one entrant with 30 MHz and another with 20 MHz, or various regional combinations, etc.) while at the same time leaving sufficient spectrum capacity available via the other blocks for bidding by the Big 3 incumbents and/or other market entry possibilities.

MTS Allstream's Proposed AWS Service Areas for Licensing

Block Licences	Pairing	Amount of Spectrum	Proposed Tiers	Number of Licences
A	1710-1715 MHz and 2110-2115 MHz	2 x 5 MHz	4	172
B	1715-1720 MHz and 2115-2120 MHz	2 x 5 MHz	4	172
C	1720-1730 MHz and 2120-2130 MHz	2 x 10 MHz	3	59
D	1730-1740 MHz and 2130-2140 MHz	2 x 10 MHz	2	14
E	1740-1755 MHz and 2140-2155 MHz	2 x 15 MHz	1	1

- A PCS licensee that is not an "entrant"²⁶ under MTS Allstream's proposed definition of an entrant bidder would be allowed to acquire up to 20 MHz of AWS spectrum in areas where it does not currently hold a cellular (850 MHz) licence, and 10 MHz of AWS spectrum in areas where that licensee is also a cellular (850 MHz) incumbent.
- A spectrum aggregation limit rule would apply during the auction; i.e., violating the rule during bidding would result in a monetary penalty. The spectrum aggregation limit should remain in force for a material period of time after the auction is completed, for example, 5 years. The aggregation limit would exclude 1.9 GHz PCS Expansion Spectrum and the 1670-1675 MHz licences.
- In order to ensure entrants have an opportunity to build out their networks so that there is truly an opportunity for customers to benefit from competition additional conditions of licence are required relating to mandated roaming, resale and tower sharing. In particular, all AWS, PCS and cellular licensees must provide each other with non-discriminatory access to roaming and resale services throughout the entire footprint of each licensee's physical network. These roaming and resale obligations should be akin to the "enhanced roaming and resale"

²⁶ For purposes of the MTS Allstream proposal an entrant is defined as a carrier or potential carrier that does not hold national spectrum or currently have a national wireless footprint.

arrangement, between Bell and TELUS and should include, but not be limited to "enhanced" and "automatic" or "seamless" digital roaming and resale capabilities.

- Finally, all cellular, PCS and AWS licensees should provide non-discriminatory access to existing antenna site facilities to other mobile wireless providers.
46. If the Government is to achieve its stated goals of increasing the level of competition and customer choice in the Canadian market, then it must take proactive steps in this proceeding to facilitate that market entry and to prevent further consolidation of mobile wireless licences in the hands of a very small and select group of incumbent operators.
 47. In particular, the Government must design rules for the auction of AWS spectrum that take proper account of the characteristics which make up the market for this spectrum and be capable of preventing any one entity or group from being able to acquire all of the licences that are available.
 48. This is critically important for those entities that do not hold any mobile wireless licences at the present time or who hold only limited amounts of mobile wireless spectrum (collectively, "entrants") because the value of a licence for these entities is quite different than what it is for an incumbent.
 49. For an entrant, the valuation of a licence involves a calculation of the going-forward value of the licence which is offset by the start-up cost of building out an entrant network.
 50. For an incumbent, the valuation exercise involves, first and foremost, a calculation of the value of protecting its existing subscriber and revenue base (a portion of which it risks losing to one or more new entrant bidders) as well as the going-forward value to be derived from providing new services.
 51. Fair bidding rules in the auction of AWS spectrum need to take account of the ability of incumbents to control the auction outcome either by preventing entry and/or by

monopolizing all of the licences on offer in order to protect their existing market positions.

52. The former problem can be addressed by designating one or more licences for entrants (referred to in the AWS Consultation Document as a "set aside"), while the latter can be addressed via a limit on the total spectrum that can be acquired in the auction by participating bidders ("aggregation limit"). In deciding how the auction of AWS spectrum should be designed, it is important to bear in mind the regulatory intervention that facilitated the Big 3 "national wireless PCS/Cellular network"²⁷ operators acquisition of their own mobile wireless spectrum. As well the various licensing processes that Industry Canada has established along the way to facilitate market entry should be taken into consideration in order to determine whether and, if so, how much spectrum capacity the Big 3 actually need in the upcoming AWS auction.

1.1 Industry Canada's Efforts to Facilitate New Market Entry

53. The mobile wireless licensing processes that have been conducted by Industry Canada to date have focused heavily on promoting new market entry, while at the same time ensuring that there was sufficient spectrum capacity on hand to address incumbent spectrum requirements. Among the steps which Industry Canada has taken over the years to promote and facilitate entry into Canada's mobile wireless market are the following:
- When the Department awarded cellular licences in the 1983/1984 timeframe – a licensing process which did not involve a spectrum auction – the A licence was awarded to Rogers, a new national cellular operator, and the B licence was set aside for the incumbent telephone companies (i.e., there was a licence reserved

²⁷ In the AWS Consultation Document, Industry Canada has identified "national wireless PCS/Cellular network" operators as distinct from new entrants. By "national wireless PCS/Cellular network" operators MTS Allstream has assumed for the purposes of this submission that the Department means Bell Mobility, Rogers Wireless and TELUS, and their affiliates, also referred to collectively herein as the "Big 3".

for each telephone company covering each company's traditional operating territory).²⁸

- As part of its desire for a level playing field among these two operators, Industry Canada established a "no head-start" rule essentially in favour of Rogers. In other words, Rogers was provided with an assurance that the telephone companies could not commence mobile wireless operations until Rogers had completed its network on an area by area basis. Initially, the spectrum award to Rogers (then Cantel Cellular Radio Group) was based on a licence in each of 23 metropolitan areas. At the same time, the CRTC established mandatory rules for the telephone companies to share their tower sites with Rogers and other third parties.
- In the 1995 comparative selection and review process which was established by Industry Canada for the licensing of PCS spectrum, six licences in total were available. In the result, the Department awarded two 30 MHz licences to two new market entrants (Microcell and Clearnet) and it also awarded licences to each of the incumbent cellular providers (i.e., the telephone companies and Rogers) representing 10 MHz of PCS spectrum each.²⁹ Although there were about a dozen other companies that applied for licences at that time,³⁰ some with national aspirations and some with regional, Industry Canada decided to hold back two licences for the future. This decision appears to have been predicated on the belief (which was perhaps prematurely prescient) that competition would be best facilitated in the 1995 time frame by establishing a market structure of four national PCS providers.

²⁸ DGTN-006-82/DGTR-017-82.

²⁹ Industry Canada Press Release December 18, 1995. Note – Microcell's licence is held by Rogers that acquired it in 2004; Clearnet's licence is held by TELUS that acquired it in 2000.

³⁰ Prospective entrants that did not receive licences included: Lanser Personal Communications (affiliated with AT&T Wireless), Wireless Interconnect Network Consortium (affiliated with Globalstar), LTI Telecommunications, Qualcomm, Star Communications, Xanatel, PCS Canada, PCN Network Incorporated, Telezone, Atlantic Telephone Company, OneWorld Telecommunications and a numbered company affiliated with Northern Cablevision.

- In the 2001 PCS auction, Industry Canada established an auction structure which involved a number of regional licences combined with a spectrum cap. While this auction structure might have been designed to favour new market entry especially by regional players, unfortunately, it did not go far enough. With some small exceptions, the Big 3 incumbents acquired all of the spectrum capacity available in the auction by bidding on licences to complement their existing holdings in different areas of the country, and by bidding up the prices of specific licences to prevent market entry. This incumbent "take all" scenario has played out in auction processes in other jurisdictions. For example, in the UK auction, four incumbents acquired the four spectrum licences on which they were allowed to bid. Similarly, in an auction held later in the Netherlands, five incumbent licensees each acquired one of the five bands available in the auction. In the 2001 PCS auction in Canada, the auction involved four blocks of spectrum with 10 MHz a piece. With the spectrum cap set at 55 MHz, Bell and Rogers were able to add 20 MHz in most markets while TELUS added 10 MHz.
- Shortly before the auction of PCS spectrum in 2001, TELUS acquired Clearnet, one of the companies that was awarded PCS spectrum in 1995. Although TELUS was required to return some of Clearnet's spectrum as part of this acquisition, it was able to acquire additional PCS spectrum in the 2001 PCS auction.
- In 2004, Rogers acquired Microcell, the other new entrant PCS provider. This acquisition occurred shortly after the Department removed the mobile wireless spectrum cap.

1.2 Do the Big 3 Incumbents Need More Spectrum Capacity?

54. Although it is not possible for MTS Allstream to know the full extent to which the Big 3 incumbents are actually using all of their extensive mobile wireless spectrum, two things are abundantly clear:

- The Big 3 and their affiliates hold virtually all of the mobile spectrum licences that have been issued by Industry Canada to date. The Department has issued 170 MHz of spectrum licences and the Big 3 collectively hold 170 MHz. What's more, these licences cover roughly 97% of the Canadian population.
- Shortly after the 2001 PCS auction, Bell and TELUS entered into a 10-year "enhanced reciprocal roaming/resale" arrangement to expand their respective service coverage areas (and possibly to avoid capital expenditures) by making use of the other's licences.³¹ Under this agreement, TELUS benefits by operating seamlessly on Bell's licensed spectrum in Eastern Canada and similarly Bell operates seamlessly on TELUS' licensed spectrum in Western Canada.

1.2.1 *Spectrum Warehousing*

55. Given the size of their spectrum holdings, there is no doubt that there is some unused spectrum within the Big 3's existing licences. For example, Bell and TELUS collectively hold about half of all of the licensed mobile wireless capacity in Canada and together account for 60% of the Canadian subscriber base. Even so, they were able to find "room" in their licences to accommodate their aggregated demand over a ten-year time horizon, taking into account their voice, data and "next generation" services. The existence of this reciprocal roaming and resale arrangement suggests very strongly that both Bell and TELUS have significant stores of unused spectrum capacity.

³¹ Bell and TELUS, Press Releases, October 17, 2001.

56. For its part, Rogers has the other half of the licensed mobile capacity in Canada, but nationally it has fewer subscribers than the total of Bell and TELUS – about 40% of the national subscriber base. If Bell and TELUS with more subscribers and less spectrum capacity are able to share, it stands to reason that Rogers is likely to have some capacity that is unused and, indeed, lying fallow.
57. Spectrum warehousing benefits no one but the incumbents. It restricts the supply of wireless services and drives up prices. It also ties up a valuable public resource which could be used to provide new services to Canadians. Indeed, the fact that there is unused capacity within the Big 3's stockpiles means that Canadians are not receiving all of the products, services and applications that could be brought to market if the incumbents were subject to greater competitive pressures and increased market entry.
58. Mobile wireless spectrum is a public resource and it should not be squandered by simply letting it lie fallow or removing it entirely from commercial or public use. It would appear that the Big 3 incumbents have more than adequate spectrum capacity right now, as well as access to additional spectrum. If the Department does not designate separate licences for entrant bidders in the upcoming auction of AWS spectrum, the experience to date demonstrates that this spectrum will simply be acquired and stockpiled by the Big 3 incumbents.

1.2.2 MCS Spectrum

59. As indicated above, the Big 3 incumbents have access to additional mobile wireless spectrum which is both immediate and does not involve participation in any auctions in order for these entities to gain access to this spectrum. The spectrum in question is the 100 MHz of Multipoint Communications Systems (MCS) spectrum that is held by Inukshuk, a partnership between Bell and Rogers.³²

³² Inukshuk holds MCS licences in all of Canada except Manitoba and Saskatchewan.

60. MCS spectrum is not currently licensed as mobile, but under Industry Canada's recent MCS policy,³³ two thirds of the MCS spectrum held by Bell and Rogers (via the Inukshuk partnership) can be converted to mobile service in exchange for returning one third of this spectrum.
61. Thus, Bell and Rogers have access to an additional 66 MHz of mobile capacity per market and they will never have to face an auction in order to use this spectrum for mobile wireless purposes. This is not an insignificant matter given the amount of spectrum at issue. Indeed, the resultant increase to the respective mobile holdings of both entities is significant. For example, Bell has mobile capacity in Vancouver right now in the 40 MHz range and Rogers has 85 MHz. If 66 MHz of converted MCS spectrum were added to their existing stockpiles of mobile wireless spectrum this would increase the capacity available to both of these companies by over 50%. TELUS may also have access to this spectrum by virtue of its "enhanced resale and roaming" arrangements with Bell Canada.

1.2.3 The Big 3 Have More Spectrum Capacity than their US Counterparts

62. In considering the amount of mobile spectrum currently held by the Big 3, it is also worth noting that these carriers typically have more spectrum capacity at the present time (i.e., cellular, PCS and ESMR) than their large US carrier counterparts even after the AWS spectrum of these latter companies is taken into account. For example:
- Rogers already has 75 to 85 MHz in most markets, more than AT&T in the US (typically 75 MHz or less) and more than T-Mobile (maximum 70 MHz). These latter amounts include the AWS spectrum held by each of these entities;
 - Bell and TELUS each have comparable mobile spectrum holdings to Verizon in the US, even including Verizon's AWS spectrum;

³³ Canada Gazette DGTP-002-06.

- The Big 3 have at least as much spectrum as their US counterparts in comparably sized markets. For example, Bell currently has 55 MHz of mobile wireless spectrum in Toronto, whereas Verizon has 55 MHz of spectrum in Atlanta. (This latter amount includes Verizon's AWS spectrum.) Likewise, Rogers has 85 MHz in Ottawa compared to AT&T's 70 MHz in Sacramento. (This latter amount includes AT&T's AWS spectrum.)
63. On this latter point, it is important to note that even in Canada's most densely populated areas, Bell, TELUS and Rogers are the only facilities-based wireless operators in these markets. In contrast, wireless carriers in the US who compete in markets of comparable size face four or more competitors. It is no wonder that the Big 3 post such impressive margins in comparison to their US counterparts. They face fewer competitors and they invest less overall, notwithstanding the fact that their serving areas include less densely populated regions of the country.
64. The foregoing comparisons with the United States are even more telling when the significantly greater level of per-customer usage in the US relative to Canada is taken into account. Demand for spectrum in any given market area is driven by both the number of subscribers and by their aggregate usage levels. Thus, even where US and Canadian carriers have comparable amounts of spectrum in comparably sized markets, with per-subscriber usage in Canada averaging only 51%³⁴ of that in the US, the Big 3 carriers' need for spectrum should be commensurately lower than their US counterparts.
65. Thus, when compared to US carriers who serve a much larger market with much higher usage levels, but with markedly lower allocations of spectrum capacity, it is difficult to understand why there would be any real additional "need" for mobile spectrum among the Big 3 in Canada. Presumably, this is why the Executive Vice President, Technology

³⁴ Presentation by Johanne Lemay, Lemay-Yates Associates Inc., *Mobile Penetration and Pricing in Canada*, CWTA AWS Conference; Ottawa, Ontario, 23 April 2007.

for TELUS was quoted as saying in August 2006 that TELUS felt "comfortable" with its existing spectrum holdings for the immediate future.³⁵

1.2.4 *The Incumbents' Desire for More*

66. Despite there being no evidence of a "need" for additional spectrum and, indeed, an outright acknowledgement by at least one of the Big 3 that there is sufficient excess capacity on hand for the immediate future, the Big 3 have taken the position that if there is more spectrum to be had, then they should have it all, and it should only be licensed to them within time frames that work for them (i.e., within time frames that are sufficiently spaced apart so as to allow them to recoup the costs of acquiring the spectrum).
67. One significant indicator of how much spectrum the Big 3 might wish to lay claim to in the upcoming AWS auction can be found in their submissions to the Department in its public consultation on whether it should eliminate the mobile spectrum cap.³⁶ In these submissions, the Big 3 examined their operational needs for spectrum and argued that there was no need for a spectrum cap because they did not need spectrum in the near-to medium-term. As if to hedge their bets, however, they also argued that if there was to be a spectrum cap in an upcoming licensing process for mobile wireless spectrum then the maximum should be 40 MHz more than the cap that was in place at the time.³⁷
68. The incumbents do not "need" up to 40 MHz of additional spectrum each. They have more than enough spectrum at the present time to meet their requirements. In fact, Rogers has already added 75% of what it suggested it would need in the Spectrum Cap proceeding by acquiring Microcell immediately after the cap was lifted in 2004.³⁸
69. MTS Allstream therefore agrees with the Department that the smaller blocks of 10 MHz identified in the AWS Consultation Document are "well suited to complement existing

³⁵ TD Newcrest Telecom and Technology Forum, 8 August 2006.

³⁶ Canada Gazette DGTP-007-03.

³⁷ See Comment filed by the Big 3 in DGTP-007-03, March 1, 2004.

³⁸ Canada Gazette DGTP-010-04 lifting the cap was issued August 28, 2004; Rogers announced its acquisition of Microcell on September 20, 2004.

systems."³⁹ These spectrum blocks, when packaged in accordance with MTS Allstream's auction proposal will be more than sufficient to address any of the incumbents' requirements for additional spectrum in the upcoming auction – to the extent, of course, that such requirements actually exist.

70. In this regard, it is important that the Department exercise some skepticism with respect to the Big 3's alleged need for additional spectrum. As their past conduct demonstrates, the Big 3 have an economic incentive to buy all of the available licences in spectrum auctions and other licensing proceedings (and in fact have done so in the past), only to warehouse that spectrum.
71. In a truly competitive market, the incumbents would not be able to recoup their auction participation costs through higher pricing and the slower roll out of new services. The rivalry that would exist in a truly competitive market would force the incumbents to recoup costs through the introduction of new products and services that will drive increased customer demand.
72. The Government can only facilitate market entry by designating separate AWS licences for entrant bidders. Failing to do so in the face of the incumbents' past history of spectrum acquisition and stockpiling means that the Government would be effectively prohibiting additional market entry and allowing a valuable spectrum resource to be squandered.

1.3 Designating AWS Licences for Entrant Bidders

73. Taking into consideration the incumbents' stockpiles of mobile wireless spectrum it is apparent that the only way to achieve the Government's public policy goals of increasing the level of competition and customer choice in Canada's telecommunications markets is to establish separate licences for entrant bidders.

³⁹ Canada Gazette DGTP-002-07, page 26.

74. To do otherwise would be tantamount to declaring that there should or could only be three mobile wireless providers in the Canadian market, i.e., the Big 3 incumbents. This would not serve the Government's public policy objectives. In fact, an auction process that results in the Big 3 incumbents being the only "winners" would make "losers" out of the Canadian public.

1.4 What is an Entrant Licence?

75. An entrant spectrum licence – which is sometimes referred to as a "spectrum set-aside" – refers to the concept of limiting anti-competitive bidding by designating one or more licences for specific types of bidders (e.g., a non-incumbent or new entrant bidder). Only specific bidders are then eligible to bid on the spectrum blocks designated for these entities; however, these bidders as well as all other bidders are eligible to bid on the other licences in the auction.
76. To illustrate, the 3G auction that was conducted in the UK in 2000 included one licence designated for "entrants" (i.e. entities that did not already hold 2G mobile licences). Specifically, the UK auction included five national licences designated as A, B, C, D and E. The A licence was reserved for bidding by new entrants, and the B, C, D and E licences were open to all bidders.
77. Bidders could only bid on and could obtain at most one licence each. Thus the structure was intended to provide the four incumbents with an opportunity to each acquire a licence, while ensuring that there would be at least one new player via the fifth licence.
78. Prospective new entrants in fact placed bids on all of the licences – not just the A licence. At the end of the UK auction, the four incumbents out-bid would-be entrants for the B, C, D and E licences, such that each of the four incumbents successfully obtained one of the licences, and an entrant held the reserved A licence.

79. The mechanism used in the UK – establishing a licence for bidding by entrants only – successfully resulted in a new entrant holding a licence; the four incumbents finished the auction with the four non-set-aside licences. A detailed description of the 3G auction in the UK can be found in the attached Report prepared by Towerhouse Consulting, entitled Successful Wireless Auctions for competitive markets - the UK Experience.

1.5 Designating AWS Licences for Entrants is the Key to a Successful Auction

80. In considering the design of the AWS auction, the Department has stated quite unequivocally that the auction must be designed with the public interest in mind and that, "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.***"⁴⁰
81. It should also be noted that without a licence being designated for entrant bidders, incumbents could see the value of acquiring more spectrum as being preferable to over-bidding each other on the non-entrant licences. If entrants are assumed to have lower business case valuations than incumbents, this would imply that the auction outcome without a separately designated entrant licence would yield lower auction revenues than an auction conducted with such a licence.
82. It has been postulated by some parties that the designation of separate licences for entrant bidders would have distortionary effects on the auction of AWS spectrum. In particular, these parties claim that this could encourage (1) inefficient or (2) non-sustainable entry, and/or could (3) result in a "loss of potential auction related revenues to the government".⁴¹
83. There is no foundational basis for this claim. In other countries, where spectrum has been designated for entrants there is no evidence that inefficient or non-sustainable

⁴⁰ AWS Consultation Document, page 21, emphasis added.

⁴¹ See: "A Study on the Wireless Environment in Canada", prepared for the Canadian Wireless Telecommunications Association (CWTA) by Wall Communications, September 29, 2006, page 72.

entry was promoted, nor that auction proceeds would have been higher had an entrant licence mechanism not been used.

84. As for the claim that this approach would encourage inefficient entry, while it is possible – although not by any means guaranteed – that auction bidding could result in an entrant licence being obtained at a discount relative to other licences, this could be a reflection of lower valuations assigned to these licences due to the higher fixed costs of entry for entrants and the greater business risk that new entrants face relative to incumbents. The effects of any discount however would be offset by the existence of competitive alternatives in the market, increased growth in subscriber penetration, greater social benefits arising from the development of new services – which also come with consumption taxes – and increased industry investment.
85. If the reason that an incumbent places a higher value on winning is to protect revenue earned on legacy spectrum and prevent or pre-empt further market entry, then this value should not be part of the social calculus because it does not take account of the resulting harm to the economy and society that would result from spectrum stockpiling or the complete removal of this spectrum from commercial or public use. This harm could take many forms, including reduced competition, lower tax revenues, slower rates of innovation and diminished customer choice, to name but a few.
86. With respect to the claim that the designation of entrant licences would result in non-sustainable entry, MTS Allstream notes that the evidence from other jurisdictions where auctions for entrant licences were used does not support this claim. For example, the longer term benefit in terms of promotion of competition and stimulation of new investment can be seen in the US auction of the "entrepreneur" PCS licence completed in 1996.⁴² Despite its flaws,⁴³ the actual result of the C block auction increased the number of players in the US market and a number of the winners went on to become important players. This includes, most notably MetroPCS and Leap Wireless (Cricket),

⁴² FCC auction 5.

⁴³ The C Block auction process possibly promoted overly optimistic bidding by entrants due to special financing considerations. This type of mechanism, which can create distortions, is not being proposed by MTS Allstream.

both of which were "born" in the 1996 process, and which ultimately developed into regional PCS providers. Both participated in the US AWS auction in 2006, with US\$2.1 billion in high bids representing 15% of the total auction proceeds.

87. As for the claim regarding the potential loss of auction-related revenues to the government, it is important to bear in mind that there are a number of policy reasons to conduct an auction. The fair return to the Treasury is only one among a number of such policies. In case of the auction involving AWS spectrum in Canada, the Department has stated that there are many factors that must be considered when addressing the potential for new market entry, including the following: "current market structure; market rivalry; pricing; expressed demand for the spectrum in question; and the potential for incumbents to preclude market entry by acquiring all of the spectrum available."⁴⁴
88. Thus the "set aside" mechanism of designating licences for entrants would not be expected to result in a loss of auction-related revenues to the government. On the contrary, it is just as likely to be revenue-neutral or result in an increase.
89. However, even in the unlikely event that the designation of AWS licences for entrant bidders were to produce less revenue from the auction, this would not be a valid basis to reject this approach. As noted above, increased wireless competition will almost invariably lead to increased wireless revenues overall, potentially generating far greater GST and other revenues for the federal and provincial governments in the long run than the "loss" of potential auction revenue that the Big 3 claim would result from a set-aside. Thus, even if the amount of revenue to be realized by the Treasury were a valid basis for establishing spectrum auction policy, the analysis would need to consider both immediate and long-term revenue effects.
90. Once again, spectrum auction policy should be driven by considerations of public interest and the impact upon the Canadian economy overall, and not on any nominal revenue consequences for the Government. Increased competition for wireless services

⁴⁴ AWS Consultation Document, page 21.

will stimulate innovation, expand penetration, reduce prices, and help to make more services available to un-served and underserved parts of the country. The importance of these considerations easily outweighs any one-time, nominal revenue shortfall that the Big 3 or other parties might claim will result from the designation of AWS licences for entrant bidders.

1.6 Implementation – Amount of Spectrum, Eligibility and Other Conditions

1.6.1 Amount of Spectrum for Entrant Licences

91. When the Department awarded PCS licences to Microcell and Clearnet in 1995, it determined that each of these companies (who were new entrants at the time) would be provided with a 30 MHz national licence.
92. MTS Allstream notes that this amount of spectrum is the same as that which the Department has allocated to the AWS E Block (2 x 15 MHz). For the reasons set out above, MTS Allstream submits that this block should be designated for potential national entrant bidders in the upcoming auction of AWS spectrum. Further, in order to permit market entry as diverse a group of bidders as possible or by bidders that may require more than 30 MHz, the Department should designate an additional 20 MHz of AWS spectrum for Tier 2 regional entrant bidders (e.g., the proposed AWS D block of 2 x 10 MHz).
93. Designating both the D and E blocks for entrant bidders would facilitate more diversity of entry (e.g., one entrant with 30 MHz and another with 20 MHz, or various regional combinations) while at the same time leaving sufficient spectrum capacity available via the other blocks for incumbent bidding and/or other market entry possibilities. As well, many new data and video services have been introduced since 1995 and this pace of new product and service introduction would be expected to accelerate significantly with the increased competition that will be brought about by the entry of new AWS operators in the market. Finally, it is important remember that the Big 3 national incumbents

already have considerably more than 30 MHz each and much more already available to them (e.g., via conversion of MCS spectrum to mobile).

1.6.2 Eligibility

94. For the purposes of the proposal contained herein, MTS Allstream proposes that all parties that are eligible to operate as radiocommunication carriers within the meaning of section 10 of the *Radiocommunication Regulations* should be permitted to bid on spectrum blocks A, B, and C, and that any party (including affiliates of that party) with a national market share of 10% or less should be permitted to bid on Blocks D and E.
95. MTS Allstream notes that the bidder rules for Blocks D and E would exclude the Big 3 incumbents and their affiliates. The Big 3 incumbent wireless carriers currently have in excess of 40 to 85 MHz of Spectrum capacity each and they offer their services on a national basis via national networks, agreements and service platforms. The remaining mobile carriers account for less than 10% of total Canadian subscribers and much less than 10% individually. Distinguishing entrants on the basis of national market share would be consistent with the views of the Telecom Policy Review Panel, which defined "smaller players" as being those with less than 10% market share.⁴⁵
96. The term "affiliate" when used in this submission in relation to the Big 3 incumbents and their affiliates has the same meaning that is ascribed to this term by the Department, namely a person who controls an incumbent, or who is controlled by the incumbent or by any person who controls the incumbent. "Control" means control in any manner that results in control in fact, whether directly through the ownership of securities or indirectly through a trust, agreement or arrangement, the ownership of a body corporate or otherwise. In addition, for the purposes of the proposal set out herein, if a person owns, directly or indirectly, at least 20% of an incumbent's voting shares, where the entity is a body corporate, or where the entity is not a body corporate, at least 20% of the beneficial

⁴⁵ TPRP, Final Report 2006, page 11-26.

ownership in an incumbent, this will result in a rebuttable presumption that the person controls an incumbent.

1.6.3 AWS Licence Term, Licence Conditions, Transferability and Divisibility

97. A discussion of the other terms and conditions that should attach to the AWS licences that are issued to entrants and to other auction winners are discussed further below.

1.7 Spectrum Aggregation Limits

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.

(AWS Consultation Document, page 23)

98. A spectrum aggregation limit prevents the concentration of spectrum by any single entity by placing a limit on the amount of spectrum that may be acquired by any single bidder and its affiliates in a particular market or for a particular block or band of spectrum. The limit allows the bidder to "aggregate" spectrum up to a certain level or "cap".
99. The Department has made widespread use of spectrum aggregation mechanisms in previous auctions which generally fall into two categories:
- **General Aggregation Limits:** These limits take account of both in-band and out-of-band spectrum holdings. For example, in the case of the 2001 PCS auction, the general aggregation rule limited bidders to a total of 55 MHz when cellular, PCS and ESMR holdings were combined.
 - **Auction Specific Aggregation Limits:** The other approach to aggregation is to have a rule that applies only within the auction itself. In the case of the auction of 2.3 GHz and 3.5 GHz spectrum, there was an auction-specific rule limiting bidders to 100 MHz of spectrum in the

2.3 GHz and 3.5 GHz bands within each of the serving areas where these licences were made available.

100. In the case of AWS spectrum, an auction-specific rule is not likely to work very well, due to the uneven distribution of licensed capacity across the country. In particular, MTS Allstream notes that while all of the Big 3 incumbents have significant amounts of spectrum, the distribution of this spectrum is not equal within each region across the country. Bell, for example, does not have 850 MHz spectrum in Western Canada and neither does TELUS in Eastern Canada. Therefore, it is entirely possible that one of the Big 3 may wish to acquire more spectrum capacity in Western Canada, while another might wish to acquire more in Eastern Canada.
101. Similarly, in the 1995 award of PCS licences, the incumbent telephone companies, including Bell and TELUS, were awarded licences which covered their traditional operating territories although the acquisition of Clearnet by TELUS in 2000 and the subsequent auction of additional PCS licences in 2001 has somewhat diminished these differences.
102. One way or the other, the present patchwork means an absolute MHz value would be difficult to derive and cumbersome to manage in the auction (which as proposed in these comments would include Tier 3 and Tier 4 areas as well).
103. The non-uniform operational needs of the Big 3 across Canada also would make it logical for the Department to apply a spectrum aggregation limit to the auction which includes pre-existing non-AWS licences.
104. This would be consistent with the Department's approach in the 2001 PCS auction, where the total spectrum that could be aggregated included the previously awarded cellular, ESMR and PCS licences.

105. Accordingly, if 50 MHz of the AWS spectrum to be auctioned in Canada is designated for new entrant licences as proposed above, this would leave 40 MHz remaining for either entrants or incumbents. Specifically, MTS Allstream proposes the following approach for spectrum aggregation limits in the auction of AWS spectrum:

- A PCS licensee that is not an "entrant" under MTS Allstream's proposed definition would be allowed to acquire up to 20 MHz of AWS spectrum in areas where it does not currently hold a cellular (850 MHz) licence, and 10 MHz of AWS spectrum in areas where that licensee is also a cellular (850 MHz) incumbent.
- The aggregation limit rule would apply during the auction; i.e., violating the rule during bidding would result in a monetary penalty.
- The aggregation limit should remain in force for a material period of time after the auction is completed, for example, 5 years.
- The aggregation limit would exclude 1.9 GHz PCS Expansion Spectrum and the 1670-1675 MHz licences.

106. This would provide the Big 3 incumbents with the flexibility to acquire spectrum necessary to augment their existing holdings, while recognizing the non-uniform nature of the existing licensing of cellular and PCS. The approach is workable for both entrants and incumbents alike, allowing the Big 3 incumbents to acquire more spectrum in areas where their existing licences have less and vice versa.

2.0 MANDATED ROAMING AND MANDATED RESALE

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.

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

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

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

(AWS Consultation Document, page 25)

2.1 The Critical Importance of Mandated Roaming and Resale

107. At page 25 of the AWS Consultation Document, the Department invites interested parties to comment on several questions relating to mobile wireless roaming, including whether roaming should be mandated in order "to foster the development of competitive wireless communications services", the extent to which the lack of mandated roaming could be a barrier to entry in the market, and the types of services that should be included in any mandated roaming obligations.
108. MTS Allstream addresses each of these questions in the discussion below. Before doing so, however, MTS Allstream notes that both mobile wireless roaming and mobile wireless resale are critically important to the proper functioning of a modern and competitive mobile wireless market in Canada. In particular, enhanced, seamless digital roaming and resale offer important benefits to end-user customers:
- The inability of newly-established wireless competitors to offer seamless coverage in the established operating territories of incumbent providers represents a formidable barrier to entry. It is in the interest of Canadian wireless customers that these barriers to entry be removed;

- For certain customers, in particular business customers engaged in extensive business travel, seamless roaming is essential to efficient and modern communications. Roaming is also beneficial from a public safety perspective, as it enables mobile telephone users to have access to 9-1-1 in all but the most remote regions of Canada, regardless of how far the customer is from home;
- In the case of mobile wireless resale, again, for certain customers – especially enterprise customers with branch offices located across the country – the ability to provide the customer's personnel with wireless service at each of the customer's locations is critical to a newly-established competitor's ability to compete for the business of that customer.
- In addition, resale will foster increased competition in all wireless markets, whether in the consumer market or the enterprise customer market, since it will lead to a greater number and variety of service providers competing for the same subscribers, which, in turn, will drive innovation in terms of pricing and service offerings. Resale will also lead to increased build-out of mobile wireless facilities, once a critical mass of subscribers is achieved by a competing carrier.
- Both roaming and mobile wireless resale are consistent with section 7 of the *Telecommunications Act* as recently interpreted in the *Policy Direction to the CRTC*,⁴⁶ in that they remove barriers to competitive entry and therefore foster increased reliance on market forces in retail mobile wireless telecommunications markets;
- Both roaming and mobile wireless resale are consistent with Order-in-Council P.C. 1994-1689 and the *Convergence Policy Statement* of August 1996, which stipulates that "the facilities and capacity of telecommunications carriers under

⁴⁶ Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, P.C. 2006-1534, SOR/2006-355, December 14, 2006.

federal jurisdiction [should] be made available for lease, resale and sharing by service providers and other carriers on a non-discriminatory basis."

109. The practical feasibility and consumer benefit of a comprehensive roaming and resale arrangement between competing wireless licensees is demonstrated by the arrangement that was mutually agreed to by Bell and TELUS in the fall of 2001. Through this arrangement, many areas of Atlantic Canada, Québec, Ontario, Alberta and B.C. gained a new service provider and the possibility of different services. To customers of both carriers, the service offering appears to be seamless. The branding of their home carrier appears regardless of which carrier's sites and facilities are being used to connect for service.⁴⁷
110. In MTS Allstream's view, these benefits should be available to all Canadian subscribers, regardless of who the historical incumbents are in the subscriber's location and the underlying technology used to provide mobile wireless service.

2.2 Definitions of Mobile Wireless Roaming and Resale

111. Although both roaming and resale are essential to the establishment of competitive and modern mobile wireless markets in Canada, it is necessary to distinguish between mobile wireless **roaming** on the one hand and mobile wireless **resale** on the other.
112. The term "roaming" refers to the situation where a subscriber of one mobile carrier can receive service on the network of another carrier when that subscriber "roams" out of the network service area of its "home" carrier and onto the network of the other carrier. For example, roaming occurs when a customer of one mobile carrier travels to another country and is able to use his/her mobile phone on the network of another mobile carrier.
113. The term "resale" when used in this submission refers to the ability of one mobile wireless carrier to purchase mobile wireless services from another mobile carrier for the

⁴⁷ *Antenna Tower Report*, page 131.

purposes of reselling those services to end customers in geographic areas where the first mobile wireless carrier does not have a network presence. Resale allows mobile carriers who are building out their networks to sign up customers in locations where they have not yet built facilities. As discussed in greater detail below, the "enhanced roaming and resale" arrangements between Bell and TELUS provide each of these carriers with extensive roaming and resale rights throughout each of these carrier's licensed service areas.

114. In its AWS Consultation Document, Industry Canada states that the "need for roaming by carriers was made clear in comments from the previous consultation under DGTP-007-03."⁴⁸ The Department further noted that even though the issue being consulted on at the time was roaming for non-competing carriers in rural and remote areas, "the comments are still relevant."⁴⁹
115. MTS Allstream agrees. Roaming is a normal part of doing business for all mobile wireless carriers, whether large or small and national or regionally-based. Since mobile wireless subscribers are, by definition, "mobile" and since no mobile wireless network in Canada (or the world for that matter) provides full geographic coverage, end-user customers are bound to require mobile phone service in an area where their "home" service provider does not have coverage. From a customer perspective, roaming is considered to be a key component of the service received from their home carrier, especially in situations of emergency and distress where network access is an absolute prerequisite regardless of geographic location. Roaming is also an essential service for travelers who may need assistance or other services when they are on the road.
116. It would be incongruous and detrimental to Canadian mobile wireless customers if the degree to which they are able to roam across the different regions of Canada were more restricted than the extent to which non-residents are able to roam in Canada when

⁴⁸ AWS Consultation Document, page 24.

⁴⁹ AWS Consultation Document, page 24. In 2005, the Department set out a policy to encourage large national carriers to provide roaming to rural licensees however this ruling is silent on the commercial terms and on whether roaming should be automatic. Small non-competing carriers should benefit from a broader automatic roaming obligation that the Department should put in place.

visiting Canada on business or on leisure. As noted by Industry Canada at page 24 of the AWS Consultation Document,

The Department notes that digital telephony roaming service is commonly available to foreigners traveling in Canada or to Canadians traveling in many regions of the world. It is expected that Canadian subscribers of any carrier would benefit from similar roaming services. As mobile services have become an important service to many Canadians, it is important that all networks be fully integrated into the national telecommunications networks.

117. It should also be noted that roaming services are not provided for free. They are paid for by end-user customers and the carriers that provide the underlying roaming capability compensate each other for roaming. In many respects, roaming among carriers is no different in concept from wireline carriers that provide interconnection to each other – it is a perfectly normal and necessary aspect of doing business.
118. The Big 3, however, do not have an incentive to enter into automatic digital roaming arrangements with a new entrant. In Canadian markets, there is a maximum of three carriers per market, two of which are CDMA carriers (Bell and TELUS) and the other of which is a GSM carrier with no GSM-based competitors. Given the relatively few players in the Canadian market, to a large incumbent provider, such as one of the Big 3, the extensiveness of its geographic coverage affords it a significant competitive advantage over existing carriers with limited geographic coverage and over entrants whose networks are being developed. Therefore, a large incumbent provider is unlikely to have any incentive to provide roaming to a smaller competitor and will refuse to provide this capability unless mandated to do so.
119. Not surprisingly, however, Bell and TELUS, who have parity of bargaining power, complementary network builds (TELUS in the west, Bell in the east), and who deploy the same technology have a long-standing reciprocal arrangement whereby each provides roaming and resale services to the other at reasonable wholesale rates.

120. Most new entrants, however, do not have this leverage. The threat of an incumbent blocking access to roaming for an entrant's customers represents a very real and significant barrier to entry. For a carrier or entrant with limited geographic scope, the ability to offer their customers roaming on any carrier's network nationwide effectively overcomes much of their geographic disadvantage and creates the opportunity for increased competition to the Big 3.
121. Without mandated digital roaming in Canada, any commercially reasonable agreement is unlikely to be attainable. If Rogers refuses to enter into a roaming arrangement with a GSM-based entrant, then there is no other potential roaming partner to turn to. Bell and TELUS, via their own enhanced and apparently seamless and technology neutral, roaming and resale arrangement would no doubt see this as an incentive to deny comparable capabilities or similar services to smaller, less-established competitors.
122. The Department recognized this problem in the 1995 PCS licensing process. A roaming requirement was included in the 1995 PCS licences. Although the practical aspects of the 1995 rule prevented carriers from having full access to roaming capabilities, the Department's approach provides a useful precedent for the roaming obligations that should be put in place on a going forward basis, given the potential increase in licensees, technologies and services areas that may result from the AWS auction. It is also an early example of what other regulatory authorities have recognized,⁵⁰ namely, that mandated roaming lowers a barrier to competitive entry and is, therefore, of critical importance to the proper functioning of mobile networks, markets and services.
123. In the UK, for example, the 3G licences that were issued to incumbent PCS operators (Vodafone and BTCellnet) included a condition that they make 2G roaming available to the new 3G entrants. This condition of licence was added in recognition of the fact that

⁵⁰ See Radiocommunications Agency and N M Rothschilds & Sons, *United Kingdom Spectrum Auction Third Generation – The next generation of mobile communications*, Information Memorandum, November 1999 ("Information Memorandum"), Section 3.5.1. As noted by Oftel, the regulatory authority at the time: "The statements in the information memoranda regarding national roaming were a material factor in Hutchison 3G's decision to participate in the auction process and in its valuation of the licence.": See Response by Hutchison 3G UK Ltd to the OFTEL Consultation on its Proposals to set a national roaming condition after 25 July 2003, 24 July 2003, paragraph 1.3.

"a 2G operator with a 3G WT Act Licence would be able to offer... services across the UK through its existing network whilst a 3G New Entrant was still rolling out its network". According to the UK Government, this would represent a "significant advantage in the... market over any New Entrant".

124. In Canada, the only form of roaming that has been mandated to date is analog cellular roaming. Thus, an incumbent mobile wireless provider, such as Rogers, is not required to provide roaming capabilities to the customers of other Canadian mobile wireless carriers, even if the "home" carrier of those customers operates a network that is technically compatible with that of Rogers (e.g., Microcell). This has led to a number of competitive problems, as recognized by the Department in the proceeding initiated by DGTP-007-03 and in the AWS Consultation Document that initiated this proceeding.⁵¹ Indeed, Microcell's Fido customers were not able to use the Rogers' digital network until Microcell was actually acquired by Rogers in 2004 – expanded coverage for Fido was the first "new feature" of Fido introduced by Rogers.
125. As noted by the Department in the AWS Consultation Document, analog technology is quickly becoming obsolete. For the reasons discussed above, it is time for the existing roaming requirements to be extended equally to all wireless carriers regardless of technology.
126. As defined above, mobile wireless resale allows mobile carriers who are building out their networks to sign up customers in locations where they have not yet built facilities. An example of a co-extensive resale arrangement and operational proof of the feasibility of such a resale arrangement is the arrangement that has been in place since the fall of 2001 between Bell and TELUS.
127. By sharing their respective infrastructures, it was estimated that each of TELUS and Bell have saved \$500 million by avoiding duplicating each other's digital service footprint in

⁵¹ At page 24 of its AWS Consultation Document, the Department states that "[T]he need for roaming by carriers was made clear in comments for the previous consultation under DGTP-007-03. Although the issue consulted on at that time was roaming for non-competing carriers in rural and remote areas, the comments are still relevant."

certain non-urban areas of Canada. Through this arrangement, many areas of Atlantic Canada, Québec, Ontario, Alberta and British Columbia gained a new service provider and the possibility of different services. To customers of both carriers, the service offering appears to be seamless. The branding of their home carrier appears regardless of which carrier's sites and facilities are being used to connect for service.⁵²

128. In MTS Allstream's view, the co-extensive roaming and resale arrangement between competing mobile wireless carriers should be available to all Canadian subscribers on a non-discriminatory basis: seamless service, no matter who their service provider is or where the service provider is located and increased competition in retail markets, which entails innovation in pricing and service offerings. As declared by the President and Chief Executive Officer of TELUS Mobility at the time, the reciprocal arrangement between Bell Mobility and TELUS would allow TELUS Mobility to "offer competitive new services to millions of Canadians in hundreds of communities across Ontario, Qubec (sic), and Atlantic Canada, while speeding the rollout of our next-generation wireless services nationwide."⁵³ In a related vein, the then-President of Bell Mobility declared that it "will continue to compete aggressively against TELUS Mobility and other Canadian wireless companies for customers and market share,"⁵⁴ regardless of the arrangement.
129. It is in the public interest that non-discriminatory resale of the form and extent that exists currently between TELUS and Bell be put at the disposal of all Canadian customers. And yet, apart from the symbiotic relationship between these long-established incumbent Canadian telephone companies, the same "arrangements" have not been extended to smaller competitors, to their obvious detriment. To wit, the acquisition of Microcell by Rogers.

⁵² *Antenna Tower Report*, page 131.

⁵³ Press Release, TELUS, "TELUS Mobility enters roaming/resale agreements with other Canadian CDMA wireless carriers", October 17, 2001.

⁵⁴ Press Release, Bell Mobility, "Bell signs wireless agreement with TELUS which will significantly expand access to digital voice and data services across Canada", October 17, 2001.

130. It is a self-evident truth that smaller competing wireless providers, whether nationally or regionally established, will not have national wireless infrastructure on the first day of turning up service. And yet, as is the case with roaming, customers expect seamless and national coverage. Indeed, in the case of enterprise customers, it is an expectation that a wireless service provider will be able to provide local wireless service to employees or personnel located at branch offices across the country. Thus, the geographic advantage of the national wireless carriers that have entered into these arrangements, will present a formidable barrier to entry, which if left unaddressed, will only serve to propagate the market structure that is currently in place – a market structure that is dominated by the Big 3 incumbent wireless carriers.

2.3 Proposed Approach for Mandated Roaming and Resale in Canada

131. MTS Allstream has proposed specific licence conditions relating to mandated roaming and resale.
132. In MTS Allstream's view, a condition of licence should be applied consistently across all cellular, PCS, and AWS licences that all licensees must provide non-discriminatory access to seamless or automatic digital roaming and resale services to other wireless licensees.
133. It is important for the Department to set this out in the rules for the AWS auction. If incumbents participate in the auction and win spectrum, they will do so with the knowledge that existing licences will change. Since a spectrum licence does not grant the licensee a monopoly or actual ownership interest in radio spectrum,⁵⁵ the Minister has all of the requisite power to impose such a condition of licence under the *Radiocommunication Act* and the regulations promulgated there under.⁵⁶

⁵⁵ Section 40 of the *Radiocommunication Regulations*.

⁵⁶ Section 5(1)(b) of the *Radiocommunication Act*.

3.0 TECHNICAL CONSIDERATIONS

3.1 The AWS Bands: 1710-1755 MHz and 2110-2155 MHz

Comments are sought by the Department as to whether:

- 1. the band plan shown in Figure 1 should be adopted in Canada — if not, please provide specific alternative options and the rationale justifying your suggestion;*
- 2. the Department should allow TDD operation in these sub-bands if they meet the conditions listed above — if not, please provide the rationale supporting your view.*

(AWS Consultation Document, page 27)

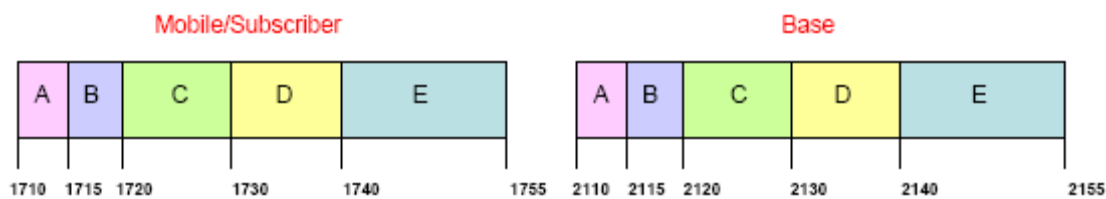


Figure 1 - Proposed Band Plan

134. MTS Allstream agrees with the band plan as set out by the Department in Figure 1 of the AWS Consultation Document and further described in Table 1 of the Document.
135. MTS Allstream further agrees with the Department that the 5 MHz block structure for the A and B blocks should be harmonized with the US and other countries. This block structure will facilitate roaming and bilateral coordination.
136. Band harmonization, particularly with the US, is important because it allows Canadians to benefit from emergent technologies and applications at the same time as consumers in other countries. MTS Allstream applauds the Department for bearing this in mind for the AWS band – a band which will be a critical future source of innovation and new technology.
137. MTS Allstream also notes that the proposed band plan structure is set out in a standard fashion for frequency division duplex (FDD) operations. The upper and lower portions of

each block are separated by 400 MHz. This allows for technical rules that facilitate coordination among high and low power systems (i.e., base and mobile stations) operating in the same area. Changing this to facilitate time division duplex (TDD) operation – where both the base and mobile stations may use the same frequency – has many implications.

138. While the Department identifies that technical aspects of this would be subject to a standard to be developed, it is MTS Allstream's view that the default presumption should be FDD until such time as the technical issues can be addressed in detail and depending on whether any equipment is anticipated to be developed for the AWS band that would be based on TDD technology.

3.2 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;*
2. *the technological neutrality related to duplexing should be adopted in Canada — if not, please provide the rationale supporting your view.*

(AWS Consultation Document, page 27)

139. MTS Allstream agrees with the band plan proposed by the Department at page 27 of the AWS Consultation Document for the 1670-1675 MHz band, and supports the Department in its efforts to move ahead with the licensing of spectrum in this band. This band will likely be used for innovative new applications and services. Licences should be issued on a technology neutral basis for mobile and/or fixed applications.

3.3 The PCS Expansion Band: 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;*
- 2. the standards for PCS should be applicable to this spectrum -- if not, please provide the rationale supporting your view.*

(AWS Consultation Document, page 28)

140. MTS Allstream agrees with the band plan as proposed by the Department for the PCS Expansion band at page 28 of the Consultation Document.

3.4 AWS Service Areas for Licensing: 1719-1755 MHz and 2110-2155 MHz

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

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

(AWS Consultation Document, page 29)

141. In MTS Allstream's view, the auction should be structured so as not to overtly prejudice the nature or type of competition that emerges. In particular, the auction design should be sufficiently flexible to allow for different types of market entry strategies. Incumbents may wish to augment their spectrum holdings in certain areas, while entrants may wish to develop business plans involving a regional or even national licence footprint.
142. MTS Allstream agrees with the Department that regionally-focused operators could emerge in the Canadian market. It also notes, however, that in the initial issuance of PCS licences, the Department awarded these licences on a national basis. Among other things, this reinforced the basis of competition for the three large incumbents – Rogers, Bell and TELUS – which now all operate with a national licence footprint and with national market and service platforms.

143. One possible entry strategy that a new operator might seek to pursue would be to compete on a national basis with the three large incumbents, just as Microcell and Clearnet did prior to being acquired by Rogers and TELUS, respectively.
144. While entrants will presumably be able to bid on more than one licence per service area, under the Department's proposal, a bidder wishing to aggregate more than 30 MHz would be faced with combining various blocks via licences including Tier 3 and possibly even Tier 4 service areas.
145. For an entrant wishing to acquire 40 MHz of spectrum – to be on par with even the smallest incumbent holding pre-AWS spectrum – it would have to acquire numerous licences under the Department's proposal. In particular, it would have to acquire 403 licences when combining Tier 3 and Tier 4 blocks, or 118 licences when combining the two proposed Tier 3 blocks. This is considerably more cumbersome from an administrative and operational perspective – both in the auction itself as well as in the aftermath of the auction – than a scenario involving fourteen Tier 2 licences or one Tier 1 licence covering the same territory.
146. Therefore, in order to provide for various bidding possibilities, as well as for the emergence of new regional or national carriers, MTS Allstream proposes the following simplified approach to the Department's proposed AWS service areas:
 - The D licence (1730-1740 MHz paired with 2130-2140 MHz) would be awarded on the basis of Tier 2 areas – i.e. 14 licences covering the country.
 - The E licence (1740-1755 MHz paired with 2140-2155 MHz) would be awarded on the basis of a Tier 1 service area – i.e. one national licence.
147. These changes would not limit the ability of small, localized operators to acquire spectrum in targeted areas of interest at the Tier 4 or Tier 3 level, and would have the added advantage of providing more spectrum for larger regional players and/or bidders

with national aspirations. Moreover, the Big 3 will have a mechanism to efficiently add more spectrum in capacity constrained areas.

148. The following is a summary of MTS Allstream's proposed AWS service areas for licensing:

MTS Allstream's Proposed AWS Service Areas for Licensing

Block Licences	Pairing	Amount of Spectrum	Proposed Tiers	Number of Licences
A	1710-1715 MHz and 2110-2115 MHz	2 x 5 MHz	4	172
B	1715-1720 MHz and 2115-2120 MHz	2 x 5 MHz	4	172
C	1720-1730 MHz and 2120-2130 MHz	2 x 10 MHz	3	59
D	1730-1740 MHz and 2130-2140 MHz	2 x 10 MHz	2	14
E	1740-1755 MHz and 2140-2155 MHz	2 x 15 MHz	1	1

3.5 PCS Expansion service areas for licensing

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

(AWS Consultation Document, page 29)

149. MTS Allstream notes that the PCS Expansion spectrum is intended to be issued as a licence of 2 x 5 MHz, as discussed above.
150. To facilitate use of the PCS Expansion spectrum by operators that wish to complement existing systems and/or operate with both this spectrum and with AWS, MTS Allstream submits that the Department should use Tier 4 service areas for licensing. This approach would be consistent with MTS Allstream's proposal for the A and B blocks of the core AWS spectrum which are also 2 x 5 MHz.

3.6 1670-1675 MHz Service Areas

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

(AWS Consultation Document, page 29)

151. MTS Allstream agrees with the Department's proposal, as set out at page 29 of the AWS Consultation Document, to move ahead with the licensing of the 1670-1675 MHz band since it represents new service opportunities and potential for future innovation.
152. In terms of the service area for licensing, the FCC licensed this spectrum in 2003 as one national licence.⁵⁷ MTS Allstream suggests that, in the spirit of harmonization with the US and as a "fast follower" of the FCC, the Department should proceed on the same basis – i.e., it should establish one national licence for the 1670-1675 MHz spectrum band.

3.7 Technical Considerations for AWS

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

(AWS Consultation Document, page 30)

153. MTS Allstream supports Industry Canada's proposal as set out at page 30 of the AWS Consultation Document regarding co-channel/adjacent area coordination.

3.8 Sharing Issues with Other Services

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

(AWS Consultation Document, page 31)

154. MTS Allstream supports the Department's proposal at page 31 of the AWS Consultation Document regarding sharing with other services.

⁵⁷ See FCC Auction 46.

4.0 LICENSING PROCESS

4.1 General

155. MTS Allstream agrees with the Department's observation at page 32 of the Consultation Document that auctions are an effective means by which to award spectrum licences, provided that the rules for the auction have been properly structured so as to achieve the Government's stated public policy goals of increasing the level of competition and customer choice in the Canadian telecommunications marketplace.
156. In addition and subject to the comments set out below, MTS Allstream agrees with the Department that the licences to be awarded in the auction be designated as spectrum licences, that they be divisible and transferable among entities that are eligible to hold these licences, and that they be technology neutral to the maximum extent possible, and that they be issued as "carrier" licences.
157. MTS Allstream also agrees that, at the close of the auction, provisional licence winners be required to demonstrate their eligibility to meet the related ownership and control requirements as proposed by the Department at page 33 of the AWS Consultation Document.
158. However, MTS Allstream suggests that the licence term for AWS licences be longer than 10 years, as discussed in greater detail below.

4.2 Simultaneous Multiple-Round Auction

159. MTS Allstream agrees with the Department's proposal at page 33 of the AWS Consultation Document to conduct a simultaneous multiple-round auction as a means of awarding AWS licences.

160. The key features of this auction model are set out in Section 5.2 of the AWS Consultation Document as well as in the Department's *Framework for Spectrum Auctions in Canada*. MTS Allstream agrees with the *Framework for Spectrum Auctions in Canada*.

4.3 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;*
- *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);*
- *whether the renewal expectancy provisions and process are suitable;*
- *if not, respondents should provide a description of the rationale for different approaches;*
- *whether requiring application for renewal 2 years before licence expiry is appropriate;*
- *the means of determining compliance (e.g. technical measurement methods, affidavit, number of subscribers in area); and*
- *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).*

(AWS Consultation Document, page 35)

4.3.1 Licence Term

161. Investing in new services and infrastructure is costly and requires a long time horizon for financial returns and payback. Therefore MTS Allstream suggests that the Department consider a longer term than 10 years for the licences to be awarded in the AWS auction.
162. Longer licence terms are becoming increasingly common since investing in wireless is a long term proposition and that payback periods in this industry extend beyond those witnessed in other industry sectors which are not as capital intensive.

163. Based on these considerations, MTS Allstream proposes that the Department issue AWS licences for a period of 20 years.

4.3.2 Interim Implementation Requirement and Demonstrating Compliance

164. MTS Allstream would support an interim implementation requirement for AWS licences consistent with that used for PCS licences. For example, item 14 of the PCS licences that were issued by the Department after February 1, 2001 states that licensees are expected to cover 50% of the population, or some other indicator of usage, of the licensed service area within 5 years.
165. MTS Allstream notes that in general licensees would not have any way of assessing whether other licensees are complying with this type of objective and thus would not be able to comment on or intervene as an interested party in any proceeding to determine whether spectrum was being used efficiently or not. Thus the Department should develop monitoring mechanisms to ensure that this type of licence condition is in fact met, to the extent that it does not do so already.
166. While MTS Allstream supports an interim implementation requirement as set out above, it would suggest that for any designated entrant licences, the period of implementation should be longer. In keeping with emerging international practice, MTS Allstream has proposed a longer licence term of 20 years for AWS licences which recognizes the length of time required for the realization of business case returns. A natural corollary of this longer proposed licence term is that the interim implementation period should be longer.

4.3.3 Renewal Expectancy and Process

167. MTS Allstream notes that the Department's proposal for renewal expectancy set out in section 5.3 of the Consultation Document is the same as that included in the Conditions for PCS and Cellular Spectrum Licences (updated November 1, 2005). To change this

approach for AWS licences would require consideration of changes to the existing PCS and cellular licences. MTS Allstream would recommend that if there is any change to be considered that it would apply to all licensees.

4.4 Licence Transferability and Divisibility

168. At page 36 of the Consultation Document, the Department proposes the following licence conditions for the AWS, PCS expansion and 1670-1675 MHz spectrum bands:

- **Licence Transferability and Divisibility:** The licensee may apply to transfer its licence(s) in whole or in part (divisibility), in both the bandwidth and geographic dimensions. The Department may define a minimum bandwidth and/or geographic dimension (such as the grid cell²⁰) to the proposed transfer. Systems involved in such a transfer shall conform to the technical requirements set forth in the applicable standards mentioned in previous sections.
- Departmental approval is required for each proposed transfer of a licence, whether the transfer is in whole or in part. The licensee must apply to the Department in writing. The transferee(s) must also provide an attestation and other supporting documentation demonstrating that it meets the eligibility criteria and all other conditions, technical or otherwise, of this licence.

169. MTS Allstream agrees with these proposed conditions of licence for the AWS, PCS expansion and 1670-1675 MHz spectrum bands.

4.5 Conditions of Licence

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

(AWS Consultation Document, page 38).

170. MTS Allstream agrees with the proposed conditions of licence set out at pages 36 to 38 of the AWS Consultation Document. However, in order to ensure that competition is fair and that new entrants are not disadvantaged because of the geographic scope of their licences or because they need time to build out their networks, additional conditions of licence are required relating to mandated roaming, resale and tower sharing.

4.6 Mandated Roaming and Mandated Resale

171. For the reasons set out in Section 2 above, MTS Allstream proposes that it be a condition of participation in the AWS spectrum auction and subsequently a condition of all cellular, PCS and AWS licences held by all mobile wireless licensees that:

- All AWS, PCS and cellular licensees must provide all other AWS, PCS and cellular licensees non-discriminatory access to roaming and resale services throughout the entire footprint of each licensee's physical network.
- In order to ensure maximum consumer benefit, the resale and roaming obligations should be non-discriminatory and akin to those currently in place between Bell and TELUS in their "enhanced roaming and resale" arrangement, including but not limited to "enhanced" and "automatic" or "seamless" digital roaming and resale capabilities.

4.7 Antenna Procedures and Tower Sharing

172. At page 36 of the AWS Consultation Document, the Department invites comments from interested parties on antenna tower siting policies and approval procedures relevant to AWS spectrum.
173. MTS Allstream notes that currently, all cellular and PCS licensees are required, as a condition of licence, to comply with the antenna tower consultation and approval procedures set out in *Environmental Process, Radiofrequency Fields and Land-Use Consultation, CPC-2-0-03*, as amended.⁵⁸ What is surprising, given the consistency of Industry Canada's policy position with respect to the desirability of antenna site sharing, is the degree of uncertainty surrounding the obligation of existing licensees to share antenna site space.
174. Needless to say, this uncertainty could be exploited by the Big 3 to deny or significantly delay access to their pre-existing antenna tower facilities and sites ("antenna sites"). In MTS Allstream's view and consistent with the policy pronouncements of successive Governments and policy review task forces on this issue, this uncertainty must be dispelled by providing, as a condition of licence of all cellular, PCS and AWS licences, that all licensees must provide non-discriminatory access to existing antenna sites.
175. The experience of the years since mobile telephony in Canada was first opened up to competition teaches that a specific and explicit condition of licence imposed on all mobile wireless licensees, regardless of the underlying technology used to deliver these services, is necessary. Ministerial expectation, no matter how strongly worded, has simply not provided enough of an incentive to incumbent providers to "do the right thing." No doubt, this is primarily attributable to the fact that not sharing antenna sites provides a formidable competitive advantage to the incumbents who typically control antenna sites.

⁵⁸ CPC-2-0-03, Issue 3, 24 June 1995.

176. And yet, it has been the Department's policy to support access to network facilities by third parties. Indeed, Industry Canada's policy preference for antenna site sharing has been a consistent facet of its licensing framework for mobile wireless services:

- CPC-2-0-03 provides that "Industry Canada expects applicants and antenna structure owners, along with industry associations, to work cooperatively in reaching agreements which allow for and encourage the sharing of antenna structures so as to minimise their number";⁵⁹
- Within the licensing framework document for PCS systems issued in 1995, Industry Canada stated, "[A]pplicants are expected to respect Industry Canada's policy of encouraging shared use of advantageous antenna sites among telecommunications service providers, where it is practical and where appropriate commercial agreements can be reached";⁶⁰
- Order in Council P.C. 1994-1689 states that wireless carriers are expected to make their supporting structures available to other wireless service providers on a "non-discriminatory" basis and, to the extent that such is practicable, in a manner that permits a competitor to "use and pay for only those parts of the network infrastructure which they require";⁶¹

177. There are good reasons for this policy preference that support and indeed, dictate that antenna site sharing should be mandated. First, "it has been the establishment of cellular and PCS towers that has attracted the most negative attention from land-use authorities, community groups and local citizens,"⁶² due to the proximity of these installations to populated areas and their proliferation due to the cellular (or typically

⁵⁹ CPC-2-0-03, page 6.

⁶⁰ Industry Canada, *Policy and Call for Applications: Wireless Personal Communications Services in the 2 GHz Range, Implementing PCS in Canada*, 15 June 1995, page 13.

⁶¹ Wireless policy requirements cited from Order in Council P.C. 1994-1689, dated 8 October 1994. These particular requirements are related to the system interconnection requirements set by the federal government so that new wireless service entrants not associated with a major telephone company could obtain access to the PSTN.

⁶² David A. Townsend (Principal Investigator), *Report on the National Antenna Tower Policy Review*, December 6, 2004, page 121 (hereinafter "*Antenna Tower Report*").

honeycomb) network structure and increasing demand for mobile telephony services. And yet, from a technical perspective and because of the similarities of services and markets among mobile telephony providers, the antenna sites operated in these services are most conducive to being subject to a sharing requirement.⁶³

178. Furthermore, the many salutary competitive, economic, environmental and social effects of antenna site sharing have been corroborated in the recent past. Antenna site sharing:

- reduces the proliferation of unsightly towers in the community;
- reduces public disruption and consumption of costly resources created by multiple requests in a given administrative region for tower access permits;
- removes barrier to entry that the incumbents' control of access rights, tower sites and rights of way represent;⁶⁴
- stimulates competition by reducing capital costs of new antenna installations;⁶⁵
- improves efficiency by allowing sharing of maintenance and operating costs;
- is consistent with section 7 of the *Telecommunications Act* as recently interpreted in the *Policy Direction to the CRTC*,⁶⁶ which prioritizes consideration of the removal of barriers to entry in order to foster increased reliance on market forces.

⁶³ *Antenna Tower Report*, page 122.

⁶⁴ AWS Consultation Document, page 19.

⁶⁵ In the first PCS licensing round held in 1995, an important goal in opening the spectrum at that time was: "the stimulation of competitive and comprehensive service offerings, provided through the utilization of both existing and new facilities, through, among other measures, the non-discriminatory access by third parties to networks, thereby also promoting value-added services and content": See Backgrounder – Personal Communications Services at <http://strategis.ic.gc.ca/epic/internet/insmtgst.nsf/en/sf01782e.html>. As expressed in the AWS Consultation document, the "high fixed cost of building a wireless network presents challenges for facilities-based entrants seeking to replicate it. Further, the economies of scale that a wireless incumbent enjoys may prevent a competitive entrant from being able to match the incumbent's incremental costs of serving each additional subscriber." See AWS Consultation Document, page 19.

⁶⁶ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, P.C. 2006-1534, SOR/2006-355, December 14, 2006.

179. Notwithstanding Industry Canada's well-known policy preference, the incumbents have for the most part resisted providing access to antenna sites within their control. As a result, by the end of 2005, over 68 per cent of wireless antenna sites were not shared. Over 79.5 per cent of PCS and cellular antenna tower sites in particular are not shared with any other wireless competitors.⁶⁷ The *Antenna Tower Report* and the TPRP's Final Report identified and recommended the removal of the following impediments to wireless competition:

- the prevailing practice of obtaining exclusive rights to private property, such as building rooftops in order to gain a competitive advantage;⁶⁸
- the practice of imposing one-for-one accommodations and "banking" protocols for site-sharing arrangements;⁶⁹

180. There have been repeated calls for Industry Canada to develop and implement policies designed to explicitly encourage the sharing of antenna towers and other support structures for mounting radio antennas.⁷⁰

181. In the view of MTS Allstream, impeded access to existing antenna sites represents a barrier to entry. The proliferation of antenna towers is undesirable from an aesthetic and environmental perspective and ties up significant administrative resources, given the different levels of government that must be involved in erecting each new antenna site. Furthermore, from the broader perspective of achieving increased competition and customer choice in Canada's telecommunications markets, if wireless technology is to fulfill its role as an alternative to wireline networks,⁷¹ then unnecessary and anti-competitive barriers to entry, such as denial or delayed access to antenna sites must be eliminated.⁷² If the Department wishes to ensure rapid growth of mobile

⁶⁷ *Antenna Tower Report*, pages 124 to 126.

⁶⁸ TPRP, *Final Report*, pages 5-11 and 5-12.

⁶⁹ *Antenna Tower Report*, pages 127 to 129.

⁷⁰ *Antenna Tower Report*, pages 113, 124 and 129; TPRP, *Final Report*, page 5-12.

⁷¹ TPRP, *Final Report*, page 5-11.

⁷² TPRP, *Final Report*, page 5-11.

wireless services, a necessary precondition is the removal of the barrier to entry that insufficient or delayed access to antenna sites represents. MTS Allstream therefore recommends that the Department specifically and explicitly include, by way of condition of licence, a requirement that all cellular, PCS and AWS licensees provide non-discriminatory access to existing antenna site facilities to other mobile wireless providers.

4.8 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.

(AWS Consultation Document, page 39)

182. At page 39 of AWS Consultation Document, the Department states that licences which are not assigned in the auction could be subject to a post-auction licence process that itself could be a re-auction. This implies that the licences post-auction could have somewhat different characteristics than those offered in the original auction.
183. MTS Allstream submits that in order to avoid confusion, the Department should use an auction as a means of awarding any licences that remain unsold as a result of the first auction and that the licence terms and conditions in the re-auction should be the same as those used in the initial auction. In addition, in order to increase certainty for bidders in the first auction, any re-auction of unsold spectrum should not be contemplated before five years from the close of the auction and should be preceded by a public consultation.

5.0 FINANCIAL ASPECTS OF THE AUCTION

The Department seeks comments on the opening bids and pre-auction deposits for AWS licences.
(AWS Consultation Document, page 41)

5.1 Opening Bids for AWS Spectrum and for PCS Expansion Spectrum

184. Section 6.1.1 of the AWS Consultation Document defines eligibility points for bidding as approximately equal to 10 MHz of spectrum and a population of 10,000.
185. The Department should note that there appear to be two typographical errors in the bullet points on page 39 of the AWS Consultation Document associated with the opening bids. First, opening bids are shown as "per point", when it appears based on a reading of the tables included in Annex 1 that this should read "\$/MHz/pop per point". Second, the opening bid values are identified as varying by population based on "service areas". MTS Allstream assumes that this should read: "underlying Tier 4 service areas" to be consistent with the tables in Annex 1 of DGTP-002-07.
186. Based on the assumption that these two items are, indeed, typographical errors which will be corrected, MTS Allstream supports the Department's proposed opening bid prices per MHz per pop per point.

5.1.1 *Opening bids for 1670-1675 MHz*

187. The 1670-1675 MHz licence is for 5 MHz of unpaired spectrum capacity. It would appear from the AWS Consultation Document that the Department seeks to reflect the eligibility points for this spectrum as being half of 10 MHz paired (i.e., 5+5 MHz) spectrum.
188. This specific mechanism as proposed however would appear to change the definition of a "point". In other words, under the Department's proposed approach, a "point" relative to the 1670-1675 MHz spectrum would not be the same as a "point" for the other spectrum in the auction. This would seem to imply that the auction would have two

classes of eligibility points – one class for AWS and PCS Expansion licences representing 10 MHz (set out in Section 6.1.1 of DGTP-002-07) and another for the 1670-1675 MHz representing 5 MHz of capacity (set out in Section 6.1.2 of DGTP-002-07).

189. A simpler approach might be to assign bidding points to the 1670-1675 MHz band that are half of what the paired 5+5 MHz spectrum would be in the other bands. In this way, there would only be one definition of "eligibility point" for entire the auction.
190. For example, based on Table 1 of Annex 1 of the AWS Consultation Document, national coverage with the PCS Expansion licence would require 3,002 eligibility points for 10 MHz capacity. However in Annex 2, for national coverage using the 1670-1675 MHz licence, which is 5 MHz, the number of points is shown as 3,001. Under MTS Allstream's proposal, the number of eligibility points for national coverage using the 1670-1675 MHz licence in Annex 2 would be 1,500 – i.e., half the number of points for half the spectrum. In this way, there would only be one class of eligibility points, with the different licence types reflecting their different population coverage and capacity.
191. To retain the same opening bid amount of \$1,500,500 for national coverage, the Department can adjust the value per point; i.e. instead of the calculation being "\$500 x points" as shown on page 50 of the AWS Consultation Document, the calculation would be "\$1,000 x points".

5.2 Pre-Auction Deposits

192. At page 40 of the AWS Consultation Document, the Department has proposed that the pre-auction deposit be \$4,000 per eligibility point for the first 200 points and \$6,000 per eligibility point requested thereafter. MTS Allstream agrees that this is a fair approach for accommodating smaller bidders.

END OF DOCUMENT