

March 1, 2000

BY E-MAIL: pcs.scp@ic.gc.ca
and REGULAR MAIL

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Radiocommunications
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Industry Canada
300 Slater Street
Ottawa, Ontario K1A 0C8

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Re : **Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range**
Canada Gazette Notice No. DGRB-018-99, December 17, 1999
(the "1999 PCS Auction Consultation")

Dear Messrs Skora and Helm:

Microcell Telecommunications Inc. is pleased to submit the attached comments in response to Industry Canada's 1999 PCS Auction Consultation.

We greatly appreciate the opportunity to make our views known to the Department on these important matters, and look forward to participating in the upcoming reply phase later this month.

Yours very truly,

Microcell Telecommunications Inc.

(SGD) Dean M. Proctor

Dean M. Proctor
Vice-President, Regulatory Affairs

enc.

Canada Gazette Notice No. DGRB-018-99

**Consultation on the Proposed Policy and Licensing Procedures for the
Auction of Additional PCS Spectrum in the 2 GHz Frequency Range**

**Comments of Microcell Telecommunications Inc.
Presented to Industry Canada**

March 1, 2000

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A. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

The upcoming auction is much more than a straightforward allocation of new spectrum. It is an opportunity for Industry Canada to set the foundations for and encourage the emergence of an entire new generation – a “third generation” – of wireless services for Canadians. By making the right decisions now, the Department has the ability to jump start another wireless revolution, to the benefit of Canadians carriers, service development firms and consumers alike.

The potential of 3G is enormous. In addition to the high quality voice transmission to which Canadian wireless users have become accustomed, 3G systems will be capable of supporting very high speed data transmission (up to 2Mbps for in-building/low mobility applications, 384 kbps for pedestrian environments and 144 kbps for vehicular environments). These high data rates will open up the possibility of transmitting information in a multiplicity of media – pictures, video, sound, text and software formats. Potential applications are limited only by the imagination and are expected to include fast access to corporate networks and the Internet, information and e-commerce services, on-line banking and shopping, videoconferencing, and interactive games.

Microcell is encouraged that the Department has adopted as one of its objectives in the upcoming allocation to “enable the implementation of new offerings such as third-generation (3G) PCS”.¹ The establishment of this objective follows on the advice of the industry itself, which has consistently recognised the importance of having 3G spectrum made available on a timely basis if the Canadian wireless industry is to continue the successful provision of value-added services to Canadians. Indeed, Industry Canada’s November 1999 policy statement “Revision to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum” (the “November 1999 Policy Statement”), notes at page 2:

“All respondents agreed that the industry’s continued growth depends on the ability of service providers to implement and grow 3G services, and that in order for this to be technically and economically feasible, individual service providers would need additional radio spectrum.”

As the Department finalizes the policy framework for the auction of additional PCS spectrum, we encourage it to keep its focus on the principal objective at hand. Canadian industry and consumers have an enormous amount to gain if the adoption and development of 3G technologies are stimulated in a positive and constructive manner.

In pursuing this objective, the Department must keep in mind that 3G services will not be launched in a vacuum. A successful 3G service launch requires a solid 2G foundation. Any measures that unnecessarily destabilize the 2G marketplace, such as the introduction of new 2G entrants, will not only put at risk the gains that have already been made, but will distract carriers’ resources and attention from the ultimate 3G objective.

¹ Industry Canada, “Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2GHz Frequency Range”, Canada Gazette Notice No. DGRB-018-99, December 17, 1999, p. 1 (the “Notice”).

The Department should acknowledge the vital role its policy decisions have played in establishing a healthy and vibrant 2G marketplace in Canada. Microcell is convinced that an excellent opportunity now exists to build upon this success. We encourage the Department to resist calls for potentially destabilizing changes to the 2G marketplace as it sets the rules for licensing additional PCS spectrum.

Microcell's Commitment to 3G

More than any other Canadian carrier, Microcell has been leading the way towards 3G, not only in Canada but for North America as a whole, by initiating 3G trial activities.

In the spring of 1998, Microcell obtained a developmental spectrum licence from Industry Canada for the purpose of conducting 3G trials. This developmental licence encompassed some of the spectrum currently being put forward for auction in the 1900 MHz range, as well as additional spectrum in the 2100 MHz range. (We note that Industry Canada's November 1999 Policy Statement identified the 2110-2150 MHz range as a possible future candidate for use by PCS.)

One result of the choice of spectrum used during the trials has been to provide the Department, Microcell and other trial participants with a useful perspective concerning the potential for the remaining 40 MHz of PCS spectrum at 1900 MHz to be used in the launch of true 3G services.

Microcell's 3G trials have involved extensive collaboration with equipment vendors and with other carriers, including Microcell's sister company Telesystem International Wireless ("TIW"), which operates wireless systems in numerous countries around the world. Microcell has also cooperated with other members of the North American GSM Alliance, an industry association whose members currently provide service to millions of customers in more than 4,000 US and Canadian cities and towns, as well as global roaming service. This international collaboration will enable the results of Microcell's trials to have an important impact on the process of developing 3G standards, ensuring among other things that the evolving standards for 3G adequately reflect the requirements and constraints of the North American environment and beyond.

With Nortel Networks, the trial participants announced in December 1998 that they would be providing a 3G testbed to be installed at Microcell's premises in downtown Montreal. The first phase of the trials with Nortel focused on the measurement of radio propagation characteristics for Wideband Code Division Multiple Access (W-CDMA). The second phase involved the delivery of live (over-the-air) W-CDMA test calls employing the Nortel prototype equipment. This in turn led to the announcement in May 1999 that Microcell, TIW, the GSM Alliance and Nortel had successfully made North America's first live 3G call. Data communications tests, including Internet access and videoconferencing, were also performed using prototype mobile data terminal equipment supplied by Panasonic.

Microcell also announced in October 1999 that 3G trials would commence with Ericsson Canada. Comprehensive testing is currently being conducted into the world's first version of a 3G W-CDMA radio system able to operate wholly within the same spectrum used by North American PCS network operators (1850-1990 MHz). These tests are being performed in an urban area of Montreal, and will involve a wide variety of applications including file transfer, Internet and corporate network access, Web browsing and videoconferencing. The trials also seek to demonstrate the smooth migration from today's second generation towards third generation PCS mobile networks, while highlighting the interoperability of the two types of networks.

In sum, the trials have served not only to reaffirm Microcell's high expectations for the potential of 3G wireless services, but also clearly demonstrate the viability of 3G technologies in precisely the 1900 MHz spectrum band that is under consideration in the present consultation.

Summary of Microcell's Recommendations

The significant potential of 3G, along with the essential link between first, enabling existing 2G players to continue to build strong networks and develop as vigorous competitors, and second, facilitating the development of the next generation of wireless networks and services, affect Microcell's answers to the specific questions posed in the Notice. In summary, Microcell's responses to these questions are as follows:

- ♦ **Section 3.2 – Eligibility to Acquire Spectrum:** Microcell strongly recommends that Industry Canada restrict eligibility to participate in the current auction to existing PCS licensees within their existing licence territories. By pursuing this course, the Department can simultaneously assure the continued health, growth and competitive successes of the 2G wireless marketplace, while laying the groundwork for vibrant competition in 3G services, all to the benefit of Canadians. Intense retail competition, which does benefit consumers, is neither necessitated nor guaranteed by infrastructure overbuild. We urge the Department not to heed the claims of those who would suggest otherwise, and to keep in mind that numerous resale and roaming alternatives exist in Canada for those who wish to expand their wireless retail presence.
- ♦ **Section 4.2 – Spectrum Structure:** Microcell believes that 5+5 MHz is the minimum spectrum required to offer true 3G service, and therefore should serve as the minimum block size. The Department's policy objectives are best served, and the competing business interests of wireless carriers are best accommodated, not by pre-judging optimal spectrum aggregations, but rather by allocating the available 40 MHz of spectrum into four distinct 5+5 MHz blocks. With this structure in place, licensees should have full flexibility in the use of spectrum to accommodate any asymmetrical design considerations that may arise in the future.
- ♦ **Section 4.3.2 – Geographic Dimension of Licences:** Microcell has a strong preference for national (Tier 1) spectrum licences, and recommends that two 5+5 MHz spectrum blocks be allocated on this basis. Also, to accommodate the existing regional presence of the former members of Mobility Canada, and consistent with our

recommendation under Section 3.2 that only existing PCS licensees be eligible to bid, and that only within their existing PCS licence territories, we recommend two 5+5 MHz spectrum blocks be allocated on a regional basis, with the licence boundaries set to match the existing regional PCS licence boundaries. However, in the event the Department decides to permit new entrants to bid, or to allow the former members of Mobility Canada to bid for spectrum beyond their current geographic limits, Microcell recommends that all of the licences allocated in the present auction be national (Tier 1) in scope.

- ◆ **Section 4.4 – Displacement of Microwave Incumbents:** Microcell endorses the comments of the Radio Advisory Board of Canada on this point.
- ◆ **Section 6 – Conditions of Licence:** Microcell endorses the conditions of licence proposed in the Notice. In addition, consistent with conditions on the existing PCS licences, and our discussion under Section 3.2 on the value of open networks, all licensees should be required to offer everywhere in their serving territory non-discriminatory resale to all other PCS licensees. Furthermore, in line with our recommendation under Section 4.3.2, if any new entrant is allowed to enter, or former Mobility Canada member is allowed to hold spectrum beyond current geographic limits, it should be required, as a condition of licence, to serve all regions of Canada.
- ◆ **Section 7 – Licensing Process and Auction Design:** Microcell agrees with the Department's proposals in this Section, and offers the following responses to two specific outstanding issues raised by the Department. First, Microcell strongly opposes the introduction of discretionary bidding as a serious impediment to fairness and transparency. Second, if the Department adopts a spectrum structure other than that recommended by Microcell in response to Section 4.2, it may need to permit bidders to exceed set aggregation limits and then partially divest themselves of the acquired spectrum after the auction. This is an undesirable result and should be avoided by the adoption of a spectrum structure consisting exclusively of 5+5 MHz blocks.
- ◆ **Section 8.1 – Opening Bids:** With respect to the Department's proposal to reserve the right to reduce the minimum bids for licences that do not receive any bids in the early rounds of the auction, Microcell notes that there is a risk that such reductions would occur after a particular bidder has lost some of its eligibility points. To protect against this possibility, Microcell recommends that the activity level not be raised above 50% until all required reductions in opening bids have been made.
- ◆ **Section 8.2 – Pre-Auction Deposits:** Microcell supports the proposed deposit requirements.

B. SECTION 3.2 - ELIGIBILITY TO ACQUIRE SPECTRUM

“The Department seeks comments as to whether and how the public interest would be served by limiting the eligibility of any potential applicants to participate in the auction.

“In addition, the Department would be interested in any views as to whether a certain amount of spectrum should be identified for which only new entrants would be eligible to bid. Those supporting such a view should stipulate the amount of spectrum that should be reserved and indicate how such provisions would be in the public interest.

“Furthermore, the Department invites comments as to how it should view the potential eligibility of any party that is licensed for the provision of personal communication services under the Radiocommunication Act but is not in compliance with its existing licence conditions. Specifically, the Department requests views as to whether such parties (and their affiliates) should be required to be compliant with existing PCS licence conditions before being eligible to acquire additional spectrum.

“Finally, the Department solicits input on any other factors that respondents believe are relevant to the eligibility of entities to participate in the auction.”

Introduction: The Success of the Current Industry Structure

In Microcell's view, the Department should limit the eligibility of potential applicants to participate in the auction for the remaining PCS spectrum at 1900 MHz to the current PCS licensees, within each of their respective operating territories. The public interest would not, in our submission, be served by allocating spectrum for new entrants or by permitting the existing regional licensees to expand outside of their existing operating territories. Instead, the Department should recognize that the policy considerations that led to its decision in 1995 – to authorize the operation of four networks, three of which were national in scope and the fourth a series of licences to the then-members of Mobility Canada to operate within their home territories – continue to apply today.

The industry structure established in 1995 has served the public interest very well. Consumers benefit from vigorous competition on price, coverage and services; and the Department's policy objectives of stimulating innovation while enabling network deployment are being met. The existing licensees have survived in a high-cost industry, with relatively limited access to capital, by stimulating consumer demand for airtime and services – in effect, by growing the “pie” of wireless telecommunications customers.

However, for the industry as it now exists to deploy the additional network capability and enriched services promised by 3G, it must continue to enjoy the market conditions that permit licensees to experience a certain degree of stability. The addition of new *infrastructure-based* competition by licensing a new PCS entrant or by permitting the existing regional licensees to expand outside of their existing operating territories at this point could undermine those conditions, and the stability of the existing operators. This in

turn would have direct consequences on achieving the Government's Connectedness Agenda, which calls upon the Canadian industry to expand PCS networks both to support new services such as 3G and to serve outlying geographic markets.

Permitting entry of a fifth network operator in any operating territory will compromise the launch of 3G services and the Connectedness Agenda in two ways. First, and most directly, any spectrum allocated to a fifth operator would, by definition, reduce the amount of new spectrum available to existing operators to launch 3G services. Second, to the extent entry by a fifth operator is permitted, existing operators will be forced to divert limited resources away from the launch of 3G, from more extensive 2G network deployment and from new product development, and instead channel those resources toward reinforcing their 2G positions in 2G in markets being targeted by a fifth player.

The prospect that the 40 MHz of spectrum in 1900 MHz range could be licensed to a potential fifth 2G network operator is particularly disconcerting given that the spectrum in question falls within one of the few frequency ranges that is almost universally recognized by national and international regulatory bodies as being prime for 3G deployment.²

Benefits for Consumers: Exponential Growth in Access to Wireless Services

Since the commercial introduction of second generation services in Canada in 1996, just over three years ago, Canadian wireless penetration rates have exploded. The rate at which new customers are being attracted to wireless service shows no sign of letting up. This reflects Canadians' recognition of the value proposition and of access to high quality products and services, as well as the ongoing deployment of second generation networks across the country.

In only three years of commercial service, the two new entrants, Microcell and Clearnet, have put in particularly strong performances, due to significant capital expenditures, new product development and introduction, and innovative market approaches. These have all led to vigorous competition and unparalleled growth and export opportunities for the Canadian wireless sector. The new entrants have also stimulated an accelerated and sustained customer growth for the sector: in 1999 alone, the industry added some 1.6 million new customers – more than a 40% increase over 1998 net additions – to end the year with close to seven million customers. This translates into a year-end penetration rate in Canada above 22% of the total population.

Carriers and industry analysts alike are now regularly accelerating their projections for wireless penetration rates in Canada. We have reached a point that was considered unachievable prior to the licensing of PCS in 1995: a general consensus exists that penetration rates in excess of 50% will be achieved in Canada by or before 2005. Beyond that date, projections are even more optimistic. Goldman Sachs, to give one example, is projecting that 75% of Canadians will have wireless devices for voice services by 2009³. Data services are also taking on an increasingly important role for wireless – indeed, the

² Notably, this spectrum falls within the frequency ranges that were identified at WRC-92 as part of the "core" spectrum set aside for 3G worldwide, and that is again being emphasized as such by the Canadian government and other Region 2 administrations within the WRC-2000 deliberations.

³ Goldman Sachs, "Canadian Communacopia Newsflash", February 22, 2000.

promise of 3G lies in data services – and projections for wireless data in Canada are equally encouraging. Goldman Sachs recently projected that 38% of voice customers will have added data services by 2005, a rate that rises to 65% of voice customers by 2009⁴.

These figures compare very favourably with other industrialised nations. For example, by adjusting penetration levels for the wireless industry based on how long service has been available, both here and in other countries, Canada appears to be ahead of many other more wireless-advanced nations such as the United States, the United Kingdom, Japan, France and Germany. Charts prepared by Bear Stearns in September of 1999 tracking the subscriber penetration performance in Canada and a number of other industrialised countries are attached as Schedule A.

Penetration rates actually achieved by the existing PCS licensees greatly exceed the projections made for the industry in 1995. This reflects more than conservative forecasting: it suggests that the number of entrants licensed at that time created a good match with the demand that is being developed for 2G-based services.

Benefits for Consumers: Wireless Pricing in Canada

Sustainable competition among wireless operators has resulted in Canadian consumers benefiting from wireless rates that are among the lowest in the world. As Global Mobile magazine reported on September 4, 1999:

“A recent study by the Yankee Group, a Boston-based technology research firm, concluded that Canada, when measured against 27 other countries, had the most affordable wireless phone rates in the industrialized world, followed by Finland, Italy, Israel and Hong Kong.”

This pricing strategy was driven in large part by Microcell. When Microcell launched Fido service, the first true PCS offering in the country, in November 1996, we were determined to ensure that PCS would become the preferred point of access for all of a consumer's communications needs. Accordingly, Microcell introduced previously unseen value in the wireless offer, meant to allow Fido PCS to become truly an “everyday, everywhere” product. This value was immediately noted by the marketplace, with Merrill Lynch concluding that Microcell had introduced the first ever wireless price plan “with pricing that competes with wireline.”⁵

⁴ Goldman Sachs, “The Week in Wireless”, February 25, 2000, p. 5.

⁵ Merrill Lynch, Canadian Wireless Telecommunications: “Madness in Montreal?”, December 2, 1996.

By September 1997, a global survey conducted by Salomon Bros. for the UK mobile operator, Orange, and illustrated in the table below, found Microcell's pricing to be the most competitive of a large number of carriers in Europe, North America and Australia⁶.

Per minute rates for consumer traffic sorted
on 70/30 call basket, in British £

	Off-Peak	Peak	70/30 Peak/Off-Peak
Microcell (Canada)	0.09	0.09	0.09
Telstra (Australia)	0.07	0.13	0.11
Tel. Finland	0.08	0.18	0.15
Rogers Cantel (Canada)	0.04	0.22	0.17
Orange (U.K.)	0.13	0.25	0.21
Sonofon (Denmark)	0.05	0.29	0.22
Airtel (Spain)	0.06	0.29	0.22
Mobilkom (Austria)	0.13	0.29	0.25
Libertel (Netherlands)	0.09	0.31	0.25
Vodafone (U.K.)	0.1	0.34	0.27
Europolitan (Sweden)	0.07	0.38	0.29
Mobistar (Belgium)	0.19	0.36	0.31

While Microcell played a significant role in initiating more consumer-friendly price competition in the Canadian wireless industry, our competitors have followed this lead. The result has led to an unmitigated benefit for Canadian consumers. But it has also led to an industry much more reliant on establishing high subscriber numbers and minute volumes than the pre-1995 cellular industry ever was. So far, affordable wireless rates have not forced consolidation in the PCS industry; however, the addition of a new infrastructure-based competitor will not easily be tolerated where margins are slim. The paradoxical end-result of a move to license a fifth PCS operator at this point could be less consumer choice, not more – and fewer resources to develop the networks and services associated with 3G.

Benefits to Canada: Investments in Innovation for Future Growth

In 1995, PCS was seen as an opportunity for Canada to take a leading role in what was clearly going to become an important new telecommunications technology, in an increasingly global marketplace. Conditions of licence requiring PCS licensees to invest in R&D, coupled with an industry structure that encouraged true research and development, resulted in a PCS industry based not simply on technology imported from abroad. The industry structure allowed Canadian players of adequate breadth and scale to develop and compete on a global basis.

⁶ Salomon Bros., "Prospects for Average Revenue and Penetration within the Mobile Telecommunications Market", September 1997.

Microcell has been particularly aggressive at investing in R&D for PCS. By year-end 1998, some 15.5% of Microcell's consolidated adjusted gross revenues had been expended on R&D, including such varied and successful initiatives as:

- The creation of Microcell Labs and the Centre for Strategic Knowledge to develop new products and content for wireless applications;
- North America's first live 3G call and on-going developments;
- The first porting of telephone numbers between wireline and wireless networks in North America, perhaps the world; and
- Wireless "local loop" and adaptive antenna research.

Over and above the initiatives listed above, Microcell spearheaded the creation of GSM Capital, which is now a \$200 million venture capital fund investing in wireless innovation in Canada and around the world. Microcell, GSM Capital and other partners, including Nortel, also created Saraïde, a wireless Internet service bureau enjoying considerable success with both customers and operators across the globe.

The introduction of a new PCS network operator cannot but impact innovation. Existing licensees, including Microcell, will be required to divert resources away from R&D and towards the much shorter-term goal of securing market position in a significantly altered marketplace. Resources that could otherwise be creating value through long-term investments and R&D activities would be tied up by battles to establish infrastructure in markets already for the most part highly competitive. Money that could be used to create new opportunities would be channelled to purchasing the already available equipment and know-how of others.

Benefits to Canada: Extensive and Continuing Deployment

The diversion of resources by existing operators to battle a fifth PCS network operator in each operating territory can also negatively affect further 2G network deployment, as well as the amount of resources available for 3G. The accomplishments of and the associated costs incurred by the Canadian wireless industry have not gone unnoticed:

"In our opinion, four networks covering the vast majority of the Canadian population is the appropriate structure at this stage of the wireless industry's development. We do not believe it is in the best interest of the consumers or wireless companies to have a further wireless network built."⁷

Industry structure has an obvious effect on the ability of carriers to offer geographic coverage that is both extensive and continually growing. Success in the larger markets is critical to a PCS licensee's ability to undertake extensive, national deployment. And the success of PCS providers in the largest markets will directly affect the extent to which PCS is implemented throughout Canada.

⁷ Griffiths McBurney & Partners, "Wireless Signals", June 24, 1999.

Microcell's PCS network was the first to cover over 50% of the Canadian population, and now reaches well in excess of 16 million people. This extensive PCS deployment is continuing, and will include all 25 CMAs (metropolitan areas) in Canada by the end of our first licence term. By year end 1999, only three years after our initial commercial launch, Microcell had invested over \$740 million in capital expenditures, and its total investment on PCS was approximately \$1.4 billion.

Intimately related to a wireless carrier's ability to deploy its network is its ability to gain access to capital when required, at affordable rates. The market valuation of Canadian wireless companies reflects the sustainable industry structure created in 1995, as well as market and operational factors. The valuation is better now than a year ago, but it continues to lag valuations of similar companies elsewhere, for example, in the U.S. and the U.K. Insight into how Canadian wireless companies are perceived by markets where they must often seek financing is provided by a report from Prudential Securities:

"The Canadian wireless marketplace can be compared to the U.K. wireless marketplace of three to four years ago. ... In the U.K., it took three to four years for the market to rebalance. ... This is because it took time for the new entrants to building out comparable networks, gain comparable distribution, and be comparably recognized by the U.K. consumer."⁸

The Existing Industry Structure Creates a Significant and Sustainable Value Proposition

Unanticipated wireless penetration rates, world-beating pricing, innovation and export opportunities, and expanding geographic coverage add up to create significant value for Canadian wireless customers. Indeed, Microcell estimates that the PCS industry has created a significant and incremental consumer surplus compared to the benefits anticipated when PCS was first licensed in 1995.

Largely as a result of Microcell's pricing leadership, all wireless consumers in Canada, new and old, are enjoying more minutes of usage for fewer dollars. For example, people who once might have regarded a mobile phone as an emergency device are increasingly using it for a variety of daily needs. Similarly, people who were already heavy users are finding it worthwhile to drop their wireline phone entirely.

However, it is important to realize that this immensely positive value proposition relies heavily on the ability of network operators to extend their lower per unit margins over distinctly higher customer bases and calling volumes. Microcell fears that licensing a fifth PCS network operator could undermine existing licensees' abilities in this respect. It should by no means be assumed that the entry of new operators would result in a further reduction of wireless prices. In fact, to the extent that new entry causes the existing operators to reassess their volume projections, it could have the opposite effect.

⁸ Prudential Securities, "Clearnet Communications Report", September 1998.

Restrictions on Geographic Eligibility

As the Notice recognizes, the question of whether or not to consider licensing a new entrant is closely related to the issue of whether to permit the former members of the Mobility Canada consortium, most specifically Bell Mobility and Telus Mobility, to expand their operations outside of their existing serving territories.⁹ Microcell recommends that the Department view with a healthy degree of scepticism any claims that such expansion would either be good for consumers or necessary for the survival of the former members of Mobility Canada.

As recently as last year, Mobility Canada (at the time still representing both Bell Mobility and Telus Mobility) was loudly proclaiming the inevitable consolidation of the Canadian wireless market. In calling for a removal of the PCS spectrum cap, Mobility Canada asserted:

“Could removal of the spectrum cap remove a barrier to consolidation? Absolutely, ... rational consolidation may be a positive step and is consistent with a broader telecommunications environment. To begin with the current industry structure is not sustainable. The industry as a whole will lose well over a billion dollars in 1998 ...”¹⁰.

It is difficult to believe that the Canadian wireless market went from having too many network operators to having too few network operators in the space of one year. Mobility Canada’s change of heart surely has more to do with the internal political developments of its former membership, and perhaps the lack of success they had realizing the desired consolidation, than with any rational assessment of market realities. In any event, national policy that represents all stakeholders, and is meant to advance a strong wireless industry, should not contort itself to the fits and whims of the former members of Mobility Canada.

The argument that relaxing geographic restrictions on former Mobility Canada members will benefit customers should also be examined more closely.

Even if there were demand for such an outcome, the former Mobility Canada members have at their disposal a wide range of alternative means of establishing national presence as retailers of wireless services, short of adding unnecessary network infrastructure. Consolidation, or other acquisitions, has never been foreclosed. Moreover, it is open to these powerful companies to enter into wholesale/resale and roaming agreements among themselves or with other PCS licensees.

⁹ As an example, the National Post reported on February 26, 2000 (“Monty goes Head to Head with Telus in the West”, page D1);

“Announcing his intention to give Bell the money to extend its Bell Mobility franchise into what is the traditional territory of BCT.Telus ..., Mr. Monty ruled out the acquisition of another wireless network such as Clearnet Communications Inc. “We will initiate a rollout of wireless in Alberta and B.C. and request frequencies from the Canadian government in the upcoming auction”/ he said ...”.

¹⁰ Mobility Canada, Comments on *Review of the Spectrum Cap Applied to Providers of Personal Communications Services* (Notice No. DGTP-015-98), January 22, 1999.

Indeed, the Department itself notes in the present consultation (page 10 of the Notice) that:

“[r]egarding recent changes at Mobility Canada allowing competition among members ... the companies involved have developed resale/roaming arrangements to ensure continuation of national service for their customers”.

Furthermore, it is a condition of licence that all PCS licensees offer non-discriminatory PCS resale throughout their service areas to the other PCS licensees.¹¹ In this regard, Clearnet's choice to operate with the same CDMA standard as Bell Mobility, Telus Mobility and other Mobility Canada members makes a PCS resale agreement between some or all of these carriers appear to be a very viable option.

The result of this condition of licence and Clearnet's choice of technology affords each of the former Mobility Canada members not one, but two technologically compatible, government mandated resale/roaming options in each region of Canada. Many wireless carriers around the world could only look with envy upon the plethora of mandated wireless infrastructure alternatives that retail service providers have available to them in this country and thereby obviating any need for unnecessary infrastructure overbuild.

Satisfy Any Additional Consumer Demand through Open Networks

Approaching the retail market by purchasing wireless services on a wholesale basis is not only a viable business strategy in itself, it also contributes to ensuring a sound industry structure. And this works to the ultimate benefit of consumers.

As discussed above, mobile wireless networks are enormously capital intensive, and the greater the number of independent networks, the higher the risk that one or more network operators will be unable to assure an acceptable return on its investment. Open systems that encourage wholesale arrangements permit a greater number of retail service providers to compete in the consumer market without undermining the profitability of the underlying networks.

The former Mobility Canada members or, for that matter, any other party interested in retailing wireless services, do not each require their own infrastructure in order to provide product and service offerings to Canadian consumers. And while Microcell has long advocated open systems and networks, we are not alone in our views. For example, CIBC Wood Gundy recently opined:

¹¹ *Licence Conditions for Personal Communications Service (PCS) Licensees*, Appendix A to Industry Canada's letter of authorization to the existing Canadian PCS licensees, condition 9.1, April, 1996.

"We believe that both BCE Mobile and BCT.TELUS Mobility have ambitions to provide national coverage. ... Achieving national coverage need not necessarily involve making a dilutive acquisition. ... An even less expensive option, that does not necessitate heavy capital spending, may be [for BCE Mobile] to become a reseller of another carrier's capacity in B.C. and Alberta."¹²

In fact, wholesale and roaming arrangements are a common feature of the wireless industry, both in Canada and internationally. In Canada, for example, the two new PCS entrants, Microcell and Clearnet, have each executed roaming agreements with the analog cellular incumbents. Microcell wholesales its own PCS network capacity to no fewer than five independent wireless service providers. Rogers Wireless recently signed a resale deal with Shaw Cable. And, as mentioned above, the former Mobility Canada members have developed resale/roaming arrangements between themselves to ensure continuation of national service for their customers.

In the United States, national network footprints have been the exception rather than the rule, and carriers employ a variety of wholesale, roaming and affiliate relationships to fill in coverage gaps almost as a matter of course.

Finally, in the specific case of Telus Mobility, it has already announced the imminent launch of its wireless service in Eastern Canada, set for Toronto later this month, and presumably by means of a wholesale agreement with a wireless operator that has a network in the East.¹³ To repeat, wholesale is the rational route to follow, not only for Telus Mobility but for all former members of Mobility Canada. A new retail competitor can make its appearance in all of the regions of Canada, and an unnecessary infrastructure overbuild will have been avoided, all to the ultimate benefit of Canadian consumers and the overall industry.

Compliance with Existing Licence Conditions

The Department seeks comment on the option of denying eligibility for any PCS licensee not in compliance with its existing licence conditions. In Microcell's view, this proposal has significant potential difficulties of interpretation and application, and should not be pursued. We note the comments of the Canadian Wireless Telecommunications Association, submitted on today's date. Microcell fully supports those comments.

In particular, Microcell agrees with the legitimacy of the Department's concern that discipline might be required should any particular licensee demonstrate a lengthy history of substantive non-compliance. However, the real issue is that some sort of sanction may be required for non-compliant licensees. Ineligibility to participate in an auction of future spectrum, which might be subject to quite different licence conditions, does not seem to be a particularly fitting sanction.

¹² CIBC Wood Gundy, Report on BCE Mobile Communications, April 23, 1999.

¹³ Edmonton Journal, "Telus Plans Wireless in Toronto", February 18, 2000, page F2.

Microcell agrees with the CWTA that a number of issues merit careful thought and discussion airing before the Department establishes any linkages between compliance and eligibility.

First, would a public process be followed to determine a carrier's state of compliance and eligibility? If so, what rules – and what provisions as to the protection of the confidentiality of information – would apply?

Second, how would the Department determine what non-compliance qualifies as sufficiently substantive to warrant the imposition of this penalty? Because the Department's rules are quite fluid, it is possible to envisage a carrier having been in compliance for a lengthy period, and suddenly becoming non-compliant just prior to an auction (possibly over a relatively minor issue), and then being disqualified from participating in the auction. The opposite is also distinctly likely – a situation where a carrier with a lengthy history of non-compliance could change its behaviour to come into compliance at the last minute so as to qualify for a new spectrum auction.

Third, would the Department consider whether holders of other types of spectrum licences are compliant with their conditions of licence, or confine its enquiries to licensees for similar or identical uses? In the context of the PCS auction, how would the licence compliance of non-PCS licence holders be treated?

On balance, Microcell believes the potential for arbitrary decision-making, as well as simple confusion, is so great with this proposal that it should be examined far more closely before being seriously contemplated.

C. SECTION 4.2 - SPECTRUM STRUCTURE

[T]he Department seeks comments on:

- i) the minimum frequency sub-blocks that would support practical implementation of 2G and initial deployment of 3G (IMT-2000) services, given the frequency block size of the C/C' and E/E' blocks;*
- ii) the preferred sub-block structure of the spectrum in the C/C' and E/E' blocks, taking into account engineering issues, business factors, and the Department's desire to see greater competition and advanced services in all regions of Canada;*
- iii) the implications on roaming and cross-border sharing arrangements of the sub-division of the C/C' and E/E' blocks;*
- iv) the technical challenges that would exist in the context of 2G deployment, initial 3G deployment, and the anticipated evolution from 2G to 3G.*

...

[T]he Department seeks additional comments on:

- the need for operators to have contiguous spectrum blocks in the band 1850-1990 MHz, given the wide range of access technologies available to operators for both 2G and 3G applications;*
- the need, if any, to adjust the spectrum block structure to align with asymmetrical traffic flows, taking into account the growing developments in IP-based services over cellular/PCS systems; and*
- the need for special provisions to accommodate Time Division Duplexing (TDD) technology in the frequency block structure."*

Microcell favours the division of the 40 MHz of remaining PCS spectrum into four blocks of 5+5 MHz each. This division accords best with the current state of technology available for 3G networks, and permits further development of a fair and sustainable market structure.

Recent international developments suggest that W-CDMA is emerging as the *de facto*, universally accepted radio access technology for 3G wireless. This paradigm shift away from the present-day multiple narrow-band (or relatively narrow-band) 2G standards toward a single broadband 3G standard was made possible by an agreement reached among major industry players on the intellectual property rights for W-CDMA, and by the subsequent endorsement of W-CDMA by the International Telecommunications Union (ITU). It is expected that W-CDMA will lead to a substantial increase in system capacity at reduced costs, largely due to the width of the spectrum it occupies and the trunking efficiency that results from wide bandwidths.

W-CDMA technology requires at least 5+5 MHz for duplex operation, since it is based on a spread-spectrum technique which requires each signal carrier to possess a minimum bandwidth of 5 MHz. This is the minimum requirement to commence true 3G service, even for a single user, from day one. Consistent with this fact, the Department should reject any calls to auction any of the available spectrum in blocks of less than 5+5 MHz. To fragment the spectrum into smaller blocks would make it extremely difficult to reassemble them at a later date, and would compromise the development of 3G.

Assuming the Department establishes 5+5 MHz as the minimum block size consistent with 3G service requirements, then it would appear self-evident that the Department should auction the 5+5 MHz E/E' spectrum as a single block. Consideration must then be given to how to allocate the 15+15 MHz C/C' spectrum, for example as a single block or as three distinct 5+5 MHz blocks.

Microcell has recommended in the preceding section of these comments that the upcoming auction be restricted to existing PCS network operators in their existing serving territories. To provide a fair opportunity for each of the operators to acquire spectrum, and to facilitate adherence to the existing PCS spectrum aggregation limit, the 15+15 MHz C/C' spectrum should be allocated in three distinct 5+5 MHz blocks.

Even if the Department were to decide, against Microcell's recommendations, to open the auction to new entrants or to permit the PCS licensees previously under the Mobility Canada consortium to expand their coverage beyond their present operating territories, Microcell still sees no valid argument against allocating the 15+15 MHz C/C' spectrum in three distinct 5+5 MHz blocks.

Depending upon the eligibility rules established by the Department, competing bidders could find themselves with widely different business plans and spectrum requirements. One existing licensee may feel that 5+5 MHz fully satisfies its foreseeable spectrum requirements. Another existing licensee may have plans to employ either 5+5 MHz or 10+10 MHz, depending on the acquisition price. A new entrant may set its objective at 10+10 MHz or perhaps 15+15 MHz.

Microcell submits that the only way to accommodate all of these competing plans is to auction the available 40 MHz in four distinct blocks of 5+5 MHz. Adopting four 5+5 MHz blocks as a structure relieves the Department from having to pre-judge the optimal spectrum aggregations. Individual auction participants will each be at liberty to pursue whatever aggregations (large or small) best suit their business needs consistent with the overall auction framework. This is particularly true in the context of a simultaneous multiple-round auction, which is uniquely tailored to accommodate competing aggregation objectives.

Regarding the other points raised by the Department in relation to the block structure:

- ◆ Provided the Department does not allocate any of the available spectrum in blocks of less than 5+5 MHz, Microcell is not aware of any adverse implications on roaming or cross-border sharing arrangements.

- ◆ Microcell does not foresee any technical barriers to employing the C/C' and E/E' block spectrum for either 2G or 3G services. We note that, based on public positions taken to date by nations participating in global spectrum alignment for 3G services, these blocks are in a frequency range that has received near unanimous world approval for the launch of 3G services.
- ◆ Contiguous blocks may present certain advantages to certain operators, but they are by no means a necessity for efficient operation. Furthermore, any advantages that may exist for certain operators will be internal to these operators' spectrum valuations and thereby reflected in their bidding. There is no justification for the Department to take further explicit measures to encourage the assembly of contiguous spectrum blocks, nor does Microcell know of any equitable way for the Department to achieve this in the context of a simultaneous multiple-round auction.
- ◆ Microcell does not see the need to align the block structure with asymmetrical traffic flows. It is not necessarily the case that operators will have difficulty accommodating such asymmetrical flows within a traditional paired block structure. Microcell recommends that, rather than pursue an asymmetrical block structure, the Department ensure that operators have full flexibility in the use of spectrum so as to accommodate asymmetrical design considerations if and when they arise.
- ◆ As for special provisions to accommodate TDD in the frequency block structure, again, Microcell is of the opinion that such provisions are not an immediate necessity. TDD is extremely useful where asymmetrical traffic flows predominate – in fact, it is one of the most efficient ways of using spectrum when asymmetry exists – but at this time, TD/CDMA, which is the TDD equivalent of W-CDMA, is still being refined as an access technology and it would be premature to establish policy on the basis of its anticipated requirements. However, the possibility of having dual-mode terminals and base-stations, capable of switching from the FDD mode to the TDD or vice-versa, will be seriously examined by operators and manufacturers alike. Once such a possibility becomes practical, it would be in the operator's best interests to implement it, as it would represent the most efficient way of exploiting the spectrum at the operator's disposal.

D. SECTION 4.3.2 - GEOGRAPHIC DIMENSION OF LICENCES FOR SPECTRUM IN BLOCKS 'C' AND 'E'

"Within the context of the eligibility issues discussed in section 3.2, the Department seeks comment as to whether national spectrum blocks, regional spectrum blocks, or a combination of both would be appropriate.

...

With reference to section 3.2 above, the Department also seeks comment on the following issues:

- If regional PCS licensees previously under the Mobility Canada consortium were eligible to bid for additional spectrum to expand their coverage beyond their present serving areas, would it be desirable as a public policy to require them to serve all regions of Canada? If such a policy were desirable, how might this objective be achieved?*
- If spectrum were identified specifically for new entrants, would it be desirable that they be required to serve all regions of Canada? If such a policy were desirable, how might this objective be achieved?*
- If new entrants were eligible to participate in the auction but with no spectrum specifically identified for them, would it be desirable that they be required to serve all regions of Canada? If such a policy were desirable, how might this objective be achieved?"*

As stated above in our comments pursuant to section 3.2 of the Notice, Microcell is of the view that to permit a new, fifth network operator into any of the PCS operating territories would unnecessarily destabilize the 2G wireless marketplace, threatening not only the competitive and consumer gains that have been realized to date, but also undermining the ability of the wireless carriers to effectively launch new 3G services. The Department cannot simultaneously permit a fifth network operator to enter the market and profess to be encouraging the launch of 3G services by existing network operators. We therefore recommend that the Department limit the auction to the existing PCS network operators in each of their respective operating territories.

Microcell has a strong preference for national (Tier 1) spectrum licences, as these simplify auction administration and accord well with the national footprints of the majority of the existing PCS network operators. However, given that some of the existing operators, specifically the former members of the Mobility Canada consortium, have a regional presence, and given Microcell's recommendation that network operators not be permitted to bid on licences outside of their existing operating territories, it would be appropriate that at least some of the new spectrum licences allocated in the present auction be regional in nature. We disagree, however, with the Department's proposal that the boundaries of these regional licences be drawn in accordance with generic Tier 2 licence areas. In our view, the sole driver for allocating licences on a regional basis would be to accommodate the existing

regional coverage of the former Mobility Canada companies. It follows that the boundaries of any such licences should duplicate those of the existing regional PCS licences.

As such, and in order to accommodate both objectives of administrative simplicity and equity toward regional players, Microcell recommends that the Department auction two 5+5 MHz spectrum blocks on a national basis and two 5+5 MHz spectrum blocks on a regional basis, with the boundaries of the latter licences set to match those of the existing PCS regional licences. We note that there should be no requirement to allocate more than two 5+5 MHz blocks on a regional basis, as all of the regional carriers already possess 35 MHz of spectrum subject to the PCS aggregation limit, leaving them with only 20 MHz of acquisition potential.

The preceding recommendations assume that the Department is in agreement with Microcell's position restricting participation in the auction to existing network operators within their existing operating territories.

Should the Department choose instead, contrary to Microcell's recommendations, to permit an increase in the number of operators per operating territory, either through new entry or through out-of-territory expansion by the former members of Mobility Canada, Microcell is of the view that regional licensing would no longer be required or appropriate. To understand why, we need to consider the issue of national service obligations.

As the Department itself has described in the Notice, an obligation to provide national service has been a consistent and prominent feature of the Canadian wireless marketplace since the industry's inception. All existing network operators are subject to some form of comprehensive national service obligation, either on their own or as part of a former licensee consortium. To now open the Canadian marketplace to carriers not subject to a national service obligation would create a serious competitive imbalance.

The reality of Canada is one in which a limited number of large population centres are distributed across a vast expanse of less densely populated territory. For a carrier to provide true national coverage invariably involves a substantial degree of internal cross-subsidization as the concentrated revenues from the large population centres are used to offset the high cost of rollout to the less densely populated regions. Were the Department to permit a new entrant or an out-of-territory former Mobility Canada company to pick and choose only the more profitable licence territories, it would create a situation where this particular class of carriers would be subject to a distinctly different and more favourable cost structure than its competitors. These carriers would have the advantage of knowing that revenues from their high density / high subscriber locations would not need to be siphoned off to finance build-out in lower density / lower subscriber locations. They alone would be able to price their services accordingly, creating an artificial wedge between themselves and otherwise-obligated competitors.

Competitive balance and stability necessitate that a new entrant or an out-of-territory former Mobility Canada company be required to satisfy the same national service obligation as existing operators.

To Microcell's knowledge, in the context of a simultaneous multiple-round auction, the only practical way to ensure that such a participant will be able to satisfy a national roll-out obligation is to ensure that any licence it succeeds in buying is national in scope.

Consequently, if the Department chooses to permit an increase in the number of operators per operating territory, either through new entry or through out-of-territory expansion by the former members of Mobility Canada, Microcell recommends that only national (Tier 1) licences be made available in the auction. Considering our views in the previous section of these comments on the appropriate bandwidth allocations, our specific recommendation in this scenario would be to auction four 5+5 MHz Tier 1 licences. We would see no reason why one or more of these licences would need to be specifically reserved for a new entrant.

E. SECTION 4.4 - DISPLACEMENT OF MICROWAVE INCUMBENTS

“Industry Canada seeks comment on accelerating the existing transition provisions for all licensed PCS spectrum (1850-1910/1930-1990 MHz) so that Canadians, wherever they live, can benefit from new PCS services over a relatively short implementation period. The Department proposes the following: [Reference pages 13-14 of the Notice.]

...

The Department also seeks comment on whether it would be appropriate, and to what extent, that similar accelerated provisions apply to the licence-exempt PCS spectrum in the sub-band 1910-1930 MHz.”

Microcell endorses the comments of the Radio Advisory Board of Canada (RABC) on this point.

F. SECTION 6 - CONDITIONS OF LICENCE

“The Department proposes and seeks comment on the following conditions of licence. [Reference pages 17-22 of the Notice.]”

Microcell supports the conditions of licence as proposed by the Department, with two additions.

First, consistent with our position on the value of open systems and networks, as described above under Section 3.2 of the Notice, we recommend that the spectrum licensees be subject to the same condition of licence on resale as the other PCS licensees at 1900 MHz; specifically, that the spectrum licensee must offer resale on a non-discriminatory basis throughout its service area to all other PCS licensees.

Second, consistent with our position under Section 4.3.2 of the Notice, we recommend that, to the extent new entrants are permitted into the Canadian PCS market or the former Mobility Canada members are permitted to bid on licences outside of their existing serving territories, they be required to serve all regions of Canada.

Microcell considers it particularly appropriate that, as proposed in the Notice, licensees be required to abide by the same lawful intercept, research and development, and annual reporting obligations as existing PCS licensees.

G. SECTION 7 - LICENSING PROCESS AND AUCTION DESIGN

“The Department seeks comment on the licensing process and auction design proposed below. [Reference pages 22-31 of the Notice.]”

Beyond the specific points noted in the following two sub-sections, Microcell has identified no issues of concern with the Department’s proposed licensing process and auction design.

H. SECTION 7.7.7 - DISCRETIONARY VERSUS NON-DISCRETIONARY BIDDING

“The Department seeks comment as to whether discretionary or non-discretionary bidding would be preferable.”

Microcell strongly opposes the introduction of discretionary bidding.

Auctions are most efficient when the maximum amount of relevant and reliable information is made available to all participating bidders simultaneously and in a timely fashion. Relevant information, in this context, refers not only to financial indicators such as the standing high bids and the pattern of bidding by each participant, but also timing indicators such as the current bidding increment, the bidding frequency and the activity rule.

Reliable information about the pace of the auction is important to the smooth functioning of bidders' internal decision-making processes. In many cases, those responsible for a company's bidding activities will be making regular reports back to senior management as the auction progresses, at times requesting changes in their bidding mandates as the auction evolves. To do this effectively, those bidding actively must be able to estimate the projected pace of the auction.

In a non-discretionary bidding environment, all bidders are able to estimate the pace of the auction with an equal and relatively strong degree of reliability. To be sure, Industry Canada exercises important discretion over the pace through its power to alter the bidding increment, the bidding frequency and the activity rule, but each participant can rest assured in the knowledge that it will be apprised of any such changes at the same time as all other participants.

In a discretionary bidding environment, individual bidders hold the power to manipulate the pace of the auction to the surprise of other bidders, thereby gaining tactical advantage. Microcell submits that this power reduces the efficiency of the auction, as it risks undermining bidders' internal decision-making processes.

Accelerating the pace of an auction is sometimes cited as a motivator for permitting jump bids. However, the Department already has ample tools at its disposal for accelerating the pace if and when this is deemed necessary. These tools include increasing the activity rules, increasing the frequency of bidding rounds, and increasing the pre-set bidding increment.

A licence should be won because the high bidder truly values it more than its competitors, not because the high bidder succeeded in surprising its competitors with a jump bid. The Department should continue to prohibit discretionary bidding.

I. SECTION 7.7.9 - ENFORCEMENT OF SPECTRUM AGGREGATION LIMITS

“The Department seeks input as to whether [permitting bidders to place bids and hold standing high bids on licences within a service area that would exceed the spectrum aggregation limit] should be allowed, or whether the benefits of this flexibility are outweighed by the potential problem of one bidder exceeding the aggregation limit and forfeiting on licences after the auction, solely to preclude a competitor from acquiring spectrum in an area in a timely manner.”

The question of whether it is appropriate to permit bidders to place bids and hold standing high bids on licences within a service area that would exceed the spectrum aggregation limit is intricately tied to the question of the appropriate block structure for the additional spectrum to be auctioned.

In response to Section 4.2 of the Notice, Microcell recommended that the Department adopt a block structure consisting of four 5+5 MHz blocks. As stated, the principal advantage of such a block structure is that it would relieve the Department from having to pre-judge the optimal spectrum aggregations, leaving individual auction participants at liberty to pursue whatever aggregations (large or small) best suit their business needs. One further important advantage of a four 5+5 MHz block structure is that it would permit each existing PCS licensee to easily manage its bidding activity to fall within the PCS spectrum aggregation limit. For example, a licensee with an existing 30 MHz of covered spectrum in a given licence territory need not have any concern about bidding on one or two new 5+5 MHz blocks, as it would be assured of staying within the 55 MHz limit, but it would refrain from bidding on three new 5+5 MHz blocks, as this would push the licensee over the applicable limit.

In contrast, were the Department to decide against Microcell’s recommendation and opt to pre-aggregate some of the available spectrum into, for example, a 15+15 MHz block¹⁴, it would confront existing licensees with a difficult and unnecessary choice. Existing licensees either would have to limit themselves to fighting over the one remaining 5+5 MHz block, or would have to undertake to bid on a licence that would, at least temporarily, force them to exceed the aggregation limit.

In such a scenario, for the Department to refuse to accommodate the second option, i.e. for the Department to impose a rule that would prevent bidders from placing bids and holding standing high bids on licences that would exceed the spectrum aggregation limit, would be patently contrary to the Department’s goal of encouraging the development of 3G, given that it would amount to the outright exclusion of existing licensees from most of the available spectrum.

¹⁴ Pre-aggregation into a 15+15 MHz block is used here as an example. Clearly, pre-aggregation into a 20+20 MHz block would only accentuate the problems of exclusion and post-auction administrative difficulties. Pre-aggregation into one or two 10+10 MHz blocks presents fewer difficulties, but nevertheless does not appear to hold any advantages relative to a straightforward simultaneous auction of four 5+5 MHz blocks.

However, once the Department acknowledged that it would have to permit existing licensees to bid on and win a licence that at least temporarily causes them to exceed the aggregation limit, serious administrative difficulties would then present themselves. The winning bidder, if it is a pre-existing licensee, would have to be provided with the capability to divest itself of one or more 5+5 MHz tranches of the 15+15 MHz block. Presumably, there would be a time limit on this divestiture to prevent hoarding. Yet it would be unfair to force the winner into a fire sale. As a result, the Department would have to envisage the possibility that the winner would want to return one or more 5+5 MHz tranches of the spectrum it recently won.

The Department would then find itself in the position of having to determine what amount of refund to provide for these divested tranches. One logic would suggest that a 5+5 MHz tranche from a 15+15 MHz block should receive a refund equal to one-third of the winning bid. But if this is where the Department risks ending up, one is justified in asking whether it would not be less arbitrary and more efficient for the Department to simply auction the spectrum in 5+5 MHz blocks from the start.

As this discussion demonstrates, the only rational way for the Department to avoid the problems associated with permitting bidders to place bids and hold standing high bids on licences that would exceed the spectrum aggregation limit, from both an auction and post-auction administrative perspective, is to allocate four distinct 5+5 MHz blocks from the start. If this is done, the Department should safely be able to institute a rule preventing bidders from placing bids and holding standing high bids on licences within a service area that would exceed the spectrum aggregation limit.¹⁵

¹⁵ Our conclusion here that the Department may safely institute a rule preventing bidders from placing bids and holding standing high bids on licences that would exceed the spectrum aggregation limit is contingent upon the Department retaining the bid withdrawal mechanism proposed in section 7.7.3 of the Notice. A bid withdrawal mechanism is a standard feature of simultaneous multiple-round auctions and facilitates a bidder changing its bidding objectives mid-auction. For example, a bidder that holds the standing high bid on a particular licence may for a variety of reasons find itself wanting to bid on an alternative licence or set of licences. A bid withdrawal mechanism permits this bidder to withdraw its standing high bid on the first licence (subject to a potential penalty) and refocus its activities on the other licence(s). With a bid withdrawal mechanism in place, and with a desegregation of the auctioned spectrum into four 5+5 MHz blocks, there should be no reason for any bidder to place bids and hold standing high bids on licences that would exceed the spectrum aggregation limit.

J. SECTION 8.1 - OPENING BIDS

“Comments are sought on the absolute and relative level of opening bids.”

Microcell notes that the proposed opening bids are substantial, amounting to a total of \$29.3 million for a nation-wide 5+5 MHz licence. If Tier 2 regional licence areas are employed, there is a risk that no bids would be received in certain serving territories, particularly the less populous territories. To accommodate this eventuality, the Department states that it will reserve the right to reduce the minimum opening bids on licences which receive no bids during the initial rounds of the auction.

Microcell finds the Department's proposal reasonable in its intent, but wishes to ensure that the Department takes due care to avoid a scenario in which a bidder loses eligibility points due to lack of early bidding activity, only to find out that opening bids on some licences are subsequently reduced.

To take a hypothetical example, a bidder with 100 eligibility points might determine that its valuation model permits it to bid on licences worth only 60 points (i.e. the opening bids on licences worth 40 points are set beyond its valuation range). If the initial activity level is set at 75%, this bidder will find itself immediately losing 20 eligibility points (that is, $100 - (60/75\%)$), despite the fact that a reduction may still be forthcoming in the opening bids of some licences.

The Department can protect against this scenario by ensuring that the activity level remains at a relatively low level - we recommend 50% - until such time as all required reductions in opening bids have been made.

With this recommended addition, Microcell supports the Department's proposal.

K. SECTION 8.2 - PRE-AUCTION DEPOSITS

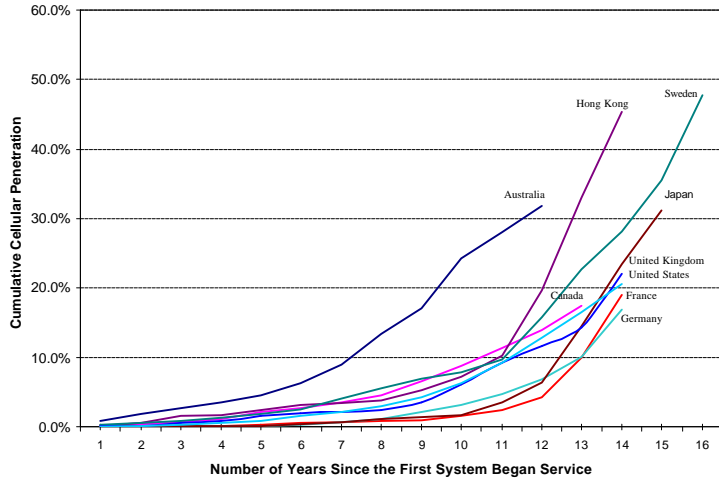
“Comments are sought on the proposed deposit amounts.”

The Department proposes to determine a given bidder's pre-auction deposit on the basis of the opening bid per point, for the number of points on which the bidder has requested eligibility. The Department further proposes that pre-auction deposits be submitted in the form of an irrevocable standby letter of credit, fully refundable to any bidder whose eligibility is reduced to zero during the auction and who is not potentially liable for any withdrawal penalties.

Microcell agrees with the Department that the proposed deposit structure will serve to dissuade frivolous bidders without unduly inconveniencing legitimate bidders and supports the Department's proposal.

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SCHEDULE A (1 of 2)



Source: Bear Stearns, "Canadian Wireless Industry: Heading North", September 1999

SCHEDULE A (2 of 2)

Penetration	Australia	Canada	France	Germany	Hong Kong	Japan	Sweden	U.K.	U.S.
Year 1	0.8%	0.2%	0.0%	0.0%	0.1%	0.0%	0.3%	0.1%	0.0%
Year 2	1.8%	0.4%	0.0%	0.0%	0.5%	0.0%	0.5%	0.2%	0.1%
Year 3	2.7%	0.7%	0.1%	0.1%	1.5%	0.1%	0.8%	0.5%	0.3%
Year 4	3.6%	1.2%	0.2%	0.1%	1.7%	0.1%	1.3%	0.9%	0.5%
Year 5	4.6%	2.1%	0.3%	0.2%	2.4%	0.2%	1.8%	1.5%	0.9%
Year 6	6.3%	2.7%	0.5%	0.3%	3.1%	0.4%	2.6%	2.0%	1.5%
Year 7	9.0%	3.6%	0.7%	0.7%	3.4%	0.7%	4.1%	2.1%	2.1%
Year 8	13.4%	4.5%	0.8%	1.2%	3.8%	1.1%	5.6%	2.4%	3.0%
Year 9	17.1%	6.5%	1.0%	2.2%	5.3%	1.4%	6.9%	3.5%	4.3%
Year 10	24.3%	8.8%	1.5%	3.1%	7.3%	1.7%	7.8%	6.1%	6.2%
Year 11	28.0%	11.4%	2.4%	4.7%	10.2%	3.5%	9.7%	9.3%	9.3%
Year 12	31.8%	13.9%	4.3%	6.8%	19.6%	6.4%	15.8%	11.6%	12.8%
Year 13		17.5%	9.9%	10.1%	33.0%	14.5%	22.7%	14.4%	16.5%
Year 14			19.0%	16.9%	45.3%	23.5%	28.1%	22.1%	20.6%
Year 15						31.1%	35.6%		
Year 16							47.8%		
Initial Service Began	1987	1986	1985	1985	1985	1984	1983	1985	1984

Source: Bear Stearns, "Canadian Wireless Industry: Heading North", September 1999