

clearNET

March 1, 2000

VIA INTERNET TO: pcs.scp@ic.gc.ca

Jan Skora
Director General
Radiocommunications and Broadcasting
Regulatory Branch

Michael Helm
Director General
Telecommunications Policy Branch

Industry Canada
300 Slater Street,
Ottawa, Ontario
K1P 6A6

Re: Comments – *Canada Gazette* notice DGRB-018-99 “Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range”

Dear Mr. Skora and Mr. Helm,

In accordance with the procedures set forth in *Canada Gazette* Notice DGRB-018-99, please find attached the comments of Clearnet Communications Inc. (Clearnet) in connection with the above noted matter.

Clearnet Communications Inc. (Clearnet) is pleased to provide herein its comments on DGRB-018-99 dated 17 December 1999 and appreciates the opportunity to respond on this extremely important issue.

Clearnet reserves the right to modify or change its position at any time. Failure to address any specific proposal or view in the *Gazette* should not be construed as acceptance or agreement by Clearnet.

Yours very truly,

Serge M. Bertuzzo
Director
Regulatory and Government Affairs

Encl.

CANADA GAZETTE
NOTICE 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
CLEARNET COMMUNICATIONS INC.

March 1, 2000

1. Introduction

Clearnet Communications Inc. (Clearnet) is pleased to provide herein its comments on DGRB-018-99 dated 17 December 1999 “Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range.”

The decisions that the Department makes with respect to the auction parameters and rules considered in this consultation paper will have a significant and direct impact in determining the outcome of the forthcoming PCS auction, the results of which will have a profound impact on the wireless telecommunications industry in Canada for many years to come.

As a national PCS and ESMR service provider, Clearnet’s future development will also be directly influenced in a major way. Clearnet therefore appreciates the opportunity to provide its comments on the matter.

Clearnet’s comments herein are organized into two sections. The first section reviews the background and focuses primarily on the key issue raised by this proceeding – eligibility – which of course will be the fundamental determinant of the industry structure going forward. The second section of the document is entitled “Specific Comments”, and responds directly on a paragraph-by-paragraph basis to the issues and questions raised by the Department in the gazette document.

The Department’s stated purpose for its decision to raise¹ the spectrum cap and move² towards auctioning the 40 MHz reserve PCS spectrum at this time are:

- ***“...[to] allow[s] incumbent PCS operators the certainty to plan...”***
- ***“...[to] maintain the competitive conditions...”*** in the PCS market,
- to promote ***“... continued growth of their 2G services and the implementation of 3G PCS...”***

and

¹ Industry Canada, Notice No. DGTP-008-99, “Revision to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum”, November, 5, 1999: pg. 6

² Industry Canada, “Industry Canada Announces the Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range”, Notice No. DGRB-018-99, December 18, 1999.

“The introduction of the new mobile wireless spectrum will facilitate the expansion and enhancement of existing PCS, the introduction of third generation PCS (3G PCS), and/or the development of other new service offerings.”

Clearnet fully supports these objectives.

Clearnet strongly believes that the best way to accomplish these objectives and to further the public benefits realized from wireless services would be to adopt the following combination of the three key auctioning rules:

Eligibility & Industry Structure

- **Maintain the current four-carrier mobile wireless industry structure.**

Spectrum Structure

- **Auction the spectrum as four 10 MHz (i.e. 5+5 MHz) blocks.**

National/Regional Licensing

- **Auction the spectrum as 2 national and 2 regional licences.**

Diversion of a portion of the 40 MHz of spectrum in order to create a fifth carrier will prevent the incumbent four carriers from each obtaining additional spectrum to develop 3G PCS, thus frustrating one of Industry Canada’s primary goals. The approach suggested above will best serve the government’s objectives and the interests of Canadians.

Clearnet Communications Inc. is a Canadian wireless communications holding company that operates three distinct wireless networks: Clearnet PCS nationally, the digital Mike network in Ontario, Québec, British Columbia and Alberta, and analogue dispatch communication services across Canada.

Founded in 1984 and a public company since 1994 (TSE: NET.A; NASDAQ: CLNTF), Clearnet is a unique Canadian success story. Since 1994, Clearnet has completed the fastest wireless network buildouts in Canadian history, grown its direct employment more than tenfold (to some 2,400 people working in Clearnet offices, call centres, switch centres and retail operations nationwide), increased our total number of clients from fewer than 40,000 to more than 600,000, and raised more than \$3.2 billion in capital for the construction of our state-of-the-art digital networks.

2. Background

Wireless telecommunications in Canada has been a tremendous success story. Industry Canada has been praised at home and abroad for the industry structure it has implemented for PCS. Indeed, Industry Canada's policy³ has worked, and worked well. Canadians have enjoyed tremendous benefits as a result. The wireless service providers are one of the most competitive elements of the telecommunications sector. There's more extensive, seamless service offered to Canadian clients today at prices more affordable than anywhere else in the world, including the US. The new entrants have been able to build out world-class infrastructures and have made excellent progress in the market as can be seen from their subscriber growth. This healthy new competition has meant more choice, lower prices, and better service.

Today, the 4 main wireless providers operate a number of wireless networks providing a wide variety of choices in both wireless services and service plans to Canadians. There are 2 cellular infrastructures available to 94%⁴ of Canadians and 4 PCS wireless infrastructures available to approximately 54%⁵ of the population⁶ along with various other SMR, paging, data, satellite services. Clearnet's ESMR (Mike) service, for example, now covers approximately 67% of the population as well.

All of the wireless providers are continuing to work hard and invest substantial capital towards improving and developing their services further. Clearnet continues to work hard to extend digital PCS coverage out beyond the major population centers, to develop and deliver a variety of useful and affordable new service features and offerings, and to work towards the very exciting wireless internet future⁷.

³ Industry Canada, Gazette Notice DGTP-005-95/DGRB-002-95 "Policy and Call for Applications: Wireless Personal Communications Services in the 2 GHz Range", June 9, 1995.

⁴ Industry Canada, 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", December 17, 1999: pg. 9

⁵ "Wireless Facts", http://www.cwta.ca/industry_guide/facts.php³, November 1999: Pg 2

⁶ With dual-mode PCS/cellular units and roaming rules, many PCS subscribers actually enjoy much greater coverage.

⁷ For example, in the last six months of 1999 alone, Clearnet launched PCS in Abbotsford, Brantford, Chilliwack, Collingwood, Halifax, Kelowna, Lethbridge, Medicine Hat, Nanaimo, Orillia, Peterborough, Red Deer, Sherbrooke, St-Hyacinthe, St-Jean-sur-Richelieu, Valleyfield, Whistler and Windsor. Mike was launched in Alberta, including Calgary, Edmonton, Red Deer and Lethbridge.

Clearnet has demonstrated a high level of innovation, introducing a number of major technological advancements to the Canadian wireless market, including:

- the first commercial handoff from 1.9 GHz PCS to 800 MHz AMPS,
- the first Internet phone messaging service, and
- the first wireless digital data offering in Canada.

Clearnet has led the way with a number of significant developments from a business/marketing perspective as well, being:

- the first to offer per-second billing in Canada,
- the first to do away with activation fees and binding long-term contracts, and
- the first to sell phones over the Internet.

Today's wireless networks operate on a second-generation, or 2G, platform that is optimized for digital voice traffic, with some data capability. While a number of new service capabilities are being introduced and will appear under the name "2.5G," the next big leap in wireless service will be the new Third Generation, or "3G," services. This will involve mobile wireless Internet access and multimedia communications at speeds of up to 384 kilobits per second or more and up to 2 megabits per second or more when stationary. In North America, these services have generally been envisaged as a natural evolution from 2G technologies utilizing existing PCS spectrum through incremental upgrades of existing network infrastructure by the current wireless service providers. Indeed, a number of operators such as Clearnet are already building and testing the infrastructure elements required for 3G service. In other parts of the world, however, such as the United Kingdom, 3G services will be offered in completely different spectrum allocations from 2G service by some current wireless providers as well as new providers.

Clearnet is now building the technological expertise and infrastructure required for the deployment of 3G services under the IMT-2000 blueprint of the International Telecommunication Union. Working closely with its suppliers, including Lucent, Motorola and Cisco, Clearnet has already constructed much of the network infrastructure required for the implementation of 3G services as they roll out in the next few years. As well, Clearnet has been an active participant in many of the industry standardization and planning activities surrounding 3G deployment.

The growth of PCS services has been robust and is continuing, and there is no doubt that additional PCS spectrum will be required in the future in order to continue to support the growth and enhancement of current 2G services for higher data rates and capabilities. Even larger amounts of additional PCS spectrum will eventually need to be brought onstream in order to support the evolution of these networks to the even higher speed 3G rates.

While Clearnet believes that the amount of additional spectrum required by the existing service providers over the next 5 years will substantially exceed 40 MHz, at the same time Clearnet also believes that the need to release additional PCS spectrum by the fall of 2000 is not a critical one⁸. Clearnet suspects that the premature auction of the C & E blocks has been urged by the telephone companies. It is disappointing that Canada is as a result being deprived of an option which may have helped achieve a global 3G spectrum allocation.

Nevertheless, the existing service providers have invested heavily to provide wireless services to Canadians, and the government must ensure that adequate additional spectrum is brought on board and made available to them in enough of a timely fashion in order to ensure that their ongoing needs are met. Therefore, Clearnet commends Industry Canada's continuing consideration and planning for the future spectrum needs of PCS services, and supports the reasons⁹ provided by the Department for moving forward towards licensing the 40 MHz reserve PCS spectrum.

While the tremendous progress in the industry described above has been good for Canada and terrific for Canadian wireless users, this has not come without a tremendous cost and investment, particularly to the new entrants on a relative basis to their financial size – revenues, cashflows, equity base, capital costs, etc. Clearnet has raised \$3.1 Billion alone in the past 5 years to fund capital expenditures and negative operating cash flow requirements relating to its digital network deployment and expansion. Both of the new entrants are still in a fledgling state relative to the cellular

⁸ In fact, Clearnet estimates that the PCS industry could endure an additional 12 month period without any additional spectrum without any undue difficulty. Therefore, Clearnet would have preferred to await the outcome of the ITU WRC-2000 conference scheduled for May 2000, where 3G spectrum planning is a key item on the agenda, before actually releasing the C & E block reserve spectrum.

The International Telecommunications Union (ITU), along with industry and governments from around the world (including Canada) have been trying to ensure that a suitable global spectrum allocation is available to accommodate 3G PCS systems, however examination of this situation by ITU Study Group 8 reveals that the possibility of actually achieving a common 3G global spectrum allocation is a rather difficult problem at this point.

Indeed, it is somewhat ironic that it is the current North American PCS allocations themselves that constitute one of the biggest roadblocks to solving this problem. It may well be that the C and E spectrum blocks could play a valuable role in this regard and provided additional flexibility in finding a solution. From the conclusions and decisions reached by the conference, we expect that it would have been clear whether or not that would be the case. In any event, Clearnet believes it would have been sensible to have kept Canada's options open until that time.

⁹ Industry Canada, Notice No. DGTP-008-99, "Revision to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum", November, 5, 1999: pg. 6

incumbents, and are still a year or two away from positive cash flow, and of course, even farther away from a positive net income position.

Clearnet is concerned that the indiscriminate auctioning of the additional spectrum has the potential to undermine much of this success, and could lead to some very undesirable results. In particular, the specific auction rules and parameters chosen by Industry Canada pursuant to this consultation process will have an enormous bearing on whether the outcome is positive or negative.

The wireless industry has been very fortunate that the economy has been robust through the period since the launch of PCS. The low interest rate, low inflation rate environment has been very helpful in assuring success. It is important to realize that even with such a healthy environment, with a proven service in a proven industry with proven metrics and evidence that demand and growth would be very robust, the investments required are simply enormous by any standard, the startup losses are huge, and the risk is great.

While this is normal for the development of highly capital intensive wireless entities and is in line with business plans, it has been no easy task to garner adequate financing for the buildout of such networks. Investors will need to see an adequate return and rewards for their support of such ventures. The generally held view that Canada can support a 4-carrier industry structure has been an important investment consideration which has attracted considerable investment capital to the Canadian wireless industry. Indeed, Industry Canada should ensure that no decisions are taken which would prevent the realization of proper investment returns. Canada's wireless policy framework, most notably the 4-player industry structure, has been highly regarded as properly balancing the benefits of competition for the consumer versus a stable and sustainable industry structure necessary to attract investment capital. The eligibility rules have a serious implication for the Canadian mobile wireless industry and for the ability for future industry segments to obtain the support of the capital markets. This will also do much to encourage robust continued participation, financing and risk-taking of other new opportunities that would similarly benefit Canada.

A fifth wireless carrier would result in a lessening of the ability of the existing new entrants to provide strong competition to the incumbents. This would not be in the public's best interest.

It is with these factors in mind that Clearnet believes that a decision, through the release of the additional spectrum, to permit a fifth wireless infrastructure to be built in the near future would be highly inadvisable. The auction rules and parameters established by the Department as a result of this proceeding will be a key determinant of this outcome, and in particular the rules regarding eligibility. We discuss this issue at length in the next section regarding eligibility and industry structure.

3. Eligibility Rules

3.1 Industry Structure

In 1995, Industry Canada invited applications for the development of important new wireless services for Canadians, known as Personal Communications Services (PCS)¹⁰. Clearnet's PCS application was premised on the view that the Canadian market, with its vast geography and dispersed and limited population, could not support more than four national PCS networks¹¹. This view was supported by both Clearnet and the financial community.¹² Furthermore, it was supported by Mobility Canada as well.¹³ In fact, Mobility Canada's submission relied on a study¹⁴ demonstrating that only three first-tier carriers would survive in the long-term.

Industry Canada concurred with these assessments and, in April 1996, awarded four national PCS licenses: one each to Mobility Canada and Rogers AT&T (formerly Rogers Cantel), Clearnet, and Microcell. The first two were established national cellular companies and were each awarded 10 MHz of spectrum. The latter two were new entrants and were each awarded 30 MHz. Industry Canada deliberately structured the industry in this way to increase the likelihood of successful emergence by the two start-ups, accelerate the pace of network build-outs, provide healthy competition, and introduce the latest products and services to Canadians. By any measure, this policy has been an unquestionable success.

On November 5, 1999, in recognition of the increased demand for spectrum including the anticipated additional spectrum requirements of the PCS services,

¹⁰ Industry Canada, Gazette Notice DGTP-005-95/DGRB-002-95 "Policy and Call for Applications: Wireless Personal Communications Services in the 2 GHz Range", June 9, 1995.

¹¹ See *Angus Telemanagement*, March 1995 issue.

¹² For example, Nesbitt Burns, *Report on the Canadian Wireless Market*, states: "Our view is that the market would best be served by limiting 30 MHz licence awards to two and introducing cellular and PCS resale as quickly as possible." September 18, 1995.

¹³ Mobility Canada's PCS application – chapter 4, pp. 20-22

¹⁴ "Telecompetitiveness and the Wireless Sector: Competition without Chaos" by Dr. William Davidson, USC and Mesa Research of LA. See Mobility Canada's PCS Application at pages 20 to 22.

Industry Canada announced¹⁵ it would raise the amount of spectrum that each incumbent wireless company could obtain (Spectrum Cap¹⁶) for PCS and other mobile voice services from 40 MHz to a maximum of 55 MHz. **The reasons provided by Industry Canada for its decision were: allowing incumbent PCS operators the certainty to plan, maintaining existing competitive conditions, and promoting continued growth of their current services and implementation of future 3G PCS services.**¹⁷

On December 17, 1999, Industry Canada announced that it would auction an additional 40 MHz of PCS spectrum in the fall of 2000, and released the Gazette Notice¹⁸, stating:

“In order to facilitate the expansion and enhancement of existing personal communications services, the introduction of 3G PCS and/or the development of other new service offerings, the spectrum in the PCS ‘C’ and ‘E’ frequency blocks is being made available for licensing on an exclusive basis.”

The Gazette invited comments on the auction process, particularly on the eligibility¹⁹ of bidders for the additional spectrum.

Clearnet believes that **unrestricted eligibility would lead to a fifth national licensed carrier**, either through the licensing of a new entrant or by enabling the two dominant former members of the now dissolved Mobility Canada alliance to

¹⁵ Industry Canada, Notice No. DGTP-008-99, “Revisions to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum”, November 5, 1999.

¹⁶ Spectrum Cap is defined as “limits on spectrum aggregation by licensees of personal communications services (PCS).” Spectrum in Canada is licensed and regulated by the Government of Canada, under the stewardship of the Minister of Industry and Industry Canada.

¹⁷ Industry Canada, Notice No. DGTP-008-99, “Revision to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum”, November, 5, 1999: pg. 6

¹⁸ DGRB-018-99, “Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range”. pg. 1

¹⁹ DGRB-018-99, “Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range”: section 3.2, pgs. 3-5

operate outside their traditional territories. Clearnet recommends against the introduction of a fifth carrier.

Clearnet strongly believes that the current four-carrier mobile wireless industry structure best serves the government's objectives and the interests of Canadians today and into the future.

3.2 Analysis

Industry Canada got it right in 1995

Even before Clearnet was awarded its PCS licence in 1996, Clearnet had argued consistently that the Canadian PCS market was simply not capable of supporting five national PCS companies. Canada is characterized by:

- a relatively small population of 30 million people
- spread over a vast geography
- connected by long traffic corridors, and
- high cost of capital combined with
- adverse currency disparity with the US.

A fifth national licensee would likely cut into the existing big city markets without significantly increasing the total subscriber base. The entry would herald aggravated price competition in the big cities, resulting in cost reductions, possible workforce layoffs, and deferral of important network expansions outside the big cities. It would slow the climb to break-even operations – and test the viability of all carriers and the confidence of investors, suppliers, employees, customers and ultimately the government.

Industry Canada recognized this reality in 1995²⁰, and decided to license only four carriers. This decision was the correct one. The industry has flourished, competition is vigorous, and consumers have benefited from almost the lowest prices in the world²¹ and dramatically expanded choice. Five years later, nothing fundamental has changed to warrant rejection of the current four-carrier policy. In fact, it is clearer than ever that a change should be vigorously resisted.

The dissolution of the Mobility Canada national alliance into local/regional carriers should have no bearing on government policy. Clearnet supports the right of these local/regional carriers to expand their networks nationally, either through resale of services provided by each other or by roaming agreements with existing national carriers, or through partnering and investment opportunities. For example, should it

²⁰ Industry Canada, 2 GHz PCS Licensees, Press Release: December 18, 1995

²¹ Yankee Group – cited by the Globe & Mail, Tyler Hamilton, June 16, 1999

be felt that a single corporate entity is required in order to effectively compete, Bell and Telus could consider combining their mobile assets into one entity and jointly owning that company much like Bell Atlantic and Vodafone/Airtouch have just done in the United States²². The local/regional telephone companies continue to provide customers with a seamless national web of service through a series of cooperation agreements²³.

Industry Canada's policy framework would become hopelessly unstable if it were to establish a precedent of providing a national PCS licence to any regional telephone company – SaskTel, for instance – that decided to leave the Mobility Canada alliance (or, more recently, the Bell Canada alliance) and expand across the country. The same would apply if either Clearnet, Microcell or Rogers AT&T were to split its operations²⁴ and each branch became eligible for an independent license. The result would be a fluid policy framework that would prove unworkable and disastrous for the Canadian mobile wireless industry.

The wireless industry has built a strong base – but beware!

It is in the country's best interests that as many Canadians as possible benefit from innovative, leading edge digital wireless service. This leads directly to increases in productivity, jobs and growth, a richer quality of life, and enhanced access to the information highway.

Canada has been remarkably successful in fostering a robust wireless telecommunications industry comprised of healthy, well-financed and growing carriers competing vigorously with one another. Since its inception in 1985, the wireless networks have grown to provide 94 per cent of Canadians with access to cellular service²⁵, and over half the population (16.5 million – 54 per cent) with

²² Joint Bell Atlantic/Vodafone AirTouch press release, "Bell Atlantic and Vodafone AirTouch to Form New U.S. National Wireless Competitor", September 21, 1999

²³ Industry Canada, 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", December 17, 1999: pg. 10

²⁴ Should SaskTel decide to build out nationally, will the government allow it to obtain national spectrum as well?

²⁵ Industry Canada, 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", December 17, 1999: pg. 9

access to PCS²⁶, and approximately 67% of the population with ESMR service. Canada has almost the lowest wireless prices in the world²⁷ (declining nearly 50 per cent since 1996), penetration rates that are comparable to those of the United States, and world-class service offerings.

In 1999 alone, the Canadian industry added almost 1.6 million new customers, bringing its total number of wireless subscribers to over 7 million Canadians or 23 per cent. Service has been expanded in existing markets and launched in many smaller communities. In the last six months of 1999 alone, Clearnet commenced service in eighteen communities (Clearnet believes it has invested more in digital wireless in B.C. and Alberta than any other wireless carrier).

The financial community has demonstrated its faith in the current four-carrier market by investing \$8 billion since 1996²⁸. This optimism and support would likely shrink if a fifth PCS license were awarded. The fifth licensee would further split the pool of investment dollars available to the industry, thereby reducing each carrier's share. Allowing a fifth licensee will be perceived as reducing the investment return for wireless carriers, which in turn will lead to reduced support by the capital markets and an increased cost of capital for the industry.

The success of wireless telecommunications in Canada has not been without a price. Canada's four wireless providers have invested over \$9 billion in mobile communications infrastructure and technology since 1987²⁹. This has resulted in enormous losses – the total wireless industry has not achieved cumulative profitability since its start 15 years ago in 1985³⁰. Last year alone, the industry invested over \$1 billion³¹ in infrastructure development, with industry negative cash flow exceeding \$1 billion.

²⁶ "Wireless Facts", http://www.cwta.ca/industry_guide/facts.php3, November 1999: Pg 2

²⁷ Yankee Group – cited by the Globe & Mail, Tyler Hamilton, June 16, 1999

²⁸ Clearnet estimate

²⁹ "Wireless Facts", http://www.cwta.ca/industry_guide/facts.php3, November 1999: Pg 1

³⁰ Total Wireless Industry negative cash flow for 1999 based on publicly available figures and estimates.

³¹ "Wireless Facts", http://www.cwta.ca/industry_guide/facts.php3, November 1999: Pg 1

In the existing four-carrier structure, the carriers have capacity within their Spectrum Caps to bid for 70 MHz³². This dramatically exceeds the available 40 MHz of spectrum becoming available for PCS growth and 3G PCS development. The national carriers should bid nationally, and the regional carriers should bid only within their regions. The result will be a vigorous auction, providing considerable revenues for the public coffers. Clearnet recognizes that its success in such an auction is not assured and is prepared to take that risk.

Diversion of spectrum to a new entrant to build an additional wireless infrastructure will unnecessarily fracture the spectrum and make it more difficult for the existing operators to grow their existing 2G services and to implement 3G services in a practical and efficient manner. ITU estimates that a minimum of 20 MHz of spectrum and more ideally 40 MHz of spectrum is required to implement the full range of 3G services³³. A fifth carrier would exacerbate the supply and demand imbalance by likely seeking 20 MHz of spectrum as a platform for its future 3G PCS build³⁴ leaving only 20 MHz for the incumbent four carriers. In result Industry Canada's goals would be frustrated.

The Department's objective of introducing additional competition has been successful and the existing level of competition is already extremely aggressive. Users have benefited tremendously (lower prices, more choice, better service). The fact that the cost of wireless services in Canada is the most affordable in the world is particularly impressive when one considers that Canadian service providers must pay "world prices" for infrastructure and for handsets as well (due to Canadian volume).

Entry of a new competitor in a saturated market doesn't necessarily lead to more choice. We note, for example, identical programming running back-to-back on multiple television stations. This can hardly be described as expanded choice. A similar phenomenon was observed with Canadian and Air Canada providing "twinning" flights to and from virtually every destination.

A fifth national licensed carrier would undermine confidence in the financial strength and prospects of the wireless industry, of the three national carriers in particular

³² See Attachment 1 Spectrum Holdings Chart – also assumes minimum licence size of 10 (5+5) MHz.

³³ ITU-R Study Group 8, Document 8/80: pg. 37

³⁴ UMTS Service Capabilities; UMTS Forum Report No. 5; October 1998

and possibly even of the regional telephone companies. It could introduce unsustainable levels of competition. It would increase the cost of capital and/or reduce the amount of capital available to invest in new geographic coverage and new technologies. This capital constraint would particularly weaken the two new entrant national carriers, which, unlike the regional telephone companies and to a lesser extent Rogers AT&T, are unable to cross-subsidize their auction bids and network rollouts with revenues derived from related businesses.

The four-company structure best supports the Connectedness Agenda

The four-company structure best supports the government's Connectedness Agenda, of which the wireless industry is an essential component. Canada's huge geography and dispersed population add challenge to the Connectedness Agenda. Utilization of spectrum simply to build an additional wireless infrastructure will adversely affect the ongoing expansion of services to the more rural areas of the country. New entrants will logically buildout first in urban centres and competition will focus there, disadvantaging those Canadians who live and desire wireless services outside of these areas. It is interesting to note that even the European countries, with their high population densities, still maintain a three or four-carrier wireless infrastructure.

The wireless industry does not have to be stimulated into development of 3G services by licensing a new entrant. All of the existing cellular/PCS operators are working on developing such services. Indeed, the entry of a new player might actually impede 3G development and implementation.

Modern digital wireless phones now come with e-mail addresses, Internet Protocol (IP) addresses, and Internet browser capability. But the global wireless industry is in the process of evolving from those 2G PCS services to a range of exciting high-speed third generation technology, 3G (IMT-2000) PCS. Additional spectrum will be needed by the current service providers to develop and roll out these new technologies and services.

There are substantial economies of scope for both 2G and 3G services which arise from the integration of the spectrum into existing PCS networks. Much of the existing infrastructure (switches, backhaul, antenna sites and towers, network monitoring, etc.), and overhead costs (personnel, facilities, etc.) need not be replicated again by an existing player to put the additional spectrum into production. Only incremental costs need be incurred. Furthermore, spectrum efficiency will generally be higher when larger amounts of spectrum are aggregated.

The most cost effective, quickest, and surest 3G PCS rollout will be effected as an add-on to the existing 2G PCS infrastructure of current providers, including their cell sites, backhaul, and switches. Splintering of the spectrum for the development of new wireless infrastructures will hinder 3G progress. Canada is not in a position to license a new carrier just to provide 3G PCS services.

In summary:

- The successful achievement of the government's **Connectedness Agenda** requires a stronger, not weaker, wireless industry.
- A robust and competitive industry will bring the latest benefits of digital telecommunications to the greatest number of Canadians.
- The industry needs to extend its network "footprint" outside cities and towns to connect rural communities and travel corridors.
- The industry needs sustained and affordable pricing to boost penetration and to provide expanded coverage, the best prices, and the most advanced services.
- Moreover, it needs to develop and deploy continuously the latest technologies to expand the digital links between wireless and the Internet.

The wireless industry: It ain't broke – don't fix it

Clearnet does not believe there would be any lasting benefits from a fifth national license. On the contrary, a fifth license would likely have the following detrimental impacts:

- Undermine the goals of Industry Canada's November 1999 policy that sought to strengthen, not fracture the existing PCS industry.
- Introduce unsustainable competition – a situation analogous to the recent airline dilemma.
- Produce excess capacity in urban markets; thereby weakening the returns on capital and creating excess cell sites including towers and rooftop stations.
- Reduce the availability and increase the cost of capital required for further build-outs, especially outside the big cities.
- Unfairly delay and reduce wireless' build-out in small towns and rural Canada, as the incumbents are forced to focus on big city markets.
- Compete even more based on declining prices, thereby compromising new product development and new geographic deployment.
- Provoke cost reductions, job layoffs, and R&D deferrals, particularly for the newer wireless incumbents.

- Strengthen the brand, size, and integration advantages of the local/regional telephone companies, given their obvious financial capability and dominant market position.
- If the two regional telephone companies are allowed to outbid them beyond their service areas, one or more of the existing service providers may be left with insufficient spectrum to introduce 3G PCS.

3.3 Recommendation

The interests of Canadians will be best served if Industry Canada maintains the existing four-carrier structure when setting eligibility restrictions for the upcoming auction of additional spectrum.

Here's why:

- The four-carrier structure works well in serving the needs of Canadians in terms of low prices, leading-edge services and broad national coverage.
- The four-carrier structure optimizes the achievement of the Connectedness Agenda.
- The four-carrier structure maximizes competition without undue stress on the financial underpinnings of the licensed carriers.
- The four-carrier structure offers the most stable environment for customers, technology suppliers, development partners and investors.
- The four-carrier structure conforms to Industry Canada's stated goals of enhancing the current offerings of existing providers and of ensuring their ability to implement 3G services.

The four-carrier structure implemented by Industry Canada in 1995 was right. It works. It's fair. Its success is clear. The benefits to Canadians are obvious. *It ain't broke – don't fix it!*

3.4 Summary

Cleartnet's reasons for urging maintenance of the current four-carrier structure can be considered by reference to the following themes:

- **Impact on Canada**
- **Impact on Consumers**
- **Impact on the Industry**
- **No 5th – Restricted Eligibility**
- **Myths and Realities**

We discuss each of these in turn below.

3.4.1 Impact on Canada

The 1995 decision to license four national PCS carriers has placed Canada at the forefront of wireless communications. The phenomenal growth within the industry has been made possible by balancing the needs of the consumer with the economics of the industry.

3.4.1.1 Benefits of the Current Policy

- The wireless industry generated in 1999 \$130 million for the government through licence fees - an increase of 33% over 1998. In fact, licence fee revenue to the federal government has risen over 30% each year for the last four years.
- Wireless carriers employ more than 13,000 Canadians, and support another 12,000 jobs through procurement of equipment and services.
- The wireless industry has invested over \$9 billion in mobile communications infrastructure since 1987. In 1998 alone, the industry accounted for \$1 billion in direct infrastructure investments. We think that investment in 1999 exceeded \$1.2 billion.
- The current policy has created an environment in which the digital PCS networks have thrived, now covering over half the Canadian population.
- Canadian consumers enjoy the most affordable rates in the world.

- The Government's Connectedness Agenda is being fulfilled by internet-over-wireless, e-commerce-over-wireless and increased productivity and convenience.

3.4.1.2 Likely Consequences of a Fifth License

- The build-out of PCS networks will be deferred as companies shift their focus from growth to consolidation and cost cutting.
- The increase in unrelenting competition for the big city consumer will mean more PCS cell sites in big cities - not in areas in need of service such as small towns, rural communities and travel corridors.
- Every dollar collected by the government through the spectrum auction will produce a reciprocal reduction in spending on the rollout of the national network. The impact will be most felt by rural communities, the Prairies and Atlantic Canada.
- The auction may prove to be revenue-neutral for the government, since a subsequent flattening of license fee revenues (due to delays in the expansion of the networks into new markets and to service new providers) would offset the gains from the auction.
- Evidence supports the notion that the Canadian economy can support only a limited number of competitors in capital-intensive industries; e.g., one national airline, two national railways, two national broadcasters, and three long-distance carriers.
- The resulting consolidation and more conservative rollout will also delay the introduction of new, untested and costly technologies, such as third generation wireless technology (3G PCS). This is inconsistent with the government's Connectedness Agenda.

3.4.2 Impact on Consumers

The government's 1995 spectrum policy has produced a number of important developments for Canadians. It has given Canadians a very competitive wireless marketplace with multiple choices among providers and services.

3.4.2.1 Benefits of the Current Policy

- Canadians pay the most affordable prices in the world for PCS service.
- 94 per cent of all Canadians have access to a wireless network.
- PCS networks reach over half of all Canadians only four years after licensing.
- New technologies are introduced quickly and marketed at affordable prices.
- Consumers are very satisfied with wireless services and pricing.

3.4.2.2 Likely Consequences of a Fifth Licence

- Consumers in Canada's few largest cities may benefit from increased competition in the short-term; however, the degree of competition will be unsustainable and prices will inevitably rise as consolidation takes place.
- Allowing the telephone companies to become nationally licensed carriers would only increase their control over Canada's telecommunications industry. These carriers already control a very sizeable portion of the local, long-distance, and cellular markets; therefore, allowing them to become national carriers will only encourage their growth as telecommunications oligopolies.
- The telephone company carriers have greater resources at their disposal and the ability to cross-subsidize the growth of their PCS networks. Such regional carriers have a significant financial advantage over the existing national carriers, specifically the new entrant national carriers.
- In the medium and long terms, the consumer derives no benefit from a fifth national service provider. The digital economy is generally regarded as good for consumers. In addition to new services improving the quality of life, the digital economy promises jobs, competitiveness, increased productivity, and a forefront position among the world's leading countries. These translate to the benefits of local research and development by strong industry players and to local and regional growth.

3.4.3 Impact on the Industry

In 1995, Nesbitt Burns produced a study that contributed greatly to Industry Canada's development of its PCS spectrum policy. One of the conclusions of this study was that the Canadian market could not support more than four PCS carriers, including the two cellular companies. The Canadian marketplace has not changed appreciably in the last five years.

3.4.3.1 Benefits of the Current Policy

- Maintains a healthy level of competition that has enabled the wireless industry to grow and expand service offerings.
- The PCS industry is losing \$800 million annually. The wireless industry as a whole has not made a profit since 1985. The investment community, suppliers and employees need the comfort that their business plans created four years ago have a realistic chance to be implemented. Why exacerbate the problem by adding more competition when no resulting consumer benefit arises?
- The industry is still, perhaps, five years away from being profitable. A move to introduce greater competition now will likely produce industry consolidation.
- There is some doubt that the Canadian market cannot easily support three national long-distance carriers.

3.4.3.2 Likely Consequences of a Fifth Licence

- Investors and analysts alike are very concerned about a fifth carrier. The Industry Canada announcement of a PCS auction in October led to a \$1 billion loss in industry market value in less than twenty-four hours.
- Available and reasonably priced capital is needed to fund expansion of the digital networks. Such capital requires stable conditions and strong growth. The introduction of a fifth licensee will destabilize the industry and threaten investment and growth.

- The financial fundamentals of the wireless industry will be negatively impacted: market size and returns on each unit will shrink; customer churn rates will be higher and capital will become more expensive. Together, these factors will lead to more crippling losses. Ultimately, higher handset prices and service rates will be required to salvage the carriers' return on investment.
- This possible deterioration will sorely test the will and patience of the international investment community to support the current four carriers in a new five licensee environment.

3.4.4 No 5th – Restricted Eligibility

Clearnet supports the licensing of additional spectrum. However, eligibility for participation in the upcoming auction should be limited to current spectrum license holders and should maintain the territorial integrity of their licenses.

3.4.4.1 A Fifth Licensee

- Not necessary to stimulate the introduction or development of new 3G PCS services. The current cellular/PCS carriers are already working on 3G PCS migration strategies and are able to rollout most effectively and quickly on their existing infrastructures.
- Will only artificially force up prices in the auction, thereby diverting capital away from network improvement plans and services expansion projects to rural markets, the Prairies and Atlantic Canada.

3.4.4.2 Regional Carriers

- Allowing regional telephone companies to bid on spectrum outside the territory they are currently licensed to provide service will harm the three national wireless carriers.
- In 1995, Mobility Canada bid for and won a national PCS licence limited to 10 MHz nationally. The Mobility Canada license was then parceled out to the various alliance members. The subsequent dissolution of Mobility Canada should not bring about a rethinking of the current policy paradigm that has served the Canadian consumer so well.

- Allowing any other telephone company affiliate to expand beyond its existing regions would effectively distort the national four-carrier infrastructure. Each wireline telephone company affiliate currently operating a wireless network could apply for additional licences outside of its own territory. Where would this end?
- Whether a new entity is allowed to enter the market or a regional carrier is allowed to obtain spectrum outside of their existing regions, the net effect is the same in that it introduces fifth licensee in the marketplace.
- If we let the free-market decide, no eligibility restriction should apply, including Canada's foreign ownership restrictions, the Spectrum Caps, and the limits on spectrum availability.

3.4.5 Myths and Reality

MYTH 1: A fifth licensee is needed to help Canada catch up in the wireless race:

REALITY: A fifth licensee will impede Canada's 3G PCS development and cross-Canada rollout. Yes, some European countries are ahead with greater penetration. However, Europeans' wireline phone service is more expensive, less available, and characterized by slow and expensive installation and by calling party pay measured service – like our long distance rates. For Europeans, PCS is proving to be quicker to acquire and more cost effective to operate than traditional telephone services. Canada by contrast has low-cost, flat-rate, accessible wireline service.

MYTH 2: The existing spectrum policy is constraining the regional telephone companies.

REALITY: The regional telephone company monopolies were members of the Mobility Canada partnership, which was licensed as a national operator in 1995. Government policy should not change just because of the dissolution of Mobility Canada. They have co-operation agreements that provide their PCS customers with a seamless web of service across Canada just like Clearnet relies on Rogers AT&T and Microcell relies on Mobility Canada for analogue roaming. Industry Canada's policy framework would become hopelessly flawed if by precedent it provided a national PCS licence

to any one of the dozen regional telephone companies, such as Thunder Bay Tel, were it to leave the Mobility Canada alliance or, more recently, the Bell alliance to expand across the country. Similarly, if either Clearnet, Rogers AT&T or Microcell were to split its operations, would each part become eligible for a new and independent national licence?

MYTH 3: A fifth licensee will spur innovation including the introduction of 3G PCS services.

REALITY: The introduction of a fifth licensee will impede the introduction of 3G PCS across Canada. A new entrant will almost certainly require at least 20 MHz of spectrum to build a business and justify the infrastructure costs and marketing expenses. If a new entrant were successful, there would likely be insufficient spectrum for the four current providers to rollout 3G PCS. Most likely, the two losers would be the newer incumbents because of their greater financial vulnerability and lesser ability to access capital from affiliated businesses.

Finally, the introduction of a fifth licensee will cause price and cost reductions by the current carriers and will thereby force reductions in research and development.

MYTH 4: A free market process is the fairest way to determine licenses.

REALITY: Spectrum is a finite resource and highly regulated by government – no free market exists. Each carrier is limited to 55 MHz of spectrum under the Spectrum Cap. Industry Canada makes the spectrum available on a fully controlled basis. A true free market environment would require the government to lift its foreign ownership restriction and thereby entertain bids from much larger U.S. and European PCS operators. The current industry structure is far from a free and open market.

MYTH 5: A fifth licence is necessary to maximize auction proceeds.

REALITY: Within the current spectrum cap, existing carriers may cumulatively acquire up to 70 MHz of spectrum. With only 40 MHz available in this auction, a vigorous bidding process is anticipated.

To absolutely maximize revenues without regard to other issues, the government should throw off all limits such as the Spectrum Cap and the foreign ownership rules, and tighten the supply of spectrum. Clearly, this is not the time for such aggressive actions.

Specific Comments
of
Clearnet Communications Inc.
on
Gazette Notice
DGRB-018-99

Specific Comments on the Gazette Notice

Comments below specifically reference the paragraph numbering used in the Gazette notice.

3. Spectrum Aggregation Limits and Eligibility to Acquire Spectrum

3.1 Aggregation Limits

Clearnet generally agrees with the Department's approach and definition with respect to the Spectrum Aggregation limits.

Clearnet believes that there would be some merit in considering a modified treatment for ESMR spectrum under the cap, such as the approach used by FCC. As noted by FCC in a report on its' regulatory framework for CMRS:

"The FCC adopted an attribution rule for SMR spectrum that takes into account the unique licensing parameters of that service; the Commission stated, for example, that in the 800 MHz SMR service, it will attribute a maximum of 10 MHz of SMR spectrum to an entity when determining compliance with this cap."³⁵

No doubt the FCC was referring to the fact that spectrum is typically licensed in small groups of channels (five or ten) at a time³⁶ for SMR service, and is generally less flexible to utilize compared to contiguous and much larger cellular or PCS spectrum blocks. This leads to a requirement for extremely complex spectrum planning processes and engineering designs in order to implement ESMR systems.

Just recently, FCC announced the rules for the new 700 MHz CMRS band. FCC stated that any spectrum holding in this band will be excluded completely from the cap for similar reasons:

"...700 MHz licenses will not be subject to the Commercial Mobile Radio Service (CMRS) spectrum cap...the spectrum cap for the existing 180

³⁵ Federal Communications Commission Report No. DC-2638 "Regulatory Framework for CMRS Completed (GN Docket 93-252)", August 9, 1994: pg. 2

³⁶ In the 800 MHz band, each channel is a 25 KHz frequency pair, or 50 KHz in total. Five channels would therefore represent only 0.25 MHz of spectrum, and are generally assigned in a non-contiguous manner.

*megahertz of CMRS spectrum provides a sufficient safeguard against excessive consolidation of CMRS spectrum...The encumbered nature of the spectrum favors excluding this spectrum from the CMRS spectrum cap.*³⁷

3.2 Eligibility to Acquire Spectrum

(i) 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.

As has been extensively addressed earlier in this document, Clearnet strongly believes that the present four carrier industry structure is optimal and best serves the government's objectives and the interests of Canadians. **Therefore, Clearnet supports the adoption of eligibility rules to ensure that the current very successful industry structure is preserved.**

Preserving the four carrier industry structure requires that only existing licensees be eligible to participate where they are currently authorized to provide service. With respect to the three categories defined by the Department in the Gazette Notice, preserving the four carrier industry structure requires restricting Category 3 entities from participation either through an "open" bidding process or through policy measures designed to guarantee their entry and limiting Category 2 entities from bidding "out-of-region".

"Set-aside" for New Entrants

(ii) 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.

Clearnet strongly opposes the introduction of an additional wireless infrastructure in the Canadian market and strongly opposes any "set aside" of spectrum for a new entrant(s).

³⁷ Federal Communications Commission News Release, "FCC Adopts Rules for Licensing and Operations in Portion of 700 MHz Band Reallocated from Television Channels 60 through 69", January 6, 2000

Treatment of “Non-Compliant” Licensees

(iii) 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.

Clearnet believes that only those parties who are in compliance with all radio licence conditions under the Radiocommunication Act should be eligible to participate in the auction. Clearnet and a number of the other wireless operators have spent hundreds of millions of dollars in order to comply with these conditions. To allow any party to participate who has not materially complied with existing licence conditions would make a mockery of the licensing regime and those licensing conditions. Should the Department not be prepared to enforce those licence conditions through all means at its disposal including auction eligibility requirements, then it would display a lack of significance or need for these licence conditions and would suggest that they be dropped for all existing operators as well as new licences.

Clearnet does not subscribe to the view that elaborate procedures need be established to determine compliance/non-compliance with the conditions, and prefers such matters being left to the Department’s discretion and judgement.

Other Factors Relevant to Eligibility

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

As noted above, Clearnet does not believe that the public would be served by allowing participation in the auction by either new entrants or “out-of-region” licensees.

However, if the Department were to establish rules inconsistent with this view, then Clearnet believes that the following should be considered before approving an entity to participate in the auction.

The Department should determine eligibility based upon the potential level of technical, operational and financial experience that the applicant demonstrates regarding the operation of a wireless telecommunications network. Also, eligible bidders should be required to show that they have the financial means to pay their licence costs forthwith, should they win a licence in the auction.

We also refer to our comments with respect to section 6 below regarding licence conditions. The Department should ensure before the auction starts that bidders have demonstrated their intent and ability to qualify as a radiocommunication carrier, including meeting the foreign ownership requirements.

4. Definition of Licences

4.2 Spectrum Structure

Cleartnet strongly supported the adoption of the current frequency block structure at the time of the development of the original PCS policy, primarily because it was aligned fully with that of the US. Cleartnet is of the opinion that the initial block structure adopted in 1995 has ensured that all 4 objectives noted in the document³⁸ have been met. In particular, Cleartnet notes that no other bandplan could have ensured to the same extent that objectives 3 and 4 would be accomplished (harmonization with US to facilitate roaming and cross-border sharing, and avoiding technological problems that could affect the availability and cost of equipment).

Indeed, Cleartnet fully believes PCS service in Canada would have been significantly impaired and possibly even “stillborn” should a different frequency block architecture have been adopted. In Cleartnet’s view, it is essential that Canada continue to ensure its bandplan is architected in a consistent fashion with the US.

Cleartnet also supports the Department’s proposal to continue to allow technology freedom for operators in these bands provided that they meet the minimum set of technical requirements imposed by the Department in order to ensure interference free operation.

³⁸ Industry Canada, 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”, December 17, 1999: pg. 6

4.2.4 Spectrum Efficiency

On page 8 and 9 of the Gazette Notice, the Department seeks comments on various considerations with respect to spectrum efficiency:

- (i) ***“the minimum size of 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;”***

Clearnet believes that 10 MHz (5+5) MHz is the minimum frequency sub-block size that will support 3G services and practical implementation of 2G.

We have noted above the importance of harmonization with the US frequency structure. It is essential that the basic alignment of these minimum blocks with the US spectrum architecture be maintained.

There have been a number of situations and developments in the US (mostly stimulated by auction problems and payment difficulties) where some of the larger blocks have been further subdivided. This provides additional confidence that it is possible to subdivide the larger 30 (15+15) MHz blocks successfully, assuming careful attention is paid by operators and their vendors to critical technical details such as handset roam list limitations, signaling channels, adjacent system coordination, etc. Of course, additional guard bands are required as additional splitting is undertaken, reducing the spectrum efficiency accordingly. In Clearnet’s view, however, a minimum block size of 10 (5+5) MHz does not cause sufficient inefficiency to preclude subdividing the spectrum.

Thus, Clearnet believes it is technically possible to auction the C&E blocks as four separate 10 (5+5) MHz sub-blocks. Logically, E/E’ would remain as is, and C/C’ would simply be divided into three such sub-blocks: C1/C1’, C2/C2’ and C3/C3’.

While it may also be possible to subdivide further into 5 (2.5+2.5) MHz blocks, Clearnet believes that the use of such small blocks is highly undesirable for a number of reasons. First of all, this would preclude or severely hamper 3G implementation since both primary 3G technology standards (both G3G DS and G3G MC which are the 3G migration paths for GSM and CDMA, respectively) are predicated on the use of a minimum of 5+5 MHz channelization. Furthermore, subdivision into 8 x 5 (2.5+2.5) MHz blocks would necessitate that an even larger number of additional

guardbands be put in place. In Clearnet's view, this would result in an unnecessary and unacceptably high spectrum efficiency penalty.

Clearnet also has serious concerns with respect to the capability of the various 2G technologies to accommodate a 5 (2.5+2.5) MHz structure without significant practical difficulties arising in the area of handset complexity and system implementation³⁹.

Discussions in international fora⁴⁰ have indicated that in order for technologies to be able to meet the data service requirements for up to 2 Mbps the absolute minimum amount of spectrum required would be 10 (5+5) MHz.

Throughout the rest of this Gazette response, Clearnet's comments are based on the assumption that the Department adopts the minimum block size of 10 (5+5) MHz.

(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 desire to see greater competition and advanced services in all regions of Canada;*

Assuming the minimum block size of 10 (5+5) MHz as noted above, there are a finite number of possible combinations, which we denote as options 1 through 6 as follows:

1. 1x40 MHz
2. 1x30 and 1x10 MHz
3. 2x20 MHz
4. 1x20 and 2x10 MHz
5. 2x15 and 1x10 MHz, or
6. **4x10 MHz**

Clearnet strongly supports auctioning the spectrum as 4x10 MHz sub-blocks, (i.e. Option 6) and strongly opposes the use of any of the other options based on the following analysis and rationale.

³⁹ We acknowledge that the addition of a 5 (2.5+2.5 MHz) MHz block contiguously to an existing PCS licence would be something that might be less problematic, but only for 2G services.

⁴⁰ ITU-R Study Group 8

As noted above, Clearnet does not support any “set aside” for new entrants, and we assume for the following discussion that no “set aside” has been established.

Option 6 is the most objective and flexible option, and does not require the Department to predetermine optimal spectrum aggregations. Bidders may acquire and aggregate multiple adjacent sub-blocks. We also note that the Department contemplates a post auction rationalization procedure, which should also assist bidders who win multiple, but non-adjacent blocks to aggregate them⁴¹.

It is also true that every option other than option 6 precludes the possibility of each of the four incumbent operators acquiring additional spectrum required to augment their 2G services and to implement 3G services in a market. For example, in the case of option 3, then there can only be two “winners” in the auction and therefore there must be at least two “losers” in the auction. Thus, any approach other than option 6 would guarantee that the Department’s stated goals are frustrated.

We next examine the spectrum holdings for each of the major cellular/PCS entities and based on the 55 MHz spectrum cap, calculate therefrom the allowable additional spectrum “room” for each⁴². We can readily see, for example, that Clearnet will be ineligible to bid on more than 10 MHz in certain areas⁴³. Rogers AT&T and Microcell will be ineligible to bid for more than 20 MHz anywhere. Telus will likely be ineligible to bid for more than 10 MHz in region, while Bell and the other telcos will be ineligible to bid for more than 20 MHz in region, and perhaps only 10 MHz depending on the status of their 150/450 MHz mobile-telephone systems.

⁴¹ Particularly if the Department actively facilitates the process.

⁴² See Attachment 1 – Spectrum Holdings Chart

⁴³ It is not practical for Clearnet to return or sell off some of its existing spectrum. Clearnet's ESMR spectrum is already being well utilized in the major population centers, and reducing the amount of spectrum for the service would substantially degrade service to the public. The only other way for Clearnet to be eligible for more than 10 MHz in these areas would be to return PCS spectrum. To do so makes no sense simply to reacquire more PCS spectrum in the auction.

(iii) *the implications on roaming and cross-border sharing arrangements of the sub-division of the C/C' and E/E' blocks;*

As noted above, while some attention must be paid to detail from an engineering perspective, nevertheless, Clearnet does not envisage any major difficulty with roaming or cross-border sharing as long as both the minimum block size 10 (5+5) MHz is respected along with the appropriate spectrum alignment within the bandplan.

(iv) *the technical challenges that would exist in the context of 2G deployment, initial 3G deployment, and the anticipated evolution from 2G to 3G.*

As noted above, while some attention must be paid to detail from an engineering perspective, nevertheless, Clearnet does not envisage any major difficulty as long as both the minimum block size 10 (5+5) MHz is respected along with the appropriate spectrum alignment within the bandplan.

Given such an approach, Clearnet views the ability to extend 2G services to be a reasonably straightforward matter. Furthermore, 3G technology is being designed inherently with a 10 (5+5) MHz building block approach, and for easy extension and evolution from 2G to 3G services in order to minimize stranded investment in 2G infrastructure and handsets. Indeed, much of the equipment Clearnet is installing to expand 2G services today is already capable of being utilized to provide 3G services as well, assuming the use of such a frequency block structure.

(v) *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;*

In Clearnet's view, it is not an absolute imperative that operators have contiguous spectrum, as long as the minimum block size of 10 (5+5) MHz is respected. Nevertheless, it is always beneficial to arrange contiguous spectrum wherever possible in order to maximize spectrum efficiency (minimize guardbands) and minimize the number of boundaries between different operators and thus minimize potential interference considerations.

In our discussions on this issue with various manufacturers and at ITU-R, it appears that with the new generations of equipment, there is no absolute requirement to have contiguous spectrum over the longer term. However,

should only non-contiguous spectrum be available, there may be additional incremental infrastructure deployment costs, particularly in the early stages of development.

(vi) *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*

There is no doubt that given the asymmetrical IP traffic flows in the wired world it would make sense to take this phenomenon into account sooner rather than later for optimum results. Nevertheless the implications of adjusting the spectrum block structure at this point in time are enormous, particularly as doing so would imply a non-harmonized arrangement relative to the US. Furthermore, it would create a number of potentially difficult compatibility and evolution issues with today's 2G systems. Additionally, to our knowledge all of the major 2G and 3G standards and equipment developments for North America have been based on the current block structure.

Indeed, the issue related to asymmetrical traffic flows was only recently raised at ITU-R (at Task Group 8/1 in Helsinki in June 1999). There were opposing views on this matter. On the one hand, given the type of 3G services and IP based services that will become available it seems reasonable to assume that the downlink spectrum would have to accommodate a much higher data rate than in the uplink direction. On the other hand, it is still not sufficiently clear at this stage what specific services will be offered or what the uplink/downlink spectrum requirements will be going forward.

As a result, it appears prudent at this point to continue to utilize the existing spectrum structure. Should future changes be required, it may be best to leave this to the manufacturers and operators to work out once we have a better idea of the type of data rates and services that are envisaged, so that a consistent North American approach can be developed.

While there is no doubt that avoiding this issue now will make it somewhat more difficult to deal with later, we do not believe that continuing with the current block structure at the present time would prevent this from ever being addressed. Indeed, future generations of technology will no doubt be developed that will be capable of dynamically adjusting spectrum requirements to accommodate for asymmetrical traffic flows.

(vii) the need for special provisions to accommodate Time Division Duplexing (TDD) technology in the frequency block structure.

We see no need to make special provisions to accommodate TDD at this time.

4.3 Geography

4.3.1. National Versus Regional Licensing

Prior to the licensing and launch of cellular in Canada in 1985, wireless telephony was a monopoly service, which was only permitted to be offered by the telephone companies within their exclusive operating territories. At that time, national wireline service was offered by the telephone companies under various banners such as Telecom Canada and the Canadian Telecommunications Carriers Association (later Stentor). While the telephone companies had the ideal opportunity to build a consistent, national service for Canadians, they failed to do so, and pre-cellular mobile-telephone service in Canada was a hodge-podge of semi-compatible and totally incompatible services, technologies, frequency bands, equipment and rate structures. This did not serve the public particularly well.

Largely as a result of that situation, the Department's wireless policy for the implementation of cellular established and encouraged nationally consistent infrastructures and services. A single national cellular licence was granted to Cantel (now Rogers AT&T), and a second national cellular licence was granted to the telephone companies⁴⁴. Rollout conditions were utilized to ensure that service was not limited to a few major population centers and that a large portion of the Canadian population could share the benefits of wireless.

Faced for the first time with the prospect of real competition, the telephone companies soon realized that they would need to work together. They banded together as Mobility Canada to effectively utilize their wireless infrastructure as a coordinated national operation and to emulate a national wireless entity from the

⁴⁴ A common national spectrum allocation was parceled out to each individual telephone company for its particular operating territory. Furthermore, the utilization of the AMPS standard was a mandatory requirement, thus ensuring that the telephone companies would implement a nationally compatible service.

subscribers' perspective. They developed the necessary roaming and marketing arrangements and were able to compete against Cantel.

This approach worked well. In fact, it worked so well that the monopoly telephone company wireless affiliates were able to consistently obtain the majority of the market share in virtually every area in the country, and highly dominant market shares (up to 85%) in certain portions of the country.

The Department notes that it did not have to impose these roaming and marketing arrangements on the telephone company affiliates, and it is a clear and undeniable fact that competition and market forces led the telephone companies to take the necessary steps to compete.

Indeed, many benefits have accrued to Canada and Canadians as a result of the Department's national wireless licensing policy and approach. Canadians have enjoyed consistent, compatible and seamless national service, and the buildouts of world-class wireless infrastructure not only in the major population centers but also to a number of very remote and sparsely populated regions of the country. Another very noticeable impact has been the fact that there have been no roaming fees within Canada. This is in clear contrast to the rather balkanized situation that arose in the United States and the confusing patchwork quilt of services that Americans have had to endure. It is only relatively recently that truly nationwide wireless operations have now been established in that country, largely through consolidation and merger and acquisition activity.

The Department continued with its policy of encouraging national buildouts when it assigned PCS licences nationally in 1996, and assisted the new entrants in initially offering "nationwide" service by encouraging "roaming/reselling" arrangements with the cellular incumbents. Canada and Canadians have continued to benefit as a result.

Clearnet believes that regional or local licensing will simply encourage "cream skimming" and thereby jeopardize the government's Connectedness Agenda in smaller towns and rural Canada. The economics of providing wireless service at 1.9 GHz to small towns and rural and remote areas are much more difficult than at lower frequency bands which have better propagation characteristics and better lend themselves to serving more rural and remote areas. Typically, the wireless business case requires the operator to serve one or more larger and more heavily populated centres alongside the more rural and remote areas, and the more difficult economics make this even more imperative for 1.9 GHz. The more profitable urban centres then subsidize the more marginally profitable areas and only in this manner is an acceptable overall return on investment attained. Put another way, the concentration of business in the densely

populated urban centres allows the rural and remote areas to be serviced at incremental cost. There are often substantial central and common costs as well such as switch centres, which would not be affordable on the basis of the less populated area alone. By sharing facilities which have already been justified for a larger centre the investment required for rural and remote areas becomes incremental in nature and accordingly, more affordable.

The provision of additional spectrum can often reduce the capital costs to provide a wireless service. Conversely, limitations on the amount of spectrum can significantly drive up costs (e.g. cell-splitting). As Clearnet has also indicated, the reserve spectrum is very important to support the further development of the existing national networks and implementation of new 3G services. Fracturing it in order to implement a series of smaller, local services will not maximize the benefits therefrom for Canada.

In the Gazette paper⁴⁵, the Department notes that its:

“objective of national coverage has now largely been met, and it is confident that both market forces and the policy measures currently in place will see the continuation of strong national networks.”

Based on the historical evidence to date as noted above, Clearnet has faith that this will be the case and agrees with this statement. The Department goes on to state, that:

“...current and potential future licensees may have different needs for meeting the service requirements of various regions across the country.”

While there is no doubt that the various regions of Canada each have unique differences and requirements, Clearnet has seen no evidence which would support any conclusion being drawn that the Department's very successful policy of encouraging nationally consistent wireless services and infrastructures should be abandoned.

From the early days of cellular to today, Clearnet has been a strong proponent of nationally consistent infrastructures for wireless mobile-telephony services

⁴⁵ Industry Canada, 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”, December 17, 1999: pg. 11

and has solidly supported the Department's policy to encourage national licensing of cellular and PCS services⁴⁶.

Lest its' view be misinterpreted, Clearnet notes that this does not mean that every existing regional telephone company affiliate should now be eligible to obtain a national licence. As noted above, the telephone companies did not require national licences in order to effectively operate as a national competitor. Differences of opinion and corporate goals of the telephone companies are nothing new. It has been demonstrated above that enabling each of the existing regional players now to obtain a national licence would have serious consequences for furthering the Department's objectives and for the public benefit. It would make little sense at this point to undermine the viability and success of the industry in the name of "national licensing".

Therefore, Clearnet believes that the appropriate approach is to determine the geographic division of the licensing required first to support the optimal industry structure, and once that objective has been taken into account, to foster the national licensing approach to the extent possible.

4.3.2 Geographic Dimension of Licences for Spectrum in Blocks "C" and "E"

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

As noted above, Clearnet believes that Canada would be best served by limiting eligibility to existing licensees, and to those areas of the country where they are currently authorized to operate. Clearnet notes that should the Department adopt this approach, then by definition at least a portion of the spectrum must be subdivided regionally. To do otherwise would effectively preclude the regional licensees from participating in the auction.

If, on the other hand, the Department chooses to allow "out of region" participation by the telephone companies, something which Clearnet strongly opposes, then a fully national licensing approach is feasible.

⁴⁶ This includes the emulation thereof through the Mobility Canada Personacom type of licensing application and arrangement.

We consider both of these cases below:

- Case 1 (“out of region” participation restricted)

Clearnet has suggested that the Department adopt a 4x10 MHz licensing structure. Given Canada’s 3-national/1-regional licence structure, clearly the ideal approach would be to offer one 10 MHz block regionally, and the other three nationally. Under this scenario, it is possible⁴⁷ for each existing national operator to obtain a 10 MHz national licence to augment its holdings, and for the regional licensees to do so as well. Clearnet prefers this approach, but has identified a difficulty with it. Since it would appear that Bell has 20 MHz of room under the cap, this approach would unfairly limit Bell to 10 MHz only.

Therefore, Clearnet recommends that 2 of the 10 MHz blocks be auctioned regionally and the other 2 be auctioned nationally.

A similar, but less preferable approach would be to auction all four blocks regionally. While this has some merit as it would be the simplest approach from an administrative point of view, it does little to further the national licensing objective.

Should the 4x10 MHz approach not be used, we note that at least one regional licence must be offered which is no larger than 10 MHz. Otherwise, Telus would not be able to participate given its current spectrum holding under the cap.

- Case 2 (“out of region” participation permitted)

Clearnet notes that in this situation there is no requirement to subdivide any spectrum regionally and Clearnet believes that a completely national licence offering would be the optimal approach.

Clearnet also would point out that in this case, whether all the spectrum is offered nationally or regionally or in any combination thereof, the potential exists for the telephone companies to acquire all of the remaining 40 MHz of spectrum⁴⁸. Such an outcome is completely contrary to the

⁴⁷ Theoretically, at least, although the actual results will be determined by the auction bidding.

⁴⁸ For example, Telus could acquire 10 MHz nationally, Bell could acquire 20 MHz nationally, and SaskTel could obtain 10 MHz nationally. To the extent that the spectrum is auctioned regionally, this

Department's stated goals⁴⁹ for releasing the spectrum, and would not best serve the public. Clearnet believes the Department should take steps to ensure that no more than half (i.e. 20 MHz) of the spectrum is obtainable by the telephone companies, possibly through the use of a secondary aggregation limit.

(ii) 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?

As indicated earlier, Clearnet believes that Canada will be best served by limiting eligibility to the existing incumbents.

However, should the Department decide to allow new entrants to participate then they should be required to obtain spectrum nationally and to provide nationwide service⁵⁰ in order to prevent cream skimming, to further encourage the governments connectedness agenda and *Telecommunications Act* policy objective⁵¹ to extend service to all regions of Canada, and to ensure no undue preferential treatment provided to new entrants vis-à-vis incumbents' rollout requirements.

becomes even more problematic. Should the Department, for example, decide to offer 30 MHz of the spectrum regionally under this scenario, then Telus could obtain all 40 MHz in the east, and Bell could obtain all 40 MHz in the west.

⁴⁹ The non-telco affiliated incumbents could be left without any new spectrum to accommodate PCS growth or support 3G implementation. Furthermore, it is somewhat ironic to consider that even Bell Mobility could potentially be left without any additional spectrum in Toronto to accommodate its PCS needs (let alone 3G), since the wireless affiliates of other non-Bell telcos could buy all 40 MHz of spectrum under this approach. We believe that one of the primary drivers for the Department's decision to release the reserve spectrum was Bell's future PCS spectrum needs for Toronto.

⁵⁰ Whether or not spectrum is specifically "set-aside". This might necessitate that the new entrant either acquire a national licence or assemble one from regional licences.

⁵¹ *Telecommunications Act*, section 7(b)

(iii) 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?

Please refer to previous comment.

(iv) Given the likelihood that mobile services will be offered with this new spectrum, reasonably large service areas would appear warranted. Therefore, should regional spectrum blocks be offered, the Department proposes that Tier 2 service areas, as identified in the document entitled “Service Areas for Competitive Licensing”, be used. (See Table 2 in section 8.1 for more data on Tier 2 service areas).

Cleartnet submits that it would make the most sense to geographically subdivide along the lines of the operating boundaries of the telephone companies, or in other words, to utilize exactly the same geographic boundaries as the existing regional PCS licences, so that there is absolutely no misunderstanding as to who is eligible for which territory.

The Department has suggested the possible use of Tier 2 divisions, and Cleartnet would support this if those boundaries closely align with the current regional licence boundaries noted above. This is not believed to be the case, however.

(v) If regional PCS licensees previously under the former 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?

As noted above, Cleartnet believes that allowing the wireless affiliates of the monopoly telephone companies to acquire spectrum “out of region” is completely unnecessary and would be a highly undesirable policy for Canada in many respects.

Nevertheless, should the Department proceed with such an approach, Cleartnet agrees that they should be required to serve all regions of Canada. Certainly, it would be problematic to permit the wireless affiliates of the monopoly telephone companies to “cherry pick” markets outside of their own operating territory. As noted in “Case 2” above, Cleartnet has recommended the use of full national

licensing. This would also assist the Department in ensuring appropriate rollout requirements could be implemented.

4.4 Displacement of Microwave Incumbents

Industry Canada seeks comments 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.

Cleartnet has no strong view on this matter. While we believe that the accelerated timelines as outlined by the Department in the document are reasonable, we would also support the continuation of the current process as well.

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.

Cleartnet notes the fact that this spectrum is effectively “sandwiched” between the two portions of the licensed PCS spectrum allocation. Indeed, many of the incumbent microwave systems overlap portions of both licensed and unlicensed sub-bands, and many of those that previously encumbered the unlicensed PCS sub-band have already been cleared in order to make way for licensed PCS system implementation.

Therefore, Cleartnet believes it would make the most sense to adopt an approach for the licence-exempt portion of the band that is consistent with the licensed portion of the band.

4.5 Licence Tenure

As stated in our previous comments with respect to the Auction Framework gazette⁵²:

“Cleartnet favours the maximum licence term possible (e.g. 99 years) with a reasonable expectation of renewal. Once the licence is auctioned and the

⁵² Cleartnet comments to Industry Canada Gazette Notice DGRB-003-97 “Consultation on Issues Related to Spectrum Auctioning”, November 28, 1997: para. 4.2

licensee has invested in and constructed the radio system, reauctioing the spectrum may not only strand significant investment, but can potentially cause substantial impact on the users of the system as well. Users may also have invested in associated radio equipment, technology or processes and practices. A reauction could lead to an increase in user costs, or worse, could potentially discontinue their service, not only stranding the user investments as well, but potentially disrupting their operations to a significant degree. Once licensed and constructed, it is practically impossible to separate the spectrum resource from the radio system implemented. For these reasons, Clearnet is strongly opposed to the concept of re-auctioning of spectrum at the end of a licence term.”

Clearnet continues to prefer a longer term be used, with far more certainty regarding the renewal process and ongoing licence fees determined prior to the original auction. Failure to do so leaves the operator subject to the whims of the government of the day, which will not encourage maximal investment and buildout.

4.6 Transferability and Divisibility

Frequency divisibility of the spectrum should be limited to no smaller than the minimum block size of 10 (5+5) MHz noted above, and any such division should only be permitted in an aligned fashion with the bandplan, to maintain a consistent spectrum structure for the reasons noted above, and particularly to ensure it remains usable for 3G.

5. Technical Considerations

Clearnet supports the continued application and use of the technical criteria as outlined in SRSP-510 and RSS-133 to permit the co-existence of systems operating in adjacent blocks.

6. Conditions of Licence

PCS services are by definition a carrier operated service. As a result, pursuant to the *Radiocommunication Act*, PCS service providers may only operate under radiocommunication carrier licences.

We observe that the licence conditions have been divided into two separate groupings, sections 6.1 and 6.2, for “All Licensees” and “Radiocommunication Carriers”, respectively. Furthermore, in section 7.9.3 the Department notes that it will require “a declaration as to whether the provisional licence winner will or will

not be acting as a radiocommunication carrier”, yet later on in the same section it also notes that “in the event a provisional licence winner does not, in the opinion of the Department, comply with the Canadian ownership and control requirements, the Department will require that the provisional licence winner make changes in order to become compliant.”

Cleartnet suggests that in order to avoid any confusion, and to prevent the possibility of any inappropriate circumvention of the foreign ownership requirements, that the Department should clarify that only radiocommunication carrier licences are being auctioned, and that only one common set of licence conditions will apply. Furthermore, the Department should ensure before the auction begins that each participant either qualifies or will qualify as a radiocommunication carrier should it win a licence.

7. Licensing Process and Auction Design

7.1 Comment Period

While we acknowledge the receipt of a two week extension to the original comment period, nevertheless Cleartnet views the Department’s decision to put a 60 day timeframe on such a key issue to be uncharacteristically short. Typically in the past, the Department would have dealt with such an important matter with a minimum of 90 days or more for comments. The situation was exacerbated even further by the fact that the already short comment period overlapped the Christmas and New Year’s holiday period. While it is good to see the government operate in a timely fashion, nevertheless Cleartnet does not see the necessity to unduly rush the public consultation process.

7.2 Reply Comments

Cleartnet supports the use of a reply comment phase for more important issues and this item certainly would fit that criterion. Nevertheless, the reply comment period of only two weeks from the date of publication of the original comments is unnecessarily brief. Cleartnet would suggest that 30 days would have been a much more appropriate duration for this phase.

7.3 Final Policy Paper

It is clear that the final auction rules will have a significant bearing with respect to making arrangements for suitable financing for some of the prospective

participants, primarily the smaller and newer players that are still incurring heavy startup losses. Financial markets open and close very quickly and often quite unpredictably. Too short a period of time favours larger and more established players with deeper pockets, who may not even need to tap the financial markets or can certainly do so more readily.

Insufficient time was one of the reasons reported by the FCC for at least one significant auction failure in the U.S.:

“The WCS auction closed last Friday raising \$13.6 million for the U.S. Treasury. 128 WCS licenses will be issued. The prices were much lower than in previous auctions. This auction is being used to criticize auctions in general. What about the low prices paid for WCS licenses? The explanation is that Congress required an auction of the WCS spectrum before normal market and business processes could take place. And it did not give the FCC the flexibility to set the date. We said this in advance of the auction.”⁵³

Clearnet suggests that the Department should ensure that a minimum period of time, such as 9 to 12 months, elapses between the time of the final outcome of the auction rules and the start of the auction itself in order to ensure that such arrangements are reasonably likely to be achieved.

7.4 Submissions

Clearnet agrees that the voluntary notification process really did not serve any useful purpose in the 24/38 GHz auction and supports the Department’s proposal to eliminate it.

Clearnet would also propose that just prior to the start of the auction, that prospective bidders be required to confirm precisely what their spectrum holdings actually are under the cap for each licence area at that time, and that the Department publish this information for all bidders immediately prior to the start of the auction.

⁵³ Speech by FCC Chairman Reed E. Hundt to the Federal Communications Bar Association, Washington, D.C., April 30, 1997

7.7 Auction Design

7.7.7 Discretionary Versus Non-discretionary Bidding

As only one auction has been held in Canada to date, Clearnet believes it would be wise to wait until further experience with auctions has been gained in Canada and avoid the complication of “multiple increment bidding” at this time.

7.7.9 Enforcement of Spectrum Aggregation Limits

The Department notes that in the 24 and 38 GHz auction it permitted bidders to place bids and hold standing bids on licences within a service area that would exceed the spectrum aggregation limit, and seeks input as to whether this flexibility should be allowed.

Clearnet believes that the benefits of the flexibility permitted by this approach are indeed 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.

7.9 Post-Auction Procedures

7.9.3 Eligibility Documentation

See our comments regarding section 6 above.

Attachment 1

Spectrum Holdings related to Cap

Carrier	Licensed Area	Cellular	PCS	ESMR	Total	Room Under Cap
Bell Mobility	Ont-Que	25	10	-	35*	20
Cleartnet	National	-	30	5-13.7	35-43.7	20-11.3
Microcell	National	-	30	-	30	25
Rogers AT&T	National	25	10	-	35	20
Telus	B.C.-Alberta	25	10	0-5	35-40*	20-15
Other Mobility	rural provinces	25	10	-	35*	20

* Assumes no 150/450 MHz mobile/telephone spectrum still held.