



Industry
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Canada

PCS - 2 GHz
June 28, 2000

Spectrum Management and Telecommunications Policy

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

Amended by:

**SAB-001-05 - Policy Provisions to Support Licence-exempt Personal Communications Services (LE-PCS) in the Band 1920-1930 MHz and a Moratorium Imposed on the Band 1910-1920 MHz
[December 2005]**

Canada

Highlights and Key Dates of the Licensing Process for the Additional PCS Spectrum in the 2 GHz Frequency Range

- A simultaneous multiple-round auction will open in early November 2000.
- There are 56 licences available: four 10 MHz licences in each of 14 service areas which together provide contiguous coverage of all of Canada.
- All entities are eligible to apply to participate in the auction.
- In an area, an entity and its affiliates will be subject to the spectrum aggregation limit of 55 MHz of PCS, cellular radiotelephony and similar high mobility spectrum.
- Licences have a term of ten years, with a high expectation of renewal.
- Licences are transferable and divisible in the secondary market.
- Licensees will have the maximum possible flexibility in determining the services they will offer and the technologies they will employ.
- Applications to participate in the auction are due August 28, 2000.
- Public information sessions to provide a general overview of this licensing process will be held in the weeks following the publication of this document. These sessions are tentatively scheduled between July 17 and August 2, 2000. Interested parties are invited to visit Industry Canada's Strategis Web site at <http://strategis.ic.gc.ca/spectrum> to obtain further information on the location and scheduling of these sessions, and to register for them.
- Successful bidders in the auction will need to comply with the Canadian Ownership and Control requirements.

Key Dates	
Event	Time frames*
Expected release of <i>Policy and Licensing Procedures for the Auction of Additional Spectrum in the 2 GHz Frequency Range</i>	June 28, 2000
Publication of <i>Canada Gazette</i> Notice DGRB-005-00/DGTP-007-00	July 8, 2000
Regional pre-auction information sessions (Halifax, Toronto, Ottawa, Vancouver, Calgary, Montreal)	Mid-July to early August 2000
Deadline for receipt of written questions	August 11, 2000
Date on which answers to written questions will be posted	Late August 2000
Deadline for receipt of applications to participate in the auction	August 28, 2000
Date on which list of applicants will be published	August 29, 2000
Date on which list of qualified bidders will be published	Mid-September 2000
Mock auction for qualified bidders	Mid-to-late October 2000
Opening day of bidding	Early November 2000
Auction close	Unknown
Submission of ownership and control documentation	10 business days after the close of the auction
Initial payment (20% of high bids / 100% of penalties)	10 business days after the close of the auction
Final payment (80% of high bids)	30 business days after the close of the auction

* Please consult the Department's Web site at <http://strategis.ic.gc.ca/spectrum> for updates to this schedule.

RADIOCOMMUNICATION ACT

Notice No. DGRB-005-00 / DGTP-007-00 — Policy and Licensing Procedures for the Auction of the Additional PCS Spectrum in the 2 GHz Frequency Range

This Notice announces the release of the paper entitled *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range*. The purpose of this document is to license additional spectrum to accommodate the growth of mobile wireless services such as PCS, and to facilitate the implementation of new services. This Notice and the above-noted paper initiate the licensing process for this additional spectrum by calling for completed application forms and financial deposits.

On December 17, 1999, Industry Canada issued *Canada Gazette* Notice No. DGRB-018-99, entitled *Consultation on the Proposed Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range*. That Notice sought comments on policy issues and the process to issue licences for exclusive access to spectrum bands in service areas across Canada. In response to the Notice, submissions were received from 13 interested parties.

Copies of the subject document and comments are available electronically on the World Wide Web (WWW) at <http://strategis.ic.gc.ca/spectrum> or in hard copy, for a fee, from: Tyrell Press Ltd., 2714 Fenton Road, Gloucester, Ontario K1T 3T7, 1-800-267-4862 (Canada toll-free telephone), 1-800-574-0137 (United States toll-free telephone), (613) 822-0740 (Worldwide telephone), (613) 822-1089 (Facsimile); and DLS, St-Joseph Print Group Inc., 45 Sacré-Coeur Boulevard, Hull, Quebec J8X 1C6, (819) 779-4335 (Worldwide telephone), (819) 779-2833 (Facsimile).

June 28, 2000

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1. Introduction

In 1985, Rogers Cantel Inc. and Canada's local telephone companies were licensed to provide 800 MHz cellular telephony services in Canada. Rogers Cantel Inc. and the local telephone companies each received 25 MHz of spectrum.

In 1995, four spectrum licences were awarded to provide Personal Communications Services (PCS) in the 2 GHz band. Two new entrants, Clearnet PCS Inc. and Microcell Networks Inc., were each granted 30 MHz of spectrum, while Rogers Cantel Inc. and the major local telephone cellular operators were each granted 10 MHz. To ensure that a competitive environment would be maintained, at the time of this licensing process, the Department of Industry (also referred to in this document as "Industry Canada" or "the Department") placed a limit on the amount of spectrum that any one entity or its affiliates could hold. This spectrum aggregation limit, commonly referred to as a spectrum cap, was set at 40 MHz and consisted of frequency assignments for PCS at 2 GHz, cellular radiotelephony, and similar public high-mobility radiotelephony services such as Enhanced Specialized Mobile Radio (ESMR).

In the 1995 PCS licensing process decision, two blocks of spectrum were held in reserve: one 30 MHz block (C/C') and one 10 MHz block (E/E'). In awarding licences for the four PCS spectrum blocks, the Minister noted that the decision would promote a strong base from which to enhance competition in the provision of wireless telecommunication services. By reserving the remaining blocks, the Department provided an opportunity to respond to future demands and innovations in a timely fashion.

Today, the 800 MHz analogue cellular networks provide coverage to over 94% of the Canadian population, and the 800 MHz digital cellular networks provide coverage to over 88% of the Canadian population. PCS services in the 2 GHz band are now available to over 50% of the population and extends across all regions of Canada. As well, digital ESMR is now available to over 67% of the Canadian population. Many areas have access to four competing mobile wireless service providers.

2. Consultation

On November 5, 1999, the Minister of Industry announced that the spectrum aggregation limit applying to Personal Communications Services (PCS) would be raised from 40 MHz to 55 MHz, and that 40 MHz of additional spectrum for PCS would be licensed by auction. The 40 MHz of additional spectrum consists of PCS spectrum blocks C/C' and E/E', which had been held in reserve in 1995. These actions were taken to ensure the availability of adequate spectrum resources to meet the needs of the expanding PCS market, and also to enable the implementation of new offerings such as third-generation (3G) PCS.

A public consultation paper on the policy and licensing procedures for the auction of the additional PCS spectrum was published on December 17, 1999. Comments and reply comments were received in March 2000. The Department values the submissions received on the various aspects of the policy and licensing process.

After reviewing and analysing the input received, the Department is now in a position to define the final policy framework for this additional PCS spectrum and to lay out the rules and procedures of the licensing process for the spectrum. Through the publication of this document, Industry Canada initiates the process leading to the auction of the 40 MHz of additional spectrum in the 2 GHz range.

Details on the policies and licensing procedure for the auction are laid out in the remainder of this document. Departmental documents cited in this document are available on the Department's Web site at <http://strategis.ic.gc.ca/spectrum>.

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3. Eligibility to Acquire Spectrum

The following sections outline the Department's policy on eligibility to participate in the auction for the additional PCS spectrum in the 2 GHz frequency range.

The Department notes that successful bidders will also be subject to the *Telecommunications Act*, including the requirements of Canadian ownership and control, which apply to Canadian carriers. Bidders are reminded to consider any potential implications of the application of the *Telecommunications Act* to their business plans.

3.1 Competition Principles

Within a competitive environment, a market-based spectrum assignment mechanism is best able to select licensees who can most efficiently provide the wireless services most valued by Canadian consumers. Auctioning has the ability to award spectrum in a transparent and economically efficient manner. However, to ensure that economic benefits are maximized, it is important that potential licensees will indeed be operating in a competitive marketplace. The measures available to the government to promote a competitive post-auction marketplace for the additional PCS spectrum include disallowing the participation of certain firms in the auction and imposing aggregation limits on the amount of spectrum that any bidder may acquire.

With regard to these two measures, the Department considers two guiding competition principles.

Principle 1:

A company that currently provides telecommunications services should be restricted from holding certain licences if:

- i. that company possesses market power in the supply of one or more telecommunications services in a region covered by the licence to be auctioned;
- ii. a new entrant is likely to use the licence to provide services in competition with that company's existing services; and
- iii. the anti-competitive effects of that company's acquisition of a licence are not outweighed by the potential economies of scope arising from the integration of the spectrum in question into that company's existing network.

Principle 2:

When multiple licences for the use of spectrum in a given geographic area are auctioned, and these can be used to provide closely substitutable services, limits on the amount of spectrum that any single bidder is allowed to acquire may be required to ensure competitive markets. Spectrum aggregation limits may be imposed in the following circumstances:

- i. a bidder that acquires a significant amount of spectrum would not face effective competition from providers of services that use infrastructure other than the spectrum being auctioned; and
- ii. the anti-competitive effects arising from the acquisition of a significant amount of spectrum by a single bidder would not be offset by lower costs or higher valued services resulting from holding this amount of spectrum.

3.2 Eligibility

Through the consultation paper, the Department sought comments on whether and how the public interest would be served by limiting the eligibility beyond the competition principles outlined in section 3.1, of any potential applicants to participate in the auction for the additional PCS spectrum.

A range of viewpoints was expressed as the respondents were divided on eligibility to participate in the auction. Their positions may be summarized as:

- limit eligibility to the existing PCS and cellular carriers within their existing operating areas to maintain four carriers per area;
- limit eligibility to the existing PCS carriers, but permit the former regional Mobility Canada members to bid outside their existing areas, and in so doing allow them the possibility to expand nationally; and
- open eligibility to all entities, but have spectrum blocks set aside for new entrants.

The Department considered all the arguments raised by those wanting to limit participation in the auction. The main arguments that were raised pertained to the availability of capital, the potential impact on the current industry structure, the potential delays in the offering of innovative and advanced services, and the potential delays to the extension of PCS services outside the major cities. The Department notes that open entry conditions prevail in virtually all aspects of telecommunications service provision in Canada and will continue to strongly encourage such openness in the PCS environment. Accordingly, the Department found no compelling arguments indicating how the public interest would be better served by limiting

the eligibility of any potential applicants to participate in the auction.

The Department thus concludes that the public interest is best served by allowing all entities to be eligible to apply to participate in this auction. This conclusion takes into account the objective of the *Telecommunications Act* to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective.

In addition, the Department considered all comments on whether a certain amount of spectrum should be identified for which only new entrants would be eligible to bid (a set-aside). Respondents were again divided on this issue. Proponents for a set-aside of spectrum for new entrants indicated that it would accelerate the introduction of packet-based networks, high-speed wireless Internet, and other data services. The proponents felt that incumbents would slowly evolve their legacy systems with the spectrum and not offer new, innovative services in as timely a manner as new entrants. Other respondents stated that the current incumbents are actively participating in research and development activities to develop international standards and to introduce new services and technologies. The Department found no compelling arguments that demonstrated that a set-aside of spectrum for new entrants would significantly advance new service offerings and expansion of digital service not attainable in an open-entry scenario. **Thus, the Department will not set aside spectrum for which only new entrants can apply.** However, new entrants are eligible to apply to bid for all spectrum blocks available through this licensing process.

In addition to the questions on eligibility raised by the Department, some respondents suggested other eligibility factors. These included the suggestion that new entrants should demonstrate financial, technical and management capabilities, and that they should demonstrate compliance with Canadian ownership and control requirements for radiocommunication carriers before the auction. The Department concludes that an appropriately designed auction and the discipline enforced by the due diligence associated with advancing the sums of money to bid successfully, will ensure the integrity of the process, and as such it is not necessary for the Department to assess the financial, technical or management capabilities of any new entrants. The Department is also satisfied that the current requirement for successful bidders in the auction to submit documentation demonstrating compliance with the Canadian ownership and control requirements within ten business days of the auction's close suffices.

3.3 Spectrum Aggregation Limits

As noted in Radio Systems Policy 021 (RP-021), *Revision to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum*, published November 5, 1999, any existing PCS licensee is eligible to hold radio licences covering, in any geographical area, frequency assignments aggregating up to a total of 55 MHz of spectrum for PCS, cellular

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radiotelephony and similar high mobility spectrum. This aggregation limit of 55 MHz will continue to apply for bidders in this auction and will consist of:

- a) spectrum within the PCS band 1850-1990 MHz;
- b) other spectrum that may be identified for PCS in subsequent proceedings;
- c) spectrum licensed for cellular mobile radiotelephony services, and for similar public high-mobility radiotelephony services, other than air-to-ground telephony and mobile-satellite services;
- d) spectrum as defined in (a), (b) and (c) above that is licensed to any affiliate of the entity; and
- e) spectrum as defined in (a), (b) and (c) above that is licensed to any other entity which has an operating and/or marketing arrangement with the subject entity (or with any of its affiliates), in the same geographical area, for the provision of uniformly branded or jointly offered telecommunications services.

For the purposes of this policy, “affiliate” means a person who controls the entity, or who is controlled by the entity or by any person who controls the entity. “Control” means control in any manner that results in control in fact, whether directly through the ownership of securities or indirectly through a trust, agreement or arrangement, the ownership of a body corporate or otherwise.

Furthermore, for the purposes of this policy, if a person owns, directly or indirectly, at least 20% of the entity’s voting shares, where the entity is a body corporate, or where the entity is not a body corporate, at least 20% of the beneficial ownership in such entity, this will result in a rebuttable presumption that the person controls the entity. Such person may rebut the presumption by submitting an affidavit or declaration, signed by an officer or other appropriate official, which sets out the specific ownership holdings of any person with a 20% or greater holding in the entity and which affirms that the person does not control the entity and sets out the reasons as to why the person does not control the entity. Such a document should be filed as part of the application materials, and in any event, no later than five business days after the publication of the list of qualified bidders. The Department reserves the right to request further information and make its own determination on this issue.

As outlined in sections 7.10 and 8.5, the spectrum aggregation limits will be enforced during the auction and at the close of the auction through the use of penalties.

3.4 Licence Compliance

In the consultation paper, the Department requested comments on how the Department should view the potential eligibility of any party that is licensed for the provision of PCS under the *Radiocommunication Act* but is not in compliance with its existing licence conditions. Specifically, the Department requested 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 PCS spectrum under this auction.

In general, respondents agreed with the principle of using licence compliance as a criterion for eligibility to acquire additional spectrum. Broadening the use of compliance with licence conditions to more than just PCS licences, as a requirement for eligibility to acquire additional PCS spectrum, was proposed by a number of respondents. One respondent did, however, indicate that this proposal has significant potential difficulties of interpretation and application. Some stated that a number of issues merit careful thought and discussion before the Department establishes linkages between compliance and eligibility. They indicated that although compliance with conditions of licence is important, it might be premature to introduce this requirement for this particular auction and suggested that the Department hold a separate consultation process to address the linkage between licence compliance and eligibility to acquire spectrum.

The Department agrees with the broadening of the scope of licence compliance to apply to all licences issued by Industry Canada. Nevertheless, recognizing that the consultation paper addressed compliance with PCS licence conditions only and that respondents wanted to address specific issues within the framework of a separate consultation process, the Department will not use licence compliance as an eligibility criterion for this PCS auction.

However, the Department concludes that this mechanism has great potential to assist in the efficient and effective management of spectrum on an ongoing basis and intends, therefore, to institute a process whereby any applicant wishing to obtain more spectrum, by any licensing process (first-come, first-served; auction; or comparative) must demonstrate, as an integral part of their application that they, and their affiliates, are in compliance with all conditions of their existing licences issued by Industry Canada. The Department will hold a public consultation process on this matter beginning in July 2000 and plans to establish the final procedures in time to implement the compliance regime by January 1, 2001.

3.5 Future Licensing Processes for PCS Spectrum

The Department will continue to work with the wireless Industry to ensure that timely access to the spectrum required for advanced mobile wireless services is made available. This will include developing the licensing process for the release of additional spectrum, such as that identified at the International Telecommunications Union's World Radio Conference that

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was held in Istanbul, Turkey in May 2000. It is expected that it will take until the 2002/2003 timeframe before all the necessary domestic and international arrangements can be completed in order to initiate further licensing processes. The Department anticipates that demand for future spectrum will exceed the available supply and as such it is anticipated that an auction process will be used. All the options related to eligibility and the competitive measures that may be required to ensure a competitive marketplace will be re-evaluated at that time. This would include such things as determining whether spectrum should be set-aside for new entrants as well as the level of and requirement for spectrum aggregation limits.

4. Definition of Licences

The authorizations available for assignment are spectrum licences that are defined in subparagraph 5(1)(a)(i.1) of the *Radiocommunication Act* as authorizations “in respect of the utilization of specified radio frequencies within a defined geographic area”. The attributes of the spectrum licences for the auction of the additional PCS spectrum in the 2 GHz frequency range are the subject of the sections that follow.

4.1 Spectrum Structure

The Department sought comments in the consultation paper on a number of elements concerning the structure of PCS spectrum blocks C/C' and E/E'. The Department also sought comments on other factors that need to be considered if a subdivision of the spectrum blocks was envisaged by the respondents.

In general, respondents agreed that the minimum frequency sub-block size that would support practical implementation of existing 2G and initial deployment of 3G PCS services is 10 MHz (5 + 5 MHz symmetrically-paired blocks). They preferred a block structure of four blocks of 10 MHz. The respondents felt that such a structure would allow auction participants the flexibility to aggregate spectrum that best suits their individual business needs, and they did not foresee any technical problems with this structure.

Therefore, the Department will make available for licensing four PCS spectrum blocks of 10 MHz (consisting of 5 + 5 MHz symmetrically-paired blocks). PCS spectrum block C/C' will be subdivided into three equal blocks of 10 MHz and spectrum block E/E' will remain unchanged. For ease of understanding during the auction, the four spectrum blocks will be labelled “a” through “d”. Refer to Table 4.1 for the spectrum block structure.

Table 4.1 - PCS Spectrum Blocks

Spectrum Block	Auction Label	Lower Frequency (MHz)	Upper Frequency (MHz)
C1/C1'	a	1895 – 1900	1975 – 1980
C2/C2'	b	1900 – 1905	1980 – 1985
C3/C3'	c	1905 – 1910	1985 – 1990
E/E'	d	1885 – 1890	1965 – 1970

4.2 Geography

The Department sought comments on what would be the most appropriate geographical breakdown of the PCS spectrum licences available in this auction. The Department asked whether national licences, regional licences, or a combination of both would be appropriate. In the comments received, support was expressed for all three spectrum licence geographies.

The Department proposed that if regional licences were to be issued, the Department's Tier 2 service areas would be the most appropriate. The Tier 2 service areas are based on Statistics Canada census divisions, and result in 14 areas covering all of Canada. The 14 service areas generally follow the provincial boundaries, although Ontario and Quebec each consist of three areas and some other minor deviations are made around provincial borders to reflect certain wireline service areas and to avoid having a service area boundary cut through a population centre. Supporters of regional spectrum blocks suggested that these would provide the greatest degree of flexibility for those requiring spectrum for expansion or to meet capacity constraints in certain areas. Regional spectrum blocks can also be aggregated by those wishing to provide national services. **Therefore, the Department will make available for licensing the PCS spectrum blocks on a regional basis using the Department's Tier 2 geographic service areas.** Refer to Appendix 1 for a description and map of the Tier 2 geographic service areas.

As the boundaries of the service areas in this auction do not always coincide exactly with the service areas for the existing licences referred to in the definition of the spectrum aggregation limits, the Department must address the issue of "overlap" between a service area in this auction and an existing licensed area. Therefore, for the purposes of this policy, if a licensed area for the services referred to in the definition of the spectrum aggregation limit covers more than 35% of the population in a service area for the auction, then the spectrum holdings in the existing licensed area will count towards the spectrum aggregation limit in that auction service area.

4.3 Licence Term

In the consultation paper, the Department proposed that the spectrum licences would have a ten-year term and a high expectation of renewal at the end of the term.

The Department will offer licences as proposed, and intends to generally renew licences for subsequent ten-year terms, unless: a breach of licence occurs; a fundamental reallocation of spectrum to a new service is required (e.g. a change in international allocation); or an overriding policy need arises (e.g. a spectrum re-allocation to address a national security issue). To provide a more stable investment climate for licensees, a consultation process will commence no later than two years prior to the end of the licence term, if the Department

foresees the possibility that a licence will not be renewed. The imposition of any renewal fees in the subsequent term will also be addressed in a consultation process that will commence no later than two years prior to the end of the licence term.

In case of bankruptcy or insolvency of a licence holder, all applicable conditions of licence set out in this policy will continue to apply, subject to the general laws of bankruptcy and insolvency.

4.4 Licence Transferability and Divisibility

The Department proposed that auctioned licences be transferable and divisible (i.e. transferable in part in the spectral and/or bandwidth dimensions), subject to certain conditions and guidelines. Respondents generally supported this proposal, but some suggested there should be different limits on divisibility in both geography and bandwidth.

The Department did not propose a limit on the divisibility of the spectrum licences in the bandwidth dimension. Some respondents did not support this, as they felt spectrum blocks less than 10 MHz (5+5 MHz symmetrically-paired blocks) could create a number of coordination issues and technical concerns, and may make it difficult to implement 3G PCS services. They felt that the minimum divisibility must be 10 MHz. As to geographic divisibility, some respondents did not agree to the proposed guideline of divisibility along spectrum grid cells.¹ They felt that such small areas might create serious technical coordination problems among the licensees. They recommended that geographic divisibility be consistent with existing PCS licence boundaries.

With regard to these concerns, the Department remains of the view that such restrictions are not necessary and will provide maximum flexibility to the licensees to accommodate their future business plans and those of other potential licensees. Therefore, the auctioned licences will be transferable and divisible subject only to the following conditions and guidelines:

- All conditions that apply to a licence will continue, as applicable, should the licence be transferred.
- The party to whom the licence will be transferred must meet the eligibility criteria for a Radiocommunication Carrier as outlined in subsection 10(2) of the *Radiocommunication Regulations*.

¹ Spectrum grid cells are six-sided figures with an area of 25 km² that fit together in an interlocking pattern over the geography of Canada.

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- Should an auction winner transfer its licence to another party, the second party will only receive a licence term equal to that remaining on the original licence, but will be eligible for the same licence renewal provisions as the original licensee. For example, if the transfer occurs four years into a ten-year licence term, the second party will receive a licence term equal to six years.
- All proposed licence transfers must comply with any spectrum aggregation limits or other measures intended to preclude anti-competitive behaviour that may be in place. It should be noted that any licence transfer may also be subject to the provisions of the *Competition Act*.)
- In order to maintain compatibility with the Department's database, licences will be divisible in the geographic dimension only in terms of spectrum grid cells. Thus, when an auctioned licence is divided, the minimum geographic size that any one of the new divisions may take is one (1) spectrum grid cell. The individual spectrum grid cells are sufficiently small that even with this restriction, an extremely high degree of flexibility will be available to the parties involved in determining the size and shape of subdivided portions of a licence.
- There will be no minimum limit to divisibility in the bandwidth dimension.
- Written notification of all proposed licence transfers will be required. The Department will also request attestations or other documentation to ensure that the points above (e.g. compliance with the eligibility criteria and other conditions of licence) have been satisfactorily addressed. Once a licence transfer has been registered, the Department will revoke the original licence and issue a new licence(s) in its place.
- The Department will maintain a publicly accessible database that lists all auctioned licences and the respective licensees, and will update the database upon a licence transfer.

It should be noted that the licences of incumbent cellular operators and PCS operators (in PCS spectrum blocks A/A', B/B', D/D', F/F') are not subject to this more liberalized transferability regime at this time. One respondent asked that the Department provide the same licence term and spectrum rights of transferability and divisibility to the existing PCS licences. The Department is currently considering this proposal, and may subsequently hold a public consultation on this matter. Until such time, the transfer of an existing radio licence to another party continues to be subject to a full review of the application by the Department and the approval of the Minister. The Department would be favourably disposed, however, to requests for any post-auction spectrum transfers needed to rationalize the holdings of all PCS licensees in order to improve spectral efficiency.

4.5 Ministerial Authority

The spectrum licences that are issued pursuant to this auction will continue to be subject to relevant provisions in the *Radiocommunication Act* and the *Radiocommunication Regulations*. For example, the Minister continues to have the power to amend the terms and conditions of spectrum licences (paragraph 5(1)(b) of the *Radiocommunication Act*). Such powers would be exercised on an exceptional basis, and only after full consultation. As well, as noted in section 6.1 of the *Framework for Spectrum Auctions in Canada* document, section 40 of the *Radiocommunication Regulations*² continues to apply. It is important to note that the Department, pursuant to this regulation, would reallocate spectrum assigned through auction only under extraordinary circumstances (e.g. a change in international allocation or an overriding policy need arises to address a national security issue), taking into consideration that the licensee has complied with the conditions of licence, has made large investments in infrastructure, and is serving an established client base. If a re-allocation were contemplated, it would take place only after full public consultation.

4.6 Flexibility of Use

To ensure that licensees can continue to quickly and efficiently adapt their service offerings to changing consumer demands, the Department will provide licensees with the maximum possible flexibility in determining the services they will offer and the technologies they will employ. Beyond the need to conform to the applicable Canadian spectrum allocation, only those limitations required for interference management purposes (discussed in section 5 of this document) will be imposed.

² Section 40 of the *Radiocommunication Regulations* reads: "The assignment of a frequency or frequencies to a holder of a radio authorization does not confer a monopoly on the use of the frequency or frequencies, nor shall a radio authorization be construed as conferring any right of continuing tenure in respect of the frequency or frequencies."

4.7 Conditions of Licence

In the consultation paper, the Department proposed a number of licence conditions for the spectrum licences to be auctioned. For the most part, the respondents supported the proposed conditions of licence; however there were a few general comments. For example, some respondents felt that only radiocommunication carrier licences should be issued and that it would be inappropriate to issue licences for radiocommunication service providers. The Department confirms that only radiocommunication carrier licences will be issued and accordingly, the same conditions of licence will apply to each successful licensee in the auction.

Two respondents did not support the proposed research and development condition of licence and its associated reporting requirements. Furthermore, one respondent felt that those licensees who have reporting requirements for existing licences similar to those required under the proposed condition should be permitted to consolidate all their reporting requirements. The Department continues to believe that important public policy objectives will be achieved by having the proposed research and development condition of licence. For the reporting requirements, the Department may consider and evaluate proposals from those licensees who have obligations for research and development from other licences to consolidate the reporting for this condition.

Some respondents suggested additional conditions of licence as discussed below. The conditions of licence that will apply for this licensing process are outlined in section 9 of this document.

4.7.1 Roll-out Requirement

Some respondents felt it would be appropriate for new entrants and for former Mobility Canada members, if they were to be eligible to bid on spectrum in all areas, to have a condition of licence requiring implementation in all regions of the country. Since the introduction of cellular services in 1985, the Department has encouraged national coverage of cellular and PCS services by licensing on a national basis, and by requiring that certain geographic roll-out obligations reflecting the proposals made by licensees at the time of application, be met by the service providers. There has been considerable success in the achievement of this objective. As a result of competitive pressures, the cellular carriers have increased their system coverage well beyond their original commitments. Currently, 94% of the Canadian population is covered by analogue cellular systems. Enhanced services from digital cellular systems at 800 MHz are now available to 88% of the population. The PCS at 2 GHz carriers are offering digital services in all regions of the country, and are required to continue the expansion of their systems in accordance with their five-year deployment plans. The Department's objective of national coverage of cellular service is being met, and it is

confident that both market forces and the policy measures currently in place will see the continuation of further national coverage. **Given this, the Department will not impose a national roll-out requirement.**

The Department is however, of the view that the spectrum is a public resource that should be used in ways that serve the public interest. **As such, licensees will be required, as a condition of licence, to demonstrate that their spectrum is being put to use at a level acceptable to the Department within five years of the auction's close.** The Department recognizes that a variety of different business plans and technologies may be employed in these bands across markets of various sizes. In order to be technology-neutral and service-neutral, the Department is reluctant to specify service roll-out requirements in terms of specific technical measures. In fact, there may be a number of measures that will demonstrate an acceptable level of spectrum usage. One example of what could be considered an acceptable level of spectrum usage would be the establishment of coverage of at least 50% of the population within a service area within five years.

In the event that spectrum obtained in this auction has not been put to use at a level acceptable to the Department within five years of the close of the auction, the Department may begin a process to afford the licensee the opportunity to demonstrate why its licence should not be revoked. The Department may also facilitate discussions between holders of the spectrum who have not deployed services and potential local service providers wanting to provide PCS service to unserved or under-served areas through spectrum in the secondary market.

4.7.2 Lawful Interception

The Solicitor General commented, and asked that for non circuit-switched systems, the requirement to provide lawful interception capability be imposed via licence condition or other future legislative provision. The Department notes that the Solicitor General's *Enforcement Standards for Lawful Interception of Telecommunications* were written to apply to circuit-switched voice telephony systems and as such, the standards are not readily applicable to a packet-based environment using routers rather than traditional switches. Router-based networks pose a number of challenges to the provision of lawful interception capabilities in that routers may only receive a portion of a target's traffic, a target's traffic may be simultaneously routed through several routers at different points in a network, and routers permit customers to distribute traffic across several service providers.

Notwithstanding the technical complexities involved, the Department recognizes that electronic interception of personal communications under lawful warrant is an indispensable technique for law enforcement. However, recognizing as well that the technical and legal requirements to support lawful interception capabilities in new network technologies and topologies are still undefined and under development, the Department will only incorporate compliance with the

Solicitor General's current standard for circuit-switched voice telephony systems. **Applicants are nonetheless strongly advised to note that if standards are developed for router-based networks, the requirement to provide lawful interception capability for such traffic may be imposed via a licence condition or other future legislative provision.** The imposition of such a condition of licence is an example of the principle where, when the Department feels it is appropriate and in the public interest, conditions of licence may be imposed or amended to ensure that similar conditions of licence apply across the entire PCS band.

4.7.3 Resale and Roaming

Some respondents asked that a condition of licence be imposed to require roaming and resale. As part of the authorizations for the PCS spectrum assigned in 1995, conditions of licence were imposed requiring resale among PCS licensees and resale and roaming among cellular licensees and PCS licensees. The Department is of the view that these requirements have been instrumental in advancing national services. Hence, the Department will extend the obligations of the existing PCS and cellular licensees, under their existing conditions of licence, to provide for the resale and roaming of cellular and PCS services to the licensees of this licensing process. **For the licences awarded in this auction, the Department will also require by means of a condition of licence, the requirement to provide PCS resale to other PCS licensees on a non-discriminatory basis.**

It should also be noted that in Canadian Radio-television and Telecommunications Commission (CRTC), *Telecom Order CRTC 99-991*³, the Commission concluded that it would refrain from exercising its powers pursuant to a number of sections of the *Telecommunications Act* in regards to carriers offering public switched mobile voice services. However, the Commission retained certain oversight over these carriers, including section 27(2) dealing with unjust and discriminatory behavior.

4.7.4 Use of Safety Code 6 Tools

Some respondents suggested that new entrants be required to support the methodology and tools for measuring Safety Code 6 requirements developed by the Canadian Wireless Telecommunications Association. The Department strongly encourages all companies to consider all resources at their disposal to ensure that the Safety Code 6 requirements are met, however, this will not be imposed as a condition of licence.

³ Document available on the CRTC's Website at www.crtc.gc.ca

5. Microwave Transition Policy and Technical Considerations

The following section specifies the changes to the policy for the displacement of microwave users as a result of this licensing process as well as the technical requirements for the authorizations that will be issued.

5.1 Displacement of Microwave Incumbents

5.1.1 Licensed PCS Spectrum (1850-1890/1930-1990 MHz)

In the consultation paper, the Department sought comments on accelerating the existing transition provisions for all licensed PCS spectrum (1850-1910/1930-1990 MHz) so that Canadians, wherever they live, may benefit from PCS over a relatively short implementation period. A number of provisions were proposed that would accelerate the displacement process. Further, comments were also sought on whether, and to what extent, similar accelerated provisions should apply to the licence-exempt PCS (LE-PCS) spectrum in the sub-band 1910-1930 MHz.

Respondents offered general qualified support for accelerating displacement for the licensed PCS spectrum, while suggesting that the focus should be on displacement only where necessary. Support was qualified in that some respondents were concerned about the displacement provisions in rural and remote areas, while noting that a large number of fixed frequency assignments in larger urban areas and along some major highways have already been displaced since the transition policy was announced.

The majority of respondents did not support the proposed provision that required fixed microwave operators to file their migration plans with the Department by January 1, 2001. Respondents felt that this was an unnecessary administrative burden. Therefore, the Department will not require the filing of migration plans by fixed microwave operators by a specific date, however plans may be requested in the future on a case by case basis.

Taking all the comments into consideration, the Department hereby modifies, **effective January 1, 2001**, the 1995 PCS spectrum transition policy entitled *Policy and Call for Applications: Wireless Personal Communications Services in the 2 GHz Range* as outlined in Appendix 2.

5.1.2 Licence-exempt PCS (LE-PCS) Spectrum (1910-1930 MHz)

The respondents were divided in their support for the accelerated transition provisions for the Licence-exempt PCS (LE-PCS) spectrum band. The majority of respondents felt some of the provisions would be adequate, while acknowledging the arrangements reached within the LE-PCS Industry Advisory Group (IAG) for LE-PCS for non-nomadic devices. One respondent did not support the provisions as these low power devices are an unknown entity, and because no interference studies have been undertaken, they felt it would be too premature to accelerate.

The Department is of the view that many of the microwave installations in urban areas and in major corridors will be displaced due to the implementation of licensed PCS service. The IAG, is overseen by the Electro Federation of Canada, and represents suppliers and manufacturers. The IAG has done considerable work identifying where microwave installations may have to be displaced in order to enable the roll-out of non-nomadic PCS devices in large market areas. The IAG has involved the fixed microwave users in defining displacement requirements, and has developed consensus on where these LE-PCS devices should be rolled out.

The Department hereby modifies, **effective January 1, 2001**, the various sections of the 1997 transition policy for LE-PCS devices entitled Licence Exempt Personal Communications Services in the Frequency Band 1910-1930 MHz as outlined in Appendix 3.

5.2 Access Technology

The Department will adopt the same approach as is currently applied to the PCS band concerning the wireless access technology to be implemented in these blocks. The Department will not mandate any specific access technology and will require only that the technology chosen meets Standards Radio System Plan 510 (SRSP-510), *Technical Requirements for Personal Communications Services in the Bands 1850-1910 MHz and 1930-1990 MHz*, and Radio Standards Specification 133 (RSS-133), *2 GHz Personal Communications Services*.

SRSP-510 provides information on channelling plans, out-of-block emission limits, permissible EIRPs (effective isotropic radiated power) and antenna heights. RSS-133 provides standards for the certification of transmitters and receivers. The technical standards will be revised to align with the current policy and licensing procedures. Further, as the technical standards for 3G PCS may impact on the requirements provided in the above documents, the Department will monitor the evolution of the 3G PCS standards and will undertake a review of these documents if amendments are required.

5.3 Domestic Sharing Arrangements

Coordination may be required between licensees that have been licensed for similar spectrum in adjacent service areas. For this coordination, the Department will apply the same approach as outlined in the document, entitled *Interim Sharing Arrangement between Industry Canada and the Federal Communications Commission Concerning the Use of the Band 1850 to 1990 MHz*:

- The operation of PCS systems on either side of the service area will be best assured through coordination by the PCS systems operators.
- The development of sharing arrangements between operators in the adjacent areas is required for any PCS base station that exceeds the field strength of 47 dB μ V/m at any location at or beyond the area boundary, unless the PCS operators in the adjacent areas agree to a higher value.

The above sharing arrangements could include technical and/or business agreements, and they should permit service availability to users along the area boundaries.

5.4 International Coordination

Both Canada and the United States use the band 1850 to 1990 MHz for PCS under the terms of an interim sharing arrangement that provides for frequency sharing in the border area.

The operation of PCS systems that are within 120 km of the Canada/U.S. border shall comply with both domestic technical sharing criteria and the terms of any interim sharing arrangement between Industry Canada and the Federal Communications Commission (FCC) of the United States. The present arrangement is entitled *Interim Sharing Arrangement Between Industry Canada and the Federal Communications Commission Concerning the Use of the Band 1850 to 1990 MHz*. As per the terms of this arrangement, the licensee may be required to furnish all necessary technical data to Industry Canada for each relevant site for international coordination.

One respondent to the consultation felt there was no need to provide all technical data to Industry Canada. Under the current arrangement, technical data is exchanged between Canadian and American licensees who operate within the same bands in the same border areas. This respondent declared that this arrangement has proven to be workable to date. The Department's view remains that should the Department request technical information on a particular station or on a network, it must be submitted as outlined in Client Procedures Circular 2-1-10 (CPC-2-1-10), *Licensing of Personal Communications Services (PCS) in the 2 GHz Band*.

6. Licensing Process

The comments received in the consultation process indicated a general agreement with the Department's proposed steps for licensing the additional PCS spectrum in the 2 GHz frequency range. The process by which interested parties may apply to participate in the auction is set out below.

The Department makes no representations or warranties about the use of this spectrum for particular services. Applicants should be aware that this auction represents an opportunity to become a licensee, subject to certain conditions and regulations. An Industry Canada auction does not constitute an endorsement by the Department of any particular service, technology or product, nor does a spectrum licence constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture.

The Department expects that the actual bidding will commence in early November 2000. A summary of key dates associated with this licensing process is provided on the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>). Interested parties are advised to check the site for updates on the schedule of events.

Public information sessions to provide a general overview of this licensing process will be held in the weeks following the publication of this document. These sessions are for information only. The policies and rules associated with this licensing process are set out in their entirety in this document, and in any written amendment or supplement that may be issued by the Department. These sessions are scheduled between mid-July and early August 2000. The Department is also planning to host a Webcast of an information seminar for those unable to attend one of the live seminars. Interested parties are invited to visit the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>) to get further information on the location and scheduling of these sessions and to register for them.

6.1 Submissions

To participate in the auction, all applicants must submit a completed application form as well as their financial deposit. To ensure that all bidders are provided with adequate information on the identity of other bidders, all applicants must also attach to their application form details of the beneficial ownership for every entity that owns more than 10% of the applicant's voting shares, non-voting shares, partnership interests, or any other beneficial interests, as the case may be.

6.1.1 Financial Deposit

In order to enhance the integrity of the auction, the Department requires that all bidders submit a pre-auction financial deposit with their application to participate in the auction. The financial deposit is to be in the form of an irrevocable standby letter of credit. The elements of the letter of credit and a sample letter of credit acceptable to the Department are provided in Appendix 6.

The value of the pre-auction financial deposit will be based on the licences on which the applicant wishes to be eligible to bid. Each licence has been assigned a number of eligibility points (described in section 7.4), which are based on the population covered by the licence. The pre-auction financial deposit proposed in the consultation paper was approximately equal to \$100,000 per 100,000 in population per 10 MHz licence. However, given that the level of the opening bids is almost equal to the deposit amounts, the Department feels that it is appropriate to increase the level of deposit to ensure that the integrity of the auction is maintained. At the same time however, the Department does not want to disadvantage those applicants who may only be interested in obtaining spectrum in a few areas. **Therefore, the Department has decided that the financial deposit will be equal to \$50,000 per eligibility point for the first thirty points requested, and \$200,000 per eligibility point requested thereafter.** The total number of points associated with all 56 licences available in this auction is 1172, which would require a financial deposit of \$229,900,000 (30 X \$50,000 + 1142 X \$200,000). Appendix 7 of this document provides the eligibility points associated with each of the 56 licences. Note that the opening bids (described in section 7.5) and the required deposit are, in general, different amounts.

Financial deposit(s) will be returned to any applicant that is found not to be a qualified bidder, to any applicant that provides written notification to the Department of its withdrawal from the process prior to the auction's commencement, and to any bidder whose eligibility is reduced to zero during the auction and who is not potentially liable for any penalties.

6.1.2 Application Form

The form that is to be submitted to apply to participate in the auction is in Appendix 4 of this document. Additional copies of the form can be obtained electronically from Industry Canada's Strategis Web site at <http://strategis.ic.gc.ca/spectrum>, or in hard copy, for a fee, from: Tyrell Press Ltd., 2714 Fenton Road, Gloucester, Ontario K1T 3T7, 1-800-267-4862 (Canada toll-free telephone), 1-800-574-0137 (United States toll-free telephone), (613) 822-0740 (Worldwide telephone), (613) 822-1089 (Facsimile); and DLS, St-Joseph Print Group, 45 Sacré-Coeur Boulevard, Hull, Quebec J8X 1C6, 1-888-562-5561 (Canada toll-free telephone), (819) 779-4335 (Worldwide telephone), (819) 779-2833 (Facsimile).

Please note that additional corporate documentation may be required as attachments to the application form.

6.1.3 How to Submit the Application and Financial Deposit

The application form, the associated documents that may be required (as per the instructions provided on the various forms), and the financial deposit are to be physically delivered by 5:00 p.m., Eastern Daylight Time (EDT), August 28, 2000, to the Manager, Wireless Networks (address given in section 2). The Department reserves the right, under exceptional circumstances, to accept applications and associated documentation after this deadline, but prior to publication of the list of applicants.

Upon receipt of the application and the associated documentation, the Department will send notification to the applicant that the application materials have been received. The notification will confirm the amount of the deposit that has been submitted. This notice will in no way mean that the application materials or the deposit have been approved.

If, prior to the application deadline, an applicant wishes for any reason to amend any of the forms it has submitted and/or submit a new irrevocable standby letter of credit, it may submit one or more amended forms and/or a new irrevocable standby letter of credit with an accompanying letter explaining that the enclosed form(s) and/or letter of credit are to replace the one(s) previously submitted. Any such amendments are to be physically delivered to the Manager, Wireless Networks, at the address provided in section 2 by 5:00 p.m., Eastern Daylight Time (EDT), August 28, 2000.

Upon receipt of an amended form(s) and/or a replacement irrevocable standby letter of credit, the Department will send notification to the applicant that the amended form(s) and/or letter of credit have been received. The notification will state the amount of the new letter of credit that has been submitted. The initial irrevocable standby letter of credit will also be returned to the applicant. This notice will in no way mean that the amended form(s) or the additional deposit has been approved.

A list of all applicants will be made public via the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>) shortly after the closing date for receipt of applications. Copies of the list will also be available in hard copy, for a fee, from Tyrell Press Ltd. or St-Joseph Print Group Inc. The publication of this list will in no way mean that these applicants have been approved as qualified bidders.

6.2 Bidder Qualification

The Department will begin to review the application forms (and any associated documents) and the accompanying irrevocable standby letters of credit after the closing date for

submission of applications. In this initial review, the Department will identify any errors in the application forms or letter of credit. It will also determine any additional information related to any affiliate of the applicant if required. The Department anticipates that this initial review will be completed by mid-September 2000.

Following the initial review period, the Department will provide applicants with an opportunity to correct any errors or inconsistencies in their application or letter of credit that have been identified by the Department, and will request the required additional information related to affiliates, where applicable. The original applications may be returned to the applicant with a brief statement outlining the discrepancy(ies) and/or omission(s) or additional information may be requested. The applicant will be invited to resubmit the corrected form and/or the additional information, and to physically deliver this to the Manager, Wireless Networks, at the address provided in section 2 by the date specified on the statement.

Applicants who do not comply with this request will have their application to participate in the auction rejected. Applications that are rejected, including those for which an opportunity has been provided to correct errors or inconsistencies identified by the Department, but are still found to be deficient, will be returned to the applicant with a letter indicating they have been rejected. The letter will outline the deficiencies and will include the applicant's irrevocable standby letter of credit.

Those applicants who have submitted acceptable application materials, including the accompanying financial deposit, will receive a Qualified Bidder Certificate and the necessary software, instructions, and codes to allow them to utilize the Department's automated bidding system. This will include encryption software that will allow bids to be submitted securely over the Internet. Qualified bidders will also receive information on mock auctions and/or bidder information sessions that will be held in mid to late October 2000. These mock auctions and/or bidder information sessions will allow bidders to better familiarize themselves with the auction system. The initial schedule of the actual auction will also be provided at that time. The auction is expected to begin in early November 2000.

A list of all qualified bidders, the licences for which they are eligible to bid, and their initial level of eligibility points will be made public via the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>) in mid- to late September 2000. Copies of the list will also be available in hard copy, for a fee, from Tyrell Press Ltd. or the St-Joseph Print Group Inc.

6.3 Withdrawal of Application Forms

Applicants who wish to withdraw their application materials and have their irrevocable standby letter of credit returned may do so, without prejudice, by sending a written request to

the Manager, Wireless Networks, at the address provided in section 2. This request is to be physically delivered to the Manager, Wireless Networks, prior to 5:00 p.m. EDT on the business day preceding the opening of the auction.

6.4 Change of Information

Qualified bidders are to notify the Manager, Wireless Networks at the address provided in section 2 of any material changes in the information submitted in their application documents. Such notification is to take place within five business days of such change.

Should a qualified bidder wish to change their contact information or the name of one or more of the individuals named as “designated bidders”, they may do so by notifying the Manager, Wireless Networks. A request to change a designated bidder should be done prior to the installation of the encryption software.

6.5 Prohibition of collusion

Prospective bidders will note that the auction application form contains a declaration that the applicant will be required to sign certifying that the applicant has not entered, and will not enter into any agreements or arrangements of any kind with any competitor regarding the amount to be bid, bidding strategies, or the particular licence(s) on which the applicant or competitors will or will not bid. For the purposes of this certification, the word **competitor** means any entity, other than the applicant or its affiliates, who could potentially be a bidder in this auction based on its qualifications, abilities or experience.

Prospective bidders should note that “affiliate”, for the purposes of this policy (defined by reference to control in fact), differs from “affiliate” for the purposes of the *Competition Act*. As such, in order to avoid contravening section 47 of the *Competition Act*, a bidder who enters into such an agreement or arrangement with any one or more of its affiliates may have to make the agreement or arrangement known to the Department at or before the time that any subsequent agreement or arrangement is made.

6.6 Amendments and Supplements and Clarification Questions

The Department may amend or supplement the policies and rules contained in this document. Any such amendment or supplement will be published on the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>) and will be sent to all qualified bidders.

Written questions asking for clarification of rules or policies will be accepted. All questions received by the deadline, and the Department's written answers to these questions will be made public. Such answers will be considered as amendments or supplements to the policies and rules set out in this document.

Written questions are to be submitted by 5:00 p.m. EDT on August 11, 2000 to the Manager, Wireless Networks at the address provided in section 2, by fax to (613) 991-3514, or by e-mail to pcs.scp@ic.gc.ca. The Department will publish the questions and its responses on the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>) as soon as possible after the deadline for receipt. Copies of the questions and answers will also be available in hard copy, for a fee, from Tyrell Press Ltd. or St-Joseph Print Group Inc.

From time to time, the Department will also update the list of “frequently asked questions” (FAQ) on the Website, however these questions and their responses are for information purposes only and will not form part of the official policy.

6.7 Software Requirements

The Department's automated auction system features a user-friendly Web browser interface. The auction will be run over the Internet, and bids will be encrypted and digitally signed to ensure security and authentication. Each entity that is qualified to participate in the auction may designate up to three individuals to submit bids on its behalf.

The results of each round will be accessible to bidders through the auction system. These results will also be posted on the Department's Strategis Web site (<http://strategis.ic.gc.ca/spectrum>) so that anyone who is interested may monitor the auction's progress. Bid tracking software that can be used to analyse round results will be made available to the public. It is important to note, however, that the Department will not be providing any form of user support for this bid tracking software.

To access and run the Department's auction software with maximum performance, the following are required:

- A Pentium 133 MHz microprocessor or better
- At least 32 megabytes of RAM
- A CD-ROM drive
- A minimum of 150 Mb of free disk space
- Supported operating systems: Windows 95®, 98® or Windows NT® version 4
(Note: This application does not run on Macintosh or Unix-based computers)
- Netscape® version 4
- Internet access with a reliable connection to the Canadian Internet backbone by a 56 Kbps modem (or faster) or a cable modem via an Internet service provider (ISP)

It is strongly suggested that participants use a freshly-installed PC so that the Entrust PKI software does not conflict with any other applications or previously installed versions of PKI

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software. It is also strongly recommended that participants use a dial-up or cable ISP rather than Internet access via a local area network to minimize difficulty with network configurations, firewalls, proxies, and the PKI infrastructure.

7. Auction Design and Rules

7.1 General

The Department proposed a simultaneous multiple-round auction similar to the auction of the 24 and 38 GHz bands. Many respondents acknowledged that this auction operated efficiently, and that such an auction would be appropriate for assigning the PCS spectrum licences. Therefore, with the exception of a few minor changes (see tie bids below and section 7.10 for changes), the Department will use the same single-increment, non-discretionary bidding software system as was used in the 24 and 38 GHz auction.

7.2 Overview of the Simultaneous Multiple-round Auction

The auction will be run electronically over the Internet, and bidders will be able to participate remotely from their premises using a secure Internet connection. The key features of the simultaneous multiple-round auction that will be used are listed below.

- The rules for the simultaneous multiple-round auction call for a related set of licences to be offered at the same time. Bidding is organized into a series of rounds. The identities of all bidders, the licences on which they are qualified to bid, and their initial levels of eligibility points will be made public prior to the commencement of bidding. As well, full information on the bids placed by all bidders will be made available after each round.
- New bids for a licence are non-discretionary. The Department will state the exact level of an acceptable new bid. The new bid will typically be determined by raising the standing high bid by some pre-established bid increment. Bidders will have no discretion to choose a higher bid; rather, they will simply choose whether or not to submit the new bid. This non-discretionary format allows rounds to be more brief and more frequent, because the mechanics of entering and checking bids are simpler, and because the prices never “jump” by unexpected amounts, making them more predictable. This also reduces the need for frequent executive oversight during the bidding, saving costs for the bidders.
- When two or more bids are submitted on the same licence in the same round, a tie bid occurs and the standing high bidder in the next round will be determined by a random selection process designed into the auction software. This is a slight deviation from the software used for the 24 and 38 GHz auction where the standing high bidders were determined by a “time-stamp rule”.
- In each round, bidders are offered an opportunity to withdraw bids made in previous rounds, subject to the penalties specified in section 7.7.

- A minimum pace of bidding in the auction is established by the “activity rule”, which penalizes bidders who are inactive by reducing their “bidder eligibility points”.
- The rounds continue until there is a round in stage three in which no new bids, withdrawals, or pro-active waivers are submitted. The standing high bidders on each licence at the auction's close will be deemed the provisional winners of those licences.

All these details of the auction format are discussed more fully below.

7.3 Auction Stages

There will be three stages of the auction, each containing an unspecified number of bidding rounds. The auction will begin and continue in stage one until bidding activity declines to a low level, as determined by the Department, e.g. three consecutive rounds in which new bids are placed on licences, representing ten percent or less of the total points associated with all licences up for bidding. At that time, the Department will have the discretion to move to the next stage, although bidders will be notified in advance of this decision through the message function of the automated auction system. A similar decision will be made later in the auction to move to stage three. When bidders are notified of an upcoming stage transition, there will always be at least one more round in the current stage before that transition occurs.

Bidders are advised to be especially careful about checking their required activity levels after a stage change has occurred.

7.4 Bidder Eligibility Points

Each of the 56 licences has been assigned a specific number of eligibility points (“points”) that are approximately proportionate to the population covered by the licence. One eligibility point is approximately equal to 100,000 in population per 10 MHz licence. Refer to Appendix 7 for a listing of the points for each licence and the population of each service area. In their application, each applicant must indicate the total number of “points worth” of licences on which they wish to bid in any round. This number defines the initial level of bidder eligibility points of an applicant, and is also used to determine the financial deposit that must be submitted with the application. Bidder eligibility points may not be increased. The financial deposit is equal to \$50,000 per eligibility point for the first thirty points and \$200,000 per eligibility point requested thereafter. The total number of points associated with all 56 licences available in this auction is 1172, which would require a financial deposit of \$229,900,000 (30 X \$50,000 + 1142 X \$200,000). When determining their desired initial level of eligibility points, applicants must take into account their existing spectrum holdings in each of the 14 service areas. Regardless of the financial deposit submitted by any bidder, no bidder will be given more eligibility points than it can possibly use without violating the

spectrum aggregation limits. As part of their application material, companies must submit details outlining their total existing spectrum holdings in each of the 14 areas, which will be verified by the Department in determining the initial level of eligibility points assigned.

In the event that the value of an applicant's requested level of points exceeds the amount of the deposit submitted, then that applicant's points will be determined by the value of the deposit submitted and the amount permitted by the spectrum aggregation limit.

Examples:

Bidder X has 30 MHz of spectrum holdings that are subject to the spectrum aggregation limit in each of the 14 service areas. Thus, in this auction, bidder X could bid on 20 MHz of additional spectrum in each of the 14 service areas. The eligibility points associated with this 20 MHz of spectrum in all 14 areas would be 586 and the corresponding financial deposit would be \$112,700,000 (30 X \$50,000 + 556 X \$200,000)).

Bidder Y has 30 MHz of spectrum holdings in all service areas except for Alberta (area 12) where they have no spectrum holdings. Thus, in this auction bidder Y could bid on 20 MHz of additional spectrum in all service areas except Alberta, where it is eligible for 40 MHz. The eligibility points associated with this bidder's maximum holdings permitted under the spectrum aggregation limits would be 646 (120 points for Alberta and 526 points for the other 13 service areas) and the corresponding financial deposit would be \$123,200,000 (30 X \$50,000 + 616 X \$200,000))

7.5 Opening Bids

The Department believes that the spectrum being offered in this auction has a significant value, and is confident that the revenues generated in the auction will cover the relevant spectrum management costs and provide fair compensation to the Canadian public for the use of their spectrum resource. Therefore, the establishment of irreducible reserve prices is likely unnecessary. In order to “kick-start” the auction and avoid unnecessary delays in ultimately assigning licences, the Department has proposed the establishment of minimum opening bids. These opening bids were conceptually linked to the licence fee revenue generated by licences for similar spectrum in the 800 MHz cellular and 2 GHz PCS bands. The Department has calculated an estimate of the total amount of licence fees that the ‘C’ and ‘E’ blocks would provide over the licence term if they were licensed by traditional means.

Most respondents to the consultation document agreed with the absolute level of the opening bids proposed by the Department. However, to reduce the barriers to entry in the less populated areas, the Department will adopt a three-level schedule (similar to that suggested by one of the respondents), linking the absolute number of people in a service area to the amount of the opening bid per point as follows:

- the opening bid is \$20,000 per point for service areas with a population less than 300,000;
- the opening bid is \$60,000 per point for service areas with a population greater than 300,000 but less than 2,000,000; and
- the opening bid is \$120,000 per point for service areas with a population greater than 2,000,000.

One eligibility point corresponds approximately to a 10 MHz of spectrum and a population of 100,000. Refer to Appendix 7 for a list of the opening bids for each of the 56 licences.

If no bids have been received on a licence in the initial rounds of the auction, the Department reserves the right to reduce the minimum opening bid for that licence. Any such reductions would be made in the first stage of the auction. Changes to acceptable bids will be announced to bidders via the message feature of the auction software in the round in which licences are offered at the reduced bid amount.

7.6 Activity Rule

A bidder is defined to be active on a particular licence in a given round if either it has the standing high bid from the previous round and has not withdrawn that bid, or if it submits a new bid in that round. A bidder begins any round with “bidder eligibility points” that determine its maximum activity level for that round. In Round 1, a bidder’s eligibility points are determined by its deposit (see section 7.4). Bidder eligibility points may not be increased. In subsequent rounds, a bidder’s eligibility points are determined by the bidder’s activity levels and the “activity requirement” in that stage of the auction. If bidders wish to maintain their eligibility points from the previous round, their activity level must correspond to a certain percentage of their eligibility points. This percentage is called the “activity requirement” and will vary depending upon the stage of the auction.

If bidders wish to maintain full eligibility, they must be actively bidding on licences whose points correspond to a certain percentage of their “bidder eligibility points”. This percentage will vary depending upon the stage of the auction:

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- in the first stage, the Department expects the figure to be in the range of 60% to 80%;
- in the second stage, the Department expects the figure will be increased to between 80% to 90%; and
- in the final stage, the figure will be increased to 100%.

The precise figure for the initial activity requirement will be communicated to all qualified bidders well before the auction begins. A bidder may also use an “activity rule waiver” (described in section 7.9) to maintain eligibility for a round.

If a bidder falls short of the required activity level in any round, the bidder’s eligibility point level shrinks proportionately so that the total “points worth” of licences on which it may bid in the next round will be equal to its actual activity level in the current round, multiplied by the reciprocal of the required activity level (e.g. 1/60% in stage one). It is important to note that where this calculation results in a required activity level that is not a whole number, the auction software system will round this number **up** to the next highest integer to determine the minimum activity level required to remain eligible to bid on the same “points worth” of licences in the next round. Similarly, when determining the level of points for the next round, if the product of the actual activity level and the reciprocal of the activity level is not a whole number, then this number is rounded **down**.

It is also important to note that a bidder will not add to its activity level by topping its own standing high bid on a licence. The bidder will be considered active on that licence by virtue of it being the standing high bidder.

Examples

1. *Bidder X has 180 eligibility points. The auction is in the first stage and the required activity level is 60%. To maintain full eligibility, Bidder X must bid on licences worth 108 points. If Bidder X is active on 110 points worth of licences, it will maintain its full eligibility of 180 points in the next round.*
2. *Bidder Y has 39 eligibility points. The auction is in the second stage and the required activity level is 80%. To maintain full eligibility, Bidder Y must be active on 32 points worth of licences in the current round (80% of 39 points gives 31.2, or 32 when rounded up). If Bidder Y is active on only 17 points worth of licences, then its eligibility in the next round will be 21 points (17 times (1/80%)) = 21.25, which is rounded down to 21).*

3. *Bidder Z has 12 eligibility points. The auction is in the final stage and the required activity level is 100%. Bidder Z is active on 8 points worth of licences. In the next round, Bidder Z will only be able to bid on licences worth a total of 8 points (8 times (1/100%)) = 8.*
-

7.7 Withdrawal of Bids and Related Penalties

Bidders will be given the opportunity to withdraw their standing high bids but, to encourage meaningful bids and to ensure that no loss of revenue occurs as a result of such withdrawals, a bid withdrawal penalty corresponding to the potential loss of revenue caused by this withdrawal will be imposed. If the licence for which the bid has been withdrawn ends up selling - either in that auction or in a subsequent re-auction - for more than the withdrawn bid, then generally, no penalty will be charged. However, if the licence ultimately sells for less than the withdrawn bid, the penalty will be the difference between the withdrawn bid and the final selling price. To reduce the overall time of the auction, while not compromising efficiency, the Department will allow bidders to place new bids and/or withdraw previously submitted bids at the same time during a round, rather than having two distinct phases - one for bid submission and one for bid withdrawal - during each round. Note that if a bidder withdraws a bid on a licence in a round, the bidder is not considered to be active on that licence for that round and, therefore, unless bids are submitted on other licences, the bidder's eligibility points may decline.

When a standing high bid is withdrawn on a licence, and assuming that no new bids are submitted on that licence in that round, the status of standing high bidder on that licence will revert to Industry Canada in the next round, and the acceptable bid for the next round will be equal to the value of the withdrawn bid. If there is no bidding activity on that licence, then the Department reserves the right to reduce the required bid amount in a later round. The level of reduction will be determined by considering factors such as the stage of the auction and past bidding on that licence and similar licences.

In order to deter the potential misuse of withdrawals as a signalling mechanism or as a means of unduly delaying the auction's close, the Department will impose additional penalties on a bidder **once that bidder has withdrawn standing high bids in more than five rounds of the auction**. For every additional withdrawn standing high bid, this penalty will be equal to the greater of: (a) 2% of the value of the withdrawn standing high bid; or (b) \$100,000, and will be **in addition to the "standard" withdrawal penalties described above**. This penalty will be assessed regardless of whether the ultimate selling price of the licence is above or below the withdrawn bid.

Examples:

Bidder X has made no withdrawals in the first seven rounds of the auction. In round 8, Bidder X withdraws a bid of \$100,000 on Licence 2. Licence 2 is eventually sold for \$80,000. Since the ultimate selling price of the licence is below the withdrawn bid, Bidder X owes a “standard” withdrawal penalty of \$20,000.

Bidder Y withdraws one or more standing high bids in each of five different rounds, say, rounds 4, 7, 12, 19 and 24. The “standard” withdrawal penalties for these withdrawals will be calculated as the difference between the withdrawn bids and the eventual final selling prices of these licences, assuming the former is greater than the latter. Any withdrawals made by Bidder Y in round 25 and beyond will now be subject to the “standard” withdrawal penalty, plus the additional maximum of 2% of the withdrawn bid or \$100,000. For example, if in round 28, Bidder Y withdraws bids on one licence worth \$90,000 and another licence worth \$20,000,000, the additional withdrawal penalties would be \$100,000 and \$400,000, respectively. The penalties would be assessed regardless of whether the ultimate selling price of the licences exceeded their withdrawal bids.

7.8 Bid Increments

Bid increments, like activity rules, are necessary to hasten the auction’s progress. To be acceptable, a new bid must be larger than the current standing high bid by the bid increment. Bid increments will be calculated both as a percentage of the standing high bid and in absolute terms of dollars per point. When a licence receives a new bid, the larger of the two increments will be applied to determine the acceptable bid price for the next round. The new bid price for that licence will be rounded up to the nearest three significant digits.

These will vary with the auction stages. In the early rounds of the first stage, the percentage increment will be set at the higher of 15% of the standing high bid (rounded up to the nearest three significant digits) and the absolute increment, which will be set at \$10,000/eligibility point. As the auction progresses, these increments will be changed to allow bidders greater precision in their bids and to keep the auction moving forward at an acceptable pace. Contemplated changes to the bid increment levels will be announced to bidders well ahead of their implementation.

7.9 Activity Rule Waivers

Activity rule waivers (waivers) are designed to prevent a bidder from losing eligibility when it does not satisfy the activity requirements in a given bidding stage. The purpose of waivers

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is to protect bidders against possible mistakes they might make during the course of the auction or to allow them to maintain eligibility in the case of technical or communication problems

During the auction, when a bidder submits bids that are below the required activity level, a warning message will appear, advising them of this situation and telling them that they may either submit these bids along with a waiver to maintain full eligibility in the next round, or not submit a waiver and accept a reduction in points for the next round.

The use of the waiver is the default setting in the automated auction system. Thus, if technical problems prevent a bidder from accessing the auction system, a waiver will automatically be submitted on the bidder's behalf, and their points will remain unaffected for the next round. If a bidder has used all of its waivers, then the "use a waiver" option will not appear, and an automatic waiver will not be submitted on their behalf.

To provide bidders with the opportunity to take a reasonable "time-out", bidders will be given more waivers as the number of rounds per day increases. The Department expects that for the first day or two of the auction, only one or two rounds per day will be held. As the auction progresses, up to ten or fifteen rounds may be held per day. Each bidder will be given five waivers at the beginning of the auction.

When number of rounds per day becomes:	Each bidder will be given this many waivers in addition to the number it has remaining:	Total of waivers remaining if none were used:
6 to 8	3	8
9 to 10	2	10
11 to 15	5	15

Example:

At the opening of the auction, all bidders begin with five waivers. During the first week of the auction, only two rounds of bidding are held per day.

Bidder X uses one waiver during the first week, and thus begins Week 2 with four waivers. Bidder Y uses no waivers during the first week, and thus begins Week 2 with five waivers.

During Week 2, there are five rounds of bidding per day. Neither Bidder X nor Bidder Y use any waivers during Week 2. It is announced that during Week 3, there will be seven rounds of bidding per day. Thus, all bidders are given an additional three waivers at the beginning of Week 3. During Week 4, the number of rounds is increased to ten rounds, and each bidder is given two additional waivers at the beginning of Week 4. Assuming that neither bidder has used any more waivers, Bidder X will now have nine waivers, and Bidder Y will have ten waivers.

In stage three, bidders may also submit waivers “pro-actively” to prevent the auction from closing. This is discussed below in section 7.11.

Bidders are advised to use their activity rule waivers judiciously.

7.10 Penalty for Exceeding Spectrum Cap Aggregation

In the consultation paper, the Department suggested it may allow companies to bid on spectrum, which would exceed the spectrum aggregation limits. However, as there is also a potential for this to be used to preclude other bidders from gaining access to the spectrum, the Department has decided this will not be permitted. **Therefore, bidders will incur a penalty for each round in which their new bids and standing high bids, when combined with their current spectrum holdings for an area, exceed the spectrum aggregation limit of 55 MHz. The penalty will be equal to the greater of: (a) 3% of the value of all bids placed in that round on licences in service areas where the spectrum aggregation limit is exceeded or (b) \$100,000 for each area where, the sum of the bidder’s current spectrum holdings and the spectrum associated with its bids exceed the spectrum aggregation limit. This penalty will be assessed in addition to any applicable withdrawal penalties. Moreover, for each round in which a bidder exceeds the spectrum aggregation limit, the bidder will lose one of its waivers. If the bidder does not have any available waiver, future waiver allocations will be reduced accordingly.**

7.11 Proactive Waivers

Bidders will also be able to submit “proactive” waivers to prevent the auction from closing. Once in the final stage, the auction will tentatively close when a round goes by without any bids or withdrawals being submitted (refer to section 7.14). At that time, bidders will be advised, via the automated auction system, that the auction will close unless a proactive waiver is submitted. Bidders may submit such a proactive waiver by calling a specified telephone number within a specified time period.

All bidders who call within the specified time period to submit a proactive waiver will have one of their waivers deducted, and the auction will continue. If no proactive waivers are submitted within the specified time period, then the auction will close.

7.12 Back-up Procedures

Bidders are strongly advised to prepare contingency plans and back-up facilities and locations, including multiple means of accessing the Internet, in the event of technical difficulties at their primary bidding locations. As discussed above, all bidders will also receive a number of activity rule waivers, which will protect their eligibility point level for several rounds in case they are unable to access the auction system.

In the *Application to Participate in the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range* (see Appendix 4), applicants are requested to designate up to three individuals who will have authority to place bids on behalf of the applicant. Each designated bidder will receive separate software packages and codes to participate in the auction. Having more than one individual designated as a “bidder” will strengthen back-up contingency plans for applicants in case there are unforeseen problems.

As a last resort, the Department will also provide a limited back-up facility for bidders who experience technical difficulties that prevent them from accessing the auction system. Bidders can call the Auction Centre to have Departmental staff submit bids on their behalf. Only the individuals listed as designated bidders will be able to submit back-up bids using this procedure. The telephone number for the Auction Centre will be provided to the qualified bidders prior to the start of the auction.

Departmental resources available for this task will be limited, and hence, it is possible that bidders will have to wait to have their bids submitted. **Bidders must call early enough in the round to ensure that there is sufficient time for their bids to be submitted. Rounds will not be extended to provide extra time for the submission of back-up bids. While the Department will make the best effort to submit bids on behalf of bidders, the Department assumes no responsibility if such bids are not submitted.**

The Departmental representative taking such calls will use a prepared script and bidders must adhere to this script by giving the required information to the Departmental representative. All telephone transactions will be recorded.

The Department will prepare lists of one-time transaction code keys, which will be used to authenticate the back-up bids transmitted by telephone. Each bidder will be issued a list of transaction code keys, each of which will be made up of eight randomly generated numbers.

No two lists will be the same. Bidders will be bound by any bid made with their transaction code keys, as agreed to in the Deed of Acknowledgement (refer to Appendix 5).

7.13 Withdrawal from the Auction

A bidder may have its irrevocable standby letter of credit returned to it upon presentation of a written request to the Manager, Wireless Networks (address provided in section 2) if:

- the bidder's points are reduced to zero during the auction;
- the bidder is not potentially liable for any penalties; and
- the bidder is not the standing high bidder on any licence.

Upon receipt of such a request, the Department will confirm that the conditions outlined above have been met and will then return the irrevocable standby letter of credit to the bidder.

7.14 Closure of the Auction

The auction will not close until stage three has been reached. **Once stage three has been reached, the auction will close when a round concludes with: (a) no bids or withdrawals being submitted and (b) no proactive waivers having been submitted.** Entering and removing the same bid within a single round will not prevent the auction from closing.

In **exceptional** circumstances, and after all participants have been notified in advance, any round can be declared as the final round. Similarly, exceptional circumstances, such as a natural disaster, may result in the auction being delayed, suspended or cancelled.

The standing high bidders on each licence at the auction's close will be declared the provisional winners of those licences.

Licences that go unsold will be offered in a re-auction that will begin between six and twelve months after the close of the initial auction.

8. Post-auction Procedures

8.1. Bid Payment

Within **ten business days** of the auction's close, each provisional licence winner will be required to submit a payment with a value equal to twenty percent of the sum of its standing high bids plus one-hundred percent of the sum of any penalties that it has incurred. This payment will be non-refundable. If the provisional licence winner fails to make this initial payment within the specified period, then the provisional licence winner's irrevocable standby letter of credit will be drawn upon. If the value of the provisional licence winner's irrevocable standby letter of credit, combined with any partial payment, is less than the required amount, then the provisional licence winner will forfeit its right to have the licence(s) issued to it and the provisional licence winner will be subject to the applicable forfeiture penalties. A payment for the remaining eighty percent of the total of the high bids will be due within **thirty business days** of the auction's close. If the provisional licence winner fails to make this final payment within the specified period, then the provisional licence winner's irrevocable standby letter of credit will be drawn upon. If the value of the provisional licence winner's irrevocable standby letter of credit, combined with any partial payment, is less than the required amount, then the provisional licence winner will forfeit its right to have the licence(s) issued to it and again, the provisional licence winner will be subject to the applicable forfeiture penalties.

A provisional licence winner who is in default of payment may not selectively forfeit on a subset of the licences on which it placed the high bid. If all required payments are not received, then the provisional licence winner will forfeit its right to have any PCS licence issued to it.

All payments must be made by certified cheque, , bank draft, or wire transfer, payable to the Receiver General for Canada, drawn on a financial institution that is a member of the Canadian Payments Association.

It is important to note that these bid payments for the initial ten-year term are in lieu of any fees fixed for the radio authorization under the *Radiocommunication Act* or any other Act.⁴

8.2 Penalties Payment

After the auction's close, the sum of the standing high bids and the sum of any withdrawal penalties and other penalties incurred will be calculated for all bidders. If the total value of withdrawal penalties cannot be calculated at that time because one or more licences remain

⁴ As per subsection 5(1)(1.3) of the *Radiocommunication Act*.

unsold, the full value of the withdrawn bid will be used as an interim proxy for the value of the withdrawal penalty⁵. For each bidder, one of the scenarios laid out below will apply.

- If the sum of a bidder's standing high bids equals zero and the sum of its penalties equals zero, then that bidder's irrevocable standby letter of credit will be returned to it.
- If the sum of a bidder's standing high bids equals zero and the sum of its penalties is greater than zero, then that bidder will be required to submit a payment for the full amount of the penalties within ten business days. If payment for the full amount of the penalties is not received by the Department within ten business days, then the bidder's irrevocable standby letter of credit will be drawn upon for the full amount of the penalties. If the full amount of the irrevocable standby letter of credit is less than the full amount of the penalties, then the difference will be owing and payable to the Receiver General for Canada.⁶
- If the sum of a bidder's standing high bids is greater than zero and the sum of its penalties is equal to zero, then that bidder will be required to: (1) submit payment with a value equal to twenty percent of the sum of the standing high bids within ten business days; and (2) submit a second payment with a value equal to eighty percent of the sum of the standing high bids within thirty business days. If either of the required payments is not received by the Department within the specified time frames, then the bidder's irrevocable standby letter of credit will be drawn upon for the amount in question. If the value of the irrevocable standby letter of credit, combined with any partial payment, is less than the required amount, then the bidder will forfeit its right to have the licence issued to it and will be subject to the forfeiture penalties discussed in section 8.3.
- If the sum of a bidder's standing high bids is greater than zero and the sum of its penalties is greater than zero, then that bidder will be required to: (1) submit payment with a value equal to twenty percent of the sum of the standing high bids plus one-hundred percent of the sum of the penalties within ten business days; and (2) submit a second payment with a value equal to eighty percent of the sum of the standing high bids within thirty business days. If either of the required payments is not received by the Department within the specified time frames, then the bidder's irrevocable standby letter of credit will be drawn upon for the amount in question. If the value of the irrevocable standby letter of credit, combined with any partial payment, is less than the required

⁵ Suppose that a bid of \$100,000 was withdrawn on licence X during the auction and that no new bids were placed on that licence thereafter. The ultimate selling price of licence X will not be known until a subsequent re-auction and hence the value of the withdrawal penalty cannot be calculated until that time. The full value of the withdrawn bid, \$100,000, would be used as the interim proxy withdrawal penalty until the re-auction.

⁶ If a re-auction results in the calculated values of final withdrawal penalties being different from the interim proxy values, then the difference will be refunded to the bidders in question.

amount, then the bidder will forfeit its right to have the licence issued to it and will be subject to the forfeiture penalties discussed in section 8.3.

Example:

Bidder X withdrew a bid of \$150,000 on Licence 1, which was eventually won by Bidder Y for \$130,000. Bidder X withdrew a bid of \$120,000 on Licence 2, which remained unsold at the auction's close. At the auction's close, Bidder X was the standing high bidder on Licence 3 for \$250,000 and Licence 4 for \$300,000. In a re-auction six to twelve months after the close of the initial auction, Licence 2 sold for \$90,000.

At the auction's close, the sum of Bidder X's standing high bids is \$550,000, and the sum of Bidder X's withdrawal penalties is \$140,000 (withdrawn bid of \$150,000 less final selling price of \$130,000 equals withdrawal penalty of \$20,000 for Licence 1 and withdrawn bid of \$120,000 equals interim proxy withdrawal penalty of \$120,000 for Licence 2).

Within ten business days, Bidder X must submit payment for \$250,000 (20% of the value of the standing high bids equals \$110,000 and 100% of the value of the withdrawal penalties equals \$140,000). Within thirty business days, a payment for an additional \$440,000 will be required.

When the re-auction for Licence 2 is held, the correct withdrawal penalty for Bidder X can be calculated as \$30,000. Bidder X will then be refunded \$90,000.

8.3 Bid Forfeiture and Related Penalties

After the conclusion of the auction, any bidder who has submitted the high bid on a licence but fails to comply with the specified payment schedule or, as outlined in section 8.4, fails to come into compliance with the eligibility requirements of the *Radiocommunication Regulations*, will forfeit its right to the licence. Furthermore, the bidder will be required to pay a penalty in the amount of the difference between the forfeited bid and the eventual selling price of the licence (in a subsequent re-auction), if the re-auction price is lower than the forfeited bid⁷. If the licence is not sold in the re-auction, then the re-auction price will be deemed to be zero and the penalty will be calculated accordingly. An additional amount equal to the greater of (a) 3% of the original or forfeited bid; or (b) \$100,000 for each forfeited bid will be charged, regardless of the re-auction price.

⁷ Suppose that a bid of \$1,000,000 was forfeited on licence X after the auction. The ultimate selling price of licence X will not be known until a re-auction and hence the value of the forfeiture penalty cannot be calculated until that time. The full value of the forfeited bid plus 3% (\$1,100,000 in this example) would be used as the interim proxy forfeiture penalty until the re-auction.

In the event of licence forfeiture, the bidder's irrevocable standby letter of credit will be drawn upon for the full amount of the interim proxy forfeiture penalty. If the interim proxy forfeiture penalty is greater than the full amount of the bidder's irrevocable standby letter of credit, then the difference will be owing and payable to the Receiver General for Canada.⁸

Any bidder who forfeits on a licence, and any affiliate will be ineligible to bid on the licence in the re-auction.

8.4 Eligibility Documentation

Bidders who are provisional licence winners will be required to submit documentation related to their compliance with Condition of Licence 4, "Eligibility Criteria", discussed in section 9 of this policy document. The provisional licence winner must submit the *Declaration of Ownership and Control* (see Appendix 8), as well as all documents listed therein, within ten business days of the auction's close.

The Department will review these documents on an expeditious basis. The Department will then notify each provisional winner as to its compliance with the Canadian ownership and control requirements. In the event that 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. If the provisional winner fails to comply with the Canadian ownership and control requirements within sixty days of being notified by the Department of the required changes, then the provisional licence winner will forfeit its right to have any licences offered in this auction process issued to it and will be subject to the penalties outlined in section 8.3.

8.5 Enforcement of Spectrum Aggregation Limits

The spectrum aggregation limits discussed in section 3.3 of this document will be enforced as described below.

During the course of the auction, bidders who place bids on licences whose total bandwidth exceeds the spectrum aggregation limit will be subjected to the penalties outlined in section 7.10. **In addition, any bidder who, at the auction's close, is the standing high bidder on licences such that it and its affiliates will exceed the aggregation limit in any service area must forfeit bids on all licences in this service area.** The forfeiture penalties discussed in section 8.3 will apply.

⁸ If a re-auction results in the calculated values of final forfeiture penalties being different from the interim proxy values, then the difference will be refunded to the bidders in question

The spectrum aggregation limit will also be enforced when a licence is transferred in the secondary market or when the transfer of an ownership interest in a successful applicant is effected.

8.6 Issuance of Licences

A provisional winner of spectrum licences will have those licences issued to it on completion of the following: (1) payment of the sum of its standing high bids and the sum of its penalties, if any; and (2) a determination by the Department that the Canadian ownership and control requirements have been met. Depending on the complexity of the provisional winner's ownership and control structure and the responsiveness of the winner providing any required additional documentation, this determination may take several months to complete.

9. Licence Conditions

The following conditions will apply to the spectrum licences awarded through the auction of the additional PCS spectrum in the 2 GHz frequency range. Please note, that the spectrum licences that are issued pursuant to this auction will also continue to be subject to the relevant provisions of the *Radiocommunication Act* and the *Radiocommunication Regulations*.

1. Licence Term

The term of this licence will be ten years from the date of licence issuance. At the end of this term and any subsequent terms, the licensee will have a high expectation of renewal for a further ten-year term unless a breach of licence condition has occurred, a fundamental re-allocation of spectrum to a new service is required, or an overriding policy need arises.

A public consultation regarding the renewal of the licence will commence no later than two years prior to the end of the licence term if the Department foresees the possibility that it will not renew this licence or if renewal fees are contemplated.

It should be noted that the licence is subject to relevant provisions in the *Radiocommunication Act* and the *Radiocommunication Regulations*. For example, the Minister continues to have the power to amend the terms and conditions of the spectrum licence (paragraph 5(1)(b) of the *Radiocommunication Act*). Such powers would be exercised on an exceptional basis, and only after full consultation.

2. Licence Transferability and Divisibility

The licensee may transfer its licence(s) in whole or in part (divisibility), in both the bandwidth and geographic dimensions. The area transferred in the geographic dimension may be no smaller than a single spectrum grid cell. A spectrum grid cell is a six-sided figure with an area of 25 square kilometres. The grid cells fit together in an interlocking pattern over the geography of Canada. No minimum limit will be imposed on the amount of spectrum transferred in the bandwidth dimension.

For each proposed transfer of this licence, the licensee must provide a written notification to the Department. The transferee(s) must also provide an attestation (or other appropriate documentation) that it meets the eligibility criteria and all other conditions of this licence. The Minister of Industry reserves the right, prior to transferring the licences, to request additional documentation to determine if the transferee(s) complies with the appropriate

eligibility requirements. The transferee(s) must also provide an attestation (or other appropriate documentation) that it will meet the appropriate conditions of licence.

For the purposes of this condition, the "transfer" of a licence includes any leasing, subleasing or other disposition of the rights and obligations of the licence.

3. Spectrum Aggregation Limit

The licensee must comply with the spectrum aggregation limits outlined in Radio Systems Policy 021 (RP-021), *Revision to the PCS Spectrum Cap and Timing for Licensing Additional PCS Spectrum*, published November 5, 1999. The spectrum aggregation limit within a service area consists of spectrum licensed to the licensee and to its affiliates. The licensee must notify the Minister of any change that would have a material effect on its compliance with these spectrum aggregation limits. Such notification must be made in advance for any proposed transactions within its knowledge.

4. Eligibility Criteria

The licensee will employ the radio frequencies that are the subject of this licence as a radiocommunication carrier in order to operate one or more interconnected radio-based transmission facilities (any radio apparatus that is used for the transmission or reception of intelligence to or from anywhere on a public switched network) that may be used by the licensee or another person to provide radiocommunication services for compensation.

The licensee acting as a radiocommunication carrier must comply on an ongoing basis with the eligibility criteria in subsection 10(2) of the *Radiocommunication Regulations*. The licensee must notify the Minister of Industry of any change that would have a material effect on its eligibility. Such notification must be made in advance for any proposed transactions within its knowledge. For more information, refer to Client Procedures Circular 2-0-15 (CPC-2-0-15), *Canadian Ownership and Control*, as amended from time to time.

5. Displacement of Microwave Incumbents

The licensee must comply with the revised transition policy outlined in Appendix 2 and relocation procedure for the relocation of incumbent microwave stations outlined in Client Procedures Circular 2-1-09 (CPC-2-1-09), *Displacement of Fixed Service Stations Operating in the 2 GHz Frequency Range to Accommodate Licensed Personal Communications Services (PCS)*.

6. Radio Station Installations

Site-specific radio licences will not be required for each radio station. However, for each radio station, the licensee must ensure that:

- radio stations are installed and operated in a manner that complies with Health Canada's limits of exposure to radio frequency fields;
- where applicable, antenna structures are marked in accordance with the recommendations of Transport Canada;
- prior to installation of significant antenna structures, consultation with the appropriate land-use authorities has taken place⁹. Installation of any significant antenna structure must be delayed for a period of time sufficient for Departmental review where, after considering reasonable alternatives and consultation options, land-use consultation negotiations remain at an impasse; and
- radio installations are installed and operated in a manner that complies with technical boundary and out-of-band emission conditions as specified by the Department

7. Provision of Technical Information

When the Department requests technical information on a particular station or on a network, the information must be provided by the licensee to the Department according to the definitions and criteria specified by the Department. Refer to Client Procedures Circular 2-1-10 (CPC-2-1-10), *Licensing of Personal Communications Services (PCS) in the 2 GHz Band*.

8. Laws, Regulations, and Other Obligations

The licensee is subject to, and must comply with, the *Radiocommunication Act*, the *Radiocommunication Regulations* and the International Telecommunication Union (ITU) *Radio Regulations* and *Canadian Table of Frequency Allocations* pertaining to its licensed radio frequency bands. The licence is issued on condition that the certifications made in the application materials are all true and complete in every respect.

⁹ Refer to Client Procedures Circular 2-0-03 (CPC-2-0-03), *Environmental Process, Radiofrequency Fields and Land-use Consultation*, as amended from time to time.

9. Technical Considerations

The licensee must comply with the technical requirements set forth in Standard Radio System Plan 510 (SRSP-510), *Technical Requirements for Personal Communications Services in the Bands 1850-1910 MHz and 1930-1990 MHz*, and must deploy equipment certified under Radio Standards Specification 133 (RSS-133), *2 GHz Personal Communications Services*. SRSP-510 provides information on channelling plans, out-of-block emission limits, permissible EIRPs (effective isotropic radiated power) and antenna heights. RSS-133 sets out standards for transmitters and receivers for PCS in the 2 GHz band.

10. International and Domestic Coordination

The licensee must comply with the requirements of cross-border sharing and coordination arrangements established between Canada and the United States, as amended from time to time. While frequency assignments are not subject to site by site licensing, licensees may be required to furnish all necessary technical data to Industry Canada for each relevant site in order for international coordination to be effected with the United States as per the terms of any existing or future sharing arrangement. Should international coordination be required, Industry Canada will identify the appropriate data elements, format and means of submission.

Coordination between licensees within Canada will follow similar procedures as those for international coordination.

11. Lawful Interception

Licensees using the spectrum for circuit-switched voice telephony systems must, from the inception of service, provide for and maintain lawful interception capabilities as authorized by law:

- The requirements for lawful interception capabilities are provided in the Solicitor General's *Enforcement Standards for Lawful Interception of Telecommunications* (Rev. Nov. 95). These standards may be amended from time to time, following consultation with the Solicitor General of Canada and the licensees.

- Licensees may request the Minister to forbear from enforcing certain assistance capability requirements for a limited period. The Minister, following consultation with the Solicitor General of Canada, may exercise his power to forbear from enforcing a requirement or requirements where, in the opinion of the Minister, the requirement(s) is (are) not reasonably achievable. Forbearance requests must include specific details and dates when compliance to requirement(s) can be expected.

12. Research and Development

The licensee must invest, as a minimum, two percent of its adjusted gross revenues resulting from its operations in this spectrum, over the term of the licence, in eligible research and development activities related to telecommunications. Eligible research and development activities are those that meet the definition of scientific research and experimental development adopted in the *Income Tax Act*. Adjusted gross revenues are defined as total service revenues, less inter-carrier payments, bad debts, third-party commissions, and provincial and goods and services taxes collected.

If the licence is transferred to any eligible entity prior to the expiration of its term, the condition of licence relating to investment in research and development will continue to apply on the initial transfer of the licence and on any subsequent transfer until the term of this licence expires. Prior to a transfer, in whole or in part, of this licence, the proposed transferee must undertake to ensure that the sum of the investment it will make in eligible research and development activities and all investments made by prior licensees in eligible research and development activities equals, as a minimum, two percent of the aggregated adjusted gross revenues resulting from all operations in this spectrum, over the term of the licence. An attestation signed by the proposed transferee setting out the undertaking must accompany the licence transfer notification to be submitted to the Department by the licensee prior to the transfer being effected.

To facilitate compliance with this condition of licence, the licensee should consult the Department's *Guidelines for Compliance with the Radio Authorization Condition of Licence Relating to Research and Development*. Further details on the exact administrative procedures for transferring a spectrum licence will be provided in a forthcoming Client Procedures Circular.

13. PCS Resale

Licensees must offer PCS resale throughout their service area to other PCS licensees on a non-discriminatory basis.

14. Implementation of Spectrum Usage

Within five years of the auction's close, the licensee must demonstrate to the Department that the spectrum has been put into use. The establishment of coverage to 50% of the population within the licensed service area, or some other indicator of usage that is acceptable to the Department, will be required. Supporting documentation should be submitted to the Manager, Wireless Networks Radiocommunications and Broadcasting Regulatory Branch at the address provided below.

15. Annual Reporting

The licensee must submit an annual report for each year of the term of the licence indicating continued compliance with all licence conditions, including:

- audited financial statements as required under the licensee's jurisdiction of incorporation, including an audited Statement of Research and Development Expenditures with an accompanying Auditor's Report, prepared in accordance with the same standards of reporting; to facilitate compliance with this reporting requirement, the licensee should consult the *Guidelines for Compliance with the Radio Authorization Condition of Licence Relating to Research and Development* published by Industry Canada; and
- a copy of any existing corporate annual report for the licensee's fiscal year with respect to the authorization.
- an update on the implementation and spectrum usage within the area covered by the licence

The reports are to be submitted, in writing, within 120 days of the licensee's fiscal year-end, to the Manager, Wireless Networks

Confidential information provided will be treated in accordance with section 20(1) of the *Access to Information Act*.

Issued under the Authority of the *Radiocommunication Act*

Jan Skora
Director General
Radiocommunications and Broadcasting
Regulatory Branch

Michael Helm
Director General
Telecommunications Policy Branch

Appendix 1

PCS Auction Service Areas

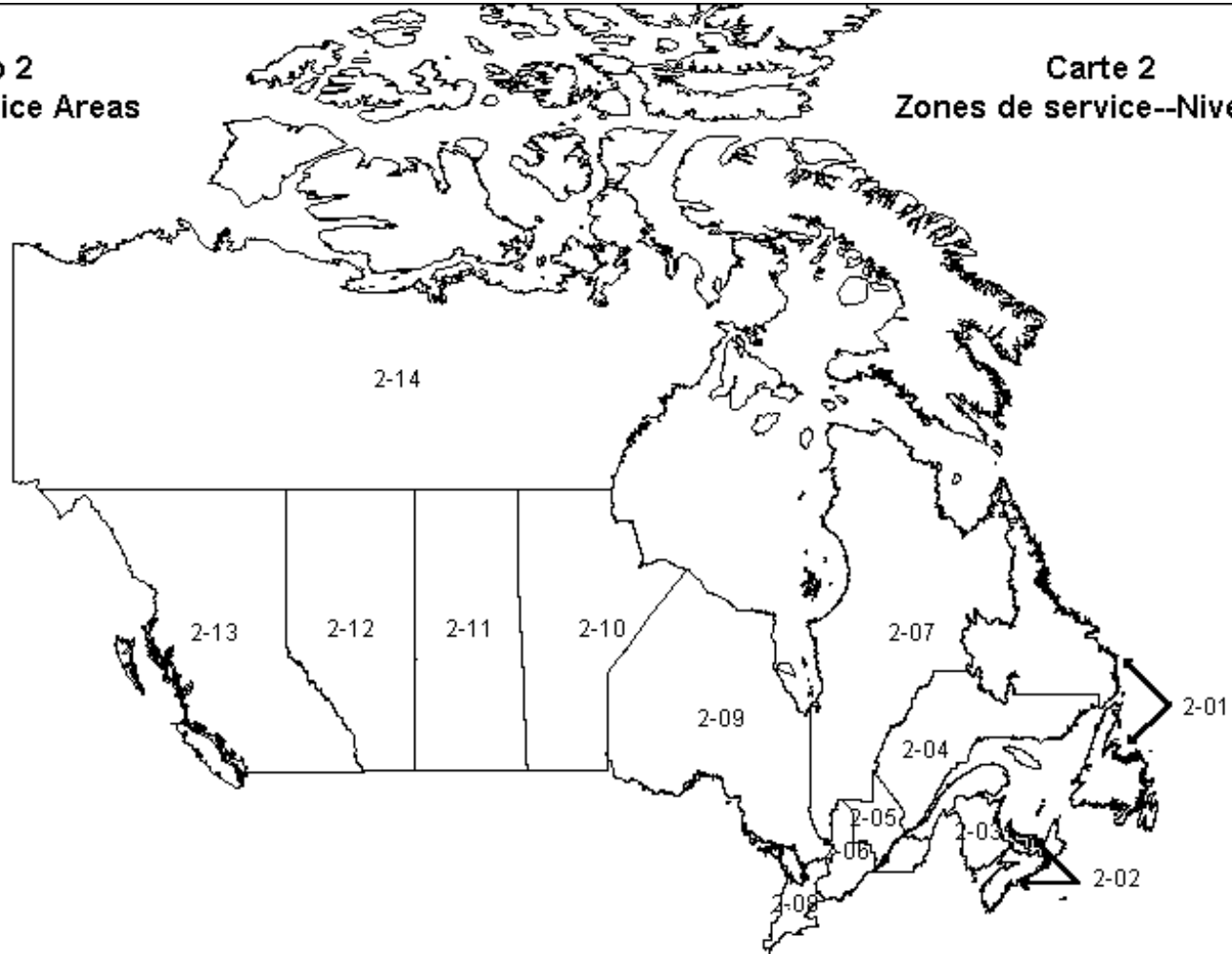
The Tier 2 service areas to be used in the licensing of the additional PCS spectrum in the 2 GHz frequency range are listed in the table below and are illustrated in the accompanying map. A detailed description of the Tier structures is provided in the document *Service Areas for Competitive Licensing*.

Service Area	Service Area Name	Population *
2-01	Newfoundland	551792
2-02	Nova Scotia and P.E.I.	1043839
2-03	New Brunswick	738133
2-04	Eastern Quebec	1609690
2-05	Southern Quebec	5035827
2-06	Eastern Ontario	2047352
2-07	Northern Quebec	194810
2-08	Southern Ontario	8179887
2-09	Northern Ontario	824802
2-10	Manitoba	1115900
2-11	Saskatchewan	980770
2-12	Alberta	2704291
2-13	British Columbia	3724500
2-14	Yukon, N.W.T. and Nunavut	95168

* All population figures are based on Statistics Canada's 1996 Census divisions and subdivisions.

Map 2
Tier 2 Service Areas

Carte 2
Zones de service--Niveau 2



Appendix 2

Modifications to the 1995 Spectrum Transition Policy For Licensed PCS

Effective January 1, 2001

Note: The section numbers provided here refer to the sections of the original 1995 policy entitled *Policy and Call for Applications: Wireless Personal Communications Services in the 2 GHz Range* that are modified as a result of this licensing policy.

7.3 Modified Transition Policy (for Licensed PCS Spectrum in Band 1850-1910 MHz and 1930-1990 MHz)

The *Spectrum Transition Policy* and the provisions being adopted in this section will provide for the timely release of spectrum for the implementation of PCS systems and the orderly displacement of fixed stations. The following provisions recognize the need to provide a reasonable notification period for displacement of fixed stations and the need to introduce PCS in the marketplace in the earliest time frame. The provisions outline a ~~A~~where necessary@ displacement approach which links the relocation of fixed stations to the PCS service implementation dates and spectrum requirements.

7.4 Transition Provisions for Licensed PCS Spectrum

The following provisions apply to the displacement of fixed stations to provide spectrum for licensed PCS systems:

- (a) Notification for displacement of specific frequency assignments of fixed stations to make spectrum available in certain geographical areas may be served once the PCS licences have been awarded. Industry Canada has issued a set of operating guidelines outlining the displacement process and the related spectrum sharing criteria for coordination.
- (b) The displacement of frequency assignments of fixed stations and the date indicated in the notification will be based on the spectrum necessary for the timely implementation of PCS. PCS operators will ensure that such displacements are required to meet the PCS service dates, and that reasonable frequency spectrum alternatives do not exist.
- (c) As of **January 1, 2001**, all frequency assignments of fixed stations subject to displacement will be afforded a minimum of a **two-year notification period**;

As of **January 1, 2002**, the following minimum notification periods will apply:

- P for PCS implementation inside urban areas¹ having a population of 25,000 or more, all frequency assignments of fixed stations subject to displacement will be afforded a minimum of a **one-year notification period**; and
- P for PCS implementation in other markets, all frequency assignments of fixed stations subject to displacement will be given a minimum of a two-year notification period;
- (d) Starting **January 1, 2002**, the Department may consider petitions from PCS operators to designate areas to be opened for PCS services, including along major highways, where the displacement of all frequency assignments of fixed stations within that area will be given a minimum of a one-year notification period.
- (e) Earlier displacement may be achieved through mutual agreements between PCS operator(s) and the affected fixed station operator(s). Industry Canada will retain oversight of the displacement process and will assist, where appropriate, affected fixed operators in identifying new replacement frequency assignments.
- (f) In the event a PCS operator identifies a need to defer a notified displacement date, an amendment to the notice of displacement should be issued as early as possible.
- (g) Some PCS licensees may also be operators of fixed stations with frequency assignments in the band 1850-1990 MHz. Industry Canada may take certain necessary action, including the incorporation of specific PCS licence conditions addressing the displacement of such frequency assignments, in order to foster a level playing field amongst the licensed PCS operators and to make available the necessary spectrum. As an example, prior to providing service in a specific area, a PCS licensee may be required to cease operation of those of its fixed station frequency assignments that would prevent the timely introduction of the service in that area by other licensees. Also, it would be expected that existing fixed station operators will act in good faith to accommodate PCS.
- (h) It should be noted that a significant delay in the use of released frequency spectrum by PCS licensees, after the displacement date, would be viewed negatively by Industry Canada.
- (i) Industry Canada will monitor the effectiveness of the spectrum policy provisions related to the displacement of fixed systems. Changes to these provisions and/or licence conditions may be made to ensure that the continued availability of spectrum for PCS services is accomplished in the most efficient manner.

¹ Urban areas are defined in Statistics Canada Census Dictionary and in *A national overview - population and dwelling counts (data products : 1996 Census of Population)* Catalogue number 93-357-XPB.

Appendix 3

Modifications to the 1997 Spectrum Transition Policy For Licence Exempt PCS

Effective January 1, 2001

Note: The section numbers provided here refer to the sections of the original 1997 policy entitled Licence Exempt Personal Communications Services in the Frequency Band 1910-1930 MHz (SP-1910) that are modified as a result of this licensing policy.

3.2.2 Modified Transition Policy Provisions (for Licence-Exempt PCS)

The following transition policy provisions apply to the displacement of fixed stations to make available sufficient spectrum for Licence Exempt PCS (LE-PCS) devices in the 1910-1930 MHz band.

- (a) The *Spectrum Transition Policy* and the provisions being adopted in this section will provide for the timely release of spectrum for the implementation of LE PCS systems and the orderly displacement of fixed stations. The Industry Advisory Group (IAG) under the Electro Federation of Canada has the responsibility of advising Industry Canada on displacement matters and readiness to deploy licence exempt PCS devices.
- (b) **Non-Nomadic Licence Exempt PCS Devices**
 - (i) Non-nomadic LE-PCS devices are defined as wireless devices whose spectrum usage can be identified and controlled in a defined geographical area. The supplier must have control over the location of operation of such devices.
 - (ii) Suppliers of LE-PCS devices, represented by IAG, shall make all reasonable efforts to coordinate the spectrum requirements of non-nomadic LE-PCS products with the existing fixed microwave assignments, in the specific areas of deployment, in order to reduce or eliminate the need for displacement(s).
 - (iii) It is the responsibility of the LE-PCS equipment supplier(s), represented by IAG, to ensure that any displacement of fixed station frequency assignment(s) is critical to meet the product release date of the LE-PCS equipment. The Department will consider the issuance of the displacement notice(s) based, in part, on the information submitted.
 - (iv) For non-nomadic LE-PCS devices the minimum notification period for the displacement of all fixed station frequency assignments will **be reduced to two (2) years after January 1, 2001;**

- (v) Furthermore, the minimum notification period for the displacement of fixed station frequency assignments affecting the roll-out inside urban areas¹ having a population of 25,000 or more will be **reduced to one (1) year after January 1, 2002.**

(c) Nomadic Licence Exempt PCS Devices

- (i) Nomadic LE-PCS devices are defined as wireless devices whose deployment is not restricted to any geographical area and consequently, cannot be practically coordinated with fixed station frequency assignments.
 - (ii) It is the responsibility of LE-PCS equipment suppliers, represented by IAG, to advise Industry Canada of the planned introduction of nomadic LE-PCS equipment and identify the potentially affected fixed station frequency assignments. The Department will consider the issuance of the displacement notices based, in part, on the justification submitted.
 - (iii) For nomadic LE-PCS devices the minimum notification period for the displacement of all fixed station frequency assignments to make spectrum available for nomadic LE-PCS devices across the country **will remain at three (3) years until January 1, 2002, and two (2) years thereafter.**
- (d) The fixed station operator shall cease the operation of the identified frequency assignment(s) on or before the displacement date indicated in the served notice. Where a displacement notice has been issued as a result of the introduction of nomadic LE-PCS devices, and the affected frequency assignment is in a remote location, then, the fixed station operator may elect to delay the displacement indefinitely, provided the continued operation is on a no interference, no protection basis.
- (e) LE-PCS suppliers, represented by IAG, and fixed service operators are encouraged to negotiate mutually acceptable displacement dates, and where practical, coordinate displacement requirements with the licensed PCS operators. Industry Canada will retain oversight of the displacement process and will assist, where appropriate, affected fixed operators in identifying new replacement frequency assignments.

¹ Urban areas are defined in Statistics Canada Census Dictionary and in *A national overview - population and dwelling counts (data products : 1996 Census of Population)*, Catalogue number 93-357-XPB.

Bidder Identification Number			
0	2		



Appendix 4

Application to Participate in the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range

(Please print or type all information below)

Part 1. Applicant Details

1. Applicant

Name: _____

2. Address (Street, P.O. Box, etc.): _____

3. City, Town: _____ **4. Province:** _____ **5. Postal Code:** _____

6. Language Preference: " English " French

7. Applicant Classification

" Corporation " Individual " Partnership " Joint Venture " Other

Details of the beneficial ownership for every entity that owns more than 10% of the Applicant's voting shares, non-voting shares, partnership interests, or any other beneficial interests, as the case may be, must be submitted with this application.

Part 2 Authorized Representative

The person listed below is nominated by the Applicant as its authorized representative. Unless otherwise indicated by the Applicant, all documentation pertaining to the PCS Auction will be forwarded to this Authorized Representative.

8. (a) Authorized Representative Name	Title	Telephone No. ()
E-mail Address		Fax No. ()
Mailing Address		



Part 3. Designated Bidders

The persons listed below are nominated by the Applicant as its designated bidders.

9. (a) Designated Bidder No. 1

Name			Date
Signature of Bidder No. 1	Telephone No. ()	Fax No. ()	E-mail Address
Mailing Address			

9. (b) Designated Bidder No. 2

Name	Title		Date
Signature of Bidder No. 2	Telephone No. ()	Fax No. ()	E-mail Address
Mailing Address			

9. (c) Designated Bidder No. 3

Name	Title		Date
Signature of Bidder No. 3	Telephone No. ()	Fax No. ()	E-mail Address
Mailing Address			

Part 4. Desired Initial Level of Eligibility Points and Calculation of Required Financial Deposit

Enter the initial total number of points worth of licences on which you wish to be able to bid in any round in box A below. This will be your initial level of eligibility points. Refer to section 7.4 of the *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range*.

10. Box A - Eligibility Points

Calculate your required financial deposit by multiplying the value in box A the appropriate dollar value. For the first thirty eligibility points the deposit is equal to \$50,000 per point and \$200,000 per eligibility point requested thereafter. The total number of points associated with all 56 licences available in this auction is 1172, which would require a financial deposit of \$229,900,000 (30 X \$50,000 + 1142 X \$200,000).. Enter the appropriate value in box B below. This will be the value of your required pre-auction deposit, in the form of an irrevocable standby letter of credit which meets, and is subject to, the terms and conditions contained in Appendix 6.

11. Box B - Financial Deposit

Part 5. Consent and Authority

12. Prohibition of Collusion

I certify that the Applicant has not entered into and will not enter into any agreements or arrangements of any kind with any competitor regarding the amount to be bid, bidding strategies or the particular licence(s) on which the Applicant or competitors will or will not bid. For the purposes of this certification the word **competitor** means any entity, other than the Applicant or its affiliates, who could potentially be a bidder in this auction based on its qualifications, abilities or experience. I understand that if this certification is found not to be true and complete in every respect, then:

- (1) the Applicant will be disqualified from bidding or continuing to bid;
- (2) the Applicant's standing high bids will be deemed to have been withdrawn, and the appropriate penalties will apply; and
- (3) any licence that may already have been issued to the Applicant as a result of this auction process may be revoked.

(Note section 6.5 of the *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range*)

13. Canadian Ownership and Control

I certify that I have read and I understand the contents of the Canadian carrier eligibility criteria as set out in section 10 of the *Radiocommunication Regulations* and I comply, or will comply, with the Canadian carrier ownership and control requirements, as applicable.

14. Release of Information

I consent to the publication by Industry Canada of all the information contained in this Application and attachments, except for the *Deed of Acknowledgement, The List of Designated Bidders, and the irrevocable standby letter of credit.*

15. Back-up

I certify that the Applicant has thoroughly reviewed the back-up recommendations provided in section 7.12 of the *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range* document. Should the Applicant wish to change one or more of their designated bidders or information related to their designated bidders such as fax or phone numbers I will notify the Manager, Wireless Networks (address given in section 2 of the *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range* document) and provide the revised information.

16. Signature

I certify that I as the authorized representative of the above-named Applicant, that I have read the document *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range* and understand the policies and rules specified therein, and that the foregoing certifications and all matters and things stated in this Application and attachments are true and correct.

SIGNED this ____ day of _____, 2000

Signature of Applicant or
Individual Authorized to Sign for the Applicant

CHECKLIST FOR ATTACHMENTS

DID YOU REMEMBER TO COMPLETE AND ENCLOSE EACH OF THE FOLLOWING DOCUMENTS? U

Completed Application Form (Appendix 4)

Deed of Acknowledgement (Appendix 5)

Pre-auction deposit in the form of an irrevocable standby letter of credit

Details of any existing spectrum holdings in each of the 14 tier 2 areas, which will be captured by the spectrum aggregation limits.

Important Note:

It is in the interest of applicants to seek independent legal, financial and engineering advice before deciding to participate in this auction. Furthermore, applicants are urged to familiarize themselves with the provisions contained in the following documents:

- *Radiocommunication Act;*
- *Radiocommunication Regulations;*
- *Framework for Spectrum Auctions in Canada;*
- *Canadian Ownership and Control (CPC-2-0-15);*
- *Telecommunications Act;*
- *Canadian Telecommunications Common Carrier Ownership and Control Regulations;* and
- *Competition Act (see, in particular, sections 45 (Conspiracy) and 47 (Bid-rigging)).*

The Department reserves the right to request additional information on the present application. This form, the *Deed of Acknowledgement*, any other associated documents that may be required (as per the instructions provided on the various forms), and the accompanying financial deposit - which must be an irrevocable standby letter of credit in a form acceptable to the Department, refer to Appendix 6 of the document - are to be physically delivered to the:

**Manager, Wireless Networks
Radiocommunications and Broadcasting Regulatory Branch
Industry Canada
Room 1522A, 300 Slater Street
Ottawa, Ontario
K1A 0C8**

by 5:00 p.m., Eastern Daylight Time (EDT), August 28, 2000.

Bidder Identification Number			
0	2		



Appendix 5

Deed of Acknowledgement

From: Name of Applicant (“Applicant”) _____
 To: Her Majesty the Queen in right of Canada

In consideration of the Minister of Industry (“Minister”) holding an auction in accordance with the *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range* dated June 28, 2000, the Minister’s approval of the Applicant’s participation in the auction, and other good and valid consideration, the receipt and sufficiency of which are hereby acknowledged by the Applicant and the Minister, the Applicant covenants and agrees:

1. to accept and to be bound by all of the terms and conditions of the auction as set out in the *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2GHz Frequency Range* dated June 28, 2000; and,
2. to pay any debt or obligation to Her Majesty the Queen in right of Canada which the Applicant may incur as a result of the Applicant’s participation in the auction, and without limiting the generality of the foregoing, to honour all of the Applicant’s bids and all amounts owing in relation to withdrawal and forfeiture penalties.

This *Deed of Acknowledgement* shall become effective on the date that the Minister issues the Qualified Bidder Certificate to the Applicant.

I certify that I am an authorized representative of the above-named Applicant.

Name: _____
 (Please print)

Position: _____
 (Please print)

 Signature Corporate Seal [If available]

Dated on the ___ day of _____, 2000 at the _____ of _____ in the Province of _____
(city, town)



Appendix 6

Elements of the Irrevocable Standby Letter of Credit

The irrevocable standby letter of credit, and/or any amendments thereto, shall:

- 1) be issued by a financial institution (“Issuer”) which is a member of the Canadian Payments Association;
- 2) be issued in the name of the applicant for the auction of the additional PCS spectrum in the 2 GHz frequency range (“PCS Auction”);
- 3) provide for a face amount in accordance with the deposit amount required in the rules and policies laid out in the document *Policy and Licensing Procedures for the Auction of Additional PCS Spectrum in the 2 GHz Frequency Range*;
- 4) provide for sight payment to the Receiver General for Canada (“Beneficiary”) by way of Issuer’s draft against presentation of a written demand for payment, signed by the Assistant Deputy Minister, Spectrum, Information Technologies and Telecommunications, Industry Canada or the Director General, Radiocommunications and Broadcasting Regulatory Branch, Industry Canada, certifying that the Applicant:
 - a) owes monies as a result of being standing high bidder on a licence at the close of the PCS auction; **or**
 - b) owes penalties at the close of the PCS auction; **or**
 - c) owes monies as a result of being standing high bidder on a licence or licences at the close of the PCS auction and owes penalties at the close of the PCS auction;
- 5) provide that the Issuer shall honour the Beneficiary’s demand for payment on sight without inquiring whether the Beneficiary has a right or agreement as between itself and the Applicant to such payment without recognizing any claim of the Applicant;
- 6) provide for partial drawings such that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face amount of the Letter of Credit;
- 7) provide that the Letter of Credit shall expire at close of banking business on July 30, 2001, if not drawn upon on or before that date; and
- 8) provide that it is subject to the International Chamber of Commerce (ICC) *Uniform Customs and Practice for Documentary Credits*, 1993 Revision, Publication No. 500.

The Letter of Credit is one of the vital documents that should be carefully addressed and may require your financial institution to deviate from its standard form of Letter of Credit. To assist applicants in the PCS auction, a sample Letter of Credit that would be acceptable to the Department is presented below.

SAMPLE LETTER OF CREDIT

BENEFICIARY: Receiver General for Canada
c/o Industry Canada
300 Slater Street, Ottawa, Ontario, K1A 0C8

DATE: _____

AMOUNT: _____

At the request of our customer, **(Insert Applicant-s Name Here)**, we, **(Insert Financial Institution-s Name and Full Mailing Address Here)**, hereby issue in your favour our Irrevocable Standby Letter of Credit in the aggregate amount of **(Enter Dollar Amount Here)**.

We authorize you to draw on this branch under this Letter for Credit in the form of a written demand for payment, which demand we shall honour on sight without inquiring whether you have a right as between you and the Applicant to make such demand and without acknowledging any claim of the Applicant. Multiple written demands may be presented subject to the sum of those demands not exceeding **(Enter Dollar Amount Here)**.

Provided, however, that you are to deliver to us at the above address the following documentation.

Your written demand for payment to the Receiver General of Canada signed by the Assistant Deputy Minister, Spectrum, Information Technologies and Telecommunications, Industry Canada OR the Director General, Radiocommunications and Broadcasting Regulatory Branch, Industry Canada certifying that the Applicant:

- (1) owes monies as a result of being standing high bidder on a licence or licences at the close of the PCS Auction; **OR**
- (2) owes penalties at the close of the PCS Auction; **OR**
- (3) owes monies as a result of being standing high bidder on a licence or licences at the close of the PCS Auction and owes penalties at the close of the PCS Auction.

THIS LETTER OF CREDIT IS ISSUED SUBJECT TO THE INTERNATIONAL CHAMBER OF COMMERCE (ICC) UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS, 1993 REVISION, PUBLICATION NO. 500.

The above documentation must be presented at this branch on or before the end of banking business on the 30th day of July, 2001, at which time this Letter of Credit will expire.

Authorized Signature

Authorized Signature

Appendix 7

Detailed List of Licences to be Auctioned

Licence	Service Area	Population	Frequency (MHz)	Eligibility Points	Opening Bid (\$)
2-01a	Newfoundland	551,792	1895 B 1900 / 1975 B 1980	5	300,000
2-01b	Newfoundland	551,792	1900 B 1905 / 1980 B 1985	5	300,000
2-01c	Newfoundland	551,792	1905 B 1910 / 1985 B 1990	5	300,000
2-01d	Newfoundland	551,792	1885 B 1890 / 1965 B 1970	5	300,000
2-02a	Nova Scotia & P.E.I.	1,043,839	1895 B 1900 / 1975 B 1980	10	600,000
2-02b	Nova Scotia & P.E.I.	1,043,839	1900 B 1905 / 1980 B 1985	10	600,000
2-02c	Nova Scotia & P.E.I.	1,043,839	1905 B 1910 / 1985 B 1990	10	600,000
2-02d	Nova Scotia & P.E.I.	1,043,839	1885 B 1890 / 1965 B 1970	10	600,000
2-03a	New Brunswick	738,133	1895 B 1900 / 1975 B 1980	10	600,000
2-03b	New Brunswick	738,133	1900 B 1905 / 1980 B 1985	10	600,000
2-03c	New Brunswick	738,133	1905 B 1910 / 1985 B 1990	10	600,000
2-03d	New Brunswick	738,133	1885 B 1890 / 1965 B 1970	10	600,000
2-04a	Eastern Quebec	1,609,690	1895 B 1900 / 1975 B 1980	15	900,000
2-04b	Eastern Quebec	1,609,690	1900 B 1905 / 1980 B 1985	15	900,000
2-04c	Eastern Quebec	1,609,690	1905 B 1910 / 1985 B 1990	15	900,000
2-04d	Eastern Quebec	1,609,690	1885 B 1890 / 1965 B 1970	15	900,000
2-05a	Southern Quebec	5,035,827	1895 B 1900 / 1975 B 1980	50	6,000,000

Licence	Service Area	Population	Frequency (MHz)	Eligibility Points	Opening Bid (\$)
2-05b	Southern Quebec	5,035,827	1900 B 1905 / 1980 B 1985	50	6,000,000
2-05c	Southern Quebec	5,035,827	1905 B 1910 / 1985 B 1990	50	6,000,000
2-05d	Southern Quebec	5,035,827	1885 B 1890 / 1965 B 1970	50	6,000,000
2-06a	Eastern Ontario	2,047,352	1895 B 1900 / 1975 B 1980	20	2,400,000
2-06b	Eastern Ontario	2,047,352	1900 B 1905 / 1980 B 1985	20	2,400,000
2-06c	Eastern Ontario	2,047,352	1905 B 1910 / 1985 B 1990	20	2,400,000
2-06d	Eastern Ontario	2,047,352	1885 B 1890 / 1965 B 1970	20	2,400,000
2-07a	Northern Quebec	194,810	1895 B 1900 / 1975 B 1980	2	40,000
2-07b	Northern Quebec	194,810	1900 B 1905 / 1980 B 1985	2	40,000
2-07c	Northern Quebec	194,810	1905 B 1910 / 1985 B 1990	2	40,000
2-07d	Northern Quebec	194,810	1885 B 1890 / 1965 B 1970	2	40,000
2-08a	Southern Ontario	8,179,887	1895 B 1900 / 1975 B 1980	80	9,600,000
2-08b	Southern Ontario	8,179,887	1900 B 1905 / 1980 B 1985	80	9,600,000
2-08c	Southern Ontario	8,179,887	1905 B 1910 / 1985 B 1990	80	9,600,000
2-08d	Southern Ontario	8,179,887	1885 B 1890 / 1965 B 1970	80	9,600,000
2-09a	Northern Ontario	824,802	1895 B 1900 / 1975 B 1980	10	600,000
2-09b	Northern Ontario	824,802	1900 B 1905 / 1980 B 1985	10	600,000
2-09c	Northern Ontario	824,802	1905 B 1910 / 1985 B 1990	10	600,000
2-09d	Northern Ontario	824,802	1885 B 1890 / 1965 B 1970	10	600,000

Licence	Service Area	Population	Frequency (MHz)	Eligibility Points	Opening Bid (\$)
2-10a	Manitoba	1,115,900	1895 B 1900 / 1975 B 1980	10	600,000
2-10b	Manitoba	1,115,900	1900 B 1905 / 1980 B 1985	10	600,000
2-10c	Manitoba	1,115,900	1905 B 1910 / 1985 B 1990	10	600,000
2-10d	Manitoba	1,115,900	1885 B 1890 / 1965 B 1970	10	600,000
2-11a	Saskatchewan	980,770	1895 B 1900 / 1975 B 1980	10	600,000
2-11b	Saskatchewan	1,609,690	1900 B 1905 / 1980 B 1985	10	600,000
2-11c	Saskatchewan	1,609,690	1905 B 1910 / 1985 B 1990	10	600,000
2-11d	Saskatchewan	1,609,690	1885 B 1890 / 1965 B 1970	10	600,000
2-12a	Alberta	2,704,291	1895 B 1900 / 1975 B 1980	30	3,600,000
2-12b	Alberta	2,704,291	1900 B 1905 / 1980 B 1985	30	3,600,000
2-12c	Alberta	2,704,291	1905 B 1910 / 1985 B 1990	30	3,600,000
2-12d	Alberta	2,704,291	1885 B 1890 / 1965 B 1970	30	3,600,000
2-13a	British Columbia	3,724,500	1895 B 1900 / 1975 B 1980	40	4,800,000
2-13b	British Columbia	3,724,500	1900 B 1905 / 1980 B 1985	40	4,800,000
2-13c	British Columbia	3,724,500	1905 B 1910 / 1985 B 1990	40	4,800,000
2-13d	British Columbia	3,724,500	1885 B 1890 / 1965 B 1970	40	4,800,000
2-14a	Yukon, N.W.T. & Nunavut	95,168	1895 B 1900 / 1975 B 1980	1	20,000
2-14b	Yukon, N.W.T. & Nunavut	95,168	1900 B 1905 / 1980 B 1985	1	20,000
2-14c	Yukon, N.W.T. & Nunavut	95,168	1905 B 1910 / 1985 B 1990	1	20,000

Licence	Service Area	Population	Frequency (MHz)	Eligibility Points	Opening Bid (\$)
2-14d	Yukon, N.W.T. & Nunavut	95,168	1885 B 1890 / 1965 B 1970	1	20,000
National Total		28,846,761		1172	122,640,000

Bidder Identification Number			
0	2		



Appendix 8

Declaration of Ownership and Control for Provisional Winners of 2 GHz PCS Licences

Note: If the provisional licence winner is not a corporation, then documents dealing with the same subject matters must be submitted.

I, the undersigned, do hereby make the following statements that I certify to be true and complete in every respect.

I certify, on behalf of _____ that:
(Name of Provisional Licence Winner)

I have read and I understand the contents of the Canadian carrier eligibility criteria as set out in section 10 of the *Radiocommunication Regulations* and (Name of Provisional Licence Winner) complies with the said Canadian carrier ownership and control requirements

The following required supporting documents are attached:

I. Incorporation Documents

- 1.1 The incorporating documents, including articles of incorporation, bylaws, addendums, appendices and any and all agreements relating to control matter for the company and any related holding company. "
- 1.2 A narrative explaining the company's Canadian ownership and control structure. "

II. Shareholdings

- 2.1 The details of the authorized and issued shares for each class of shares for the company and any related holding company. Where shares are held by a shareholding depository, a detailed breakdown of the number of shares held and a list of shareholders and details of Canadian and foreign ownership of those shares. Where shares are held in trust, the name, address, and nationality of trustee is required. "
- 2.2 The details of the rights, privileges, restrictions and conditions of each class of shares for the company and any related holding company. "
- 2.3 The details of the beneficial ownership by Canadians (as defined in the *Canadian Telecommunications Common Carrier Ownership and Control Regulations*), and by non-Canadians, of each class of shares for the company and any related holding company. "
- 2.4 The copies of all shareholder agreements for the company and any related holding company. "

2.5 Evidence of Canadian residence and immigration or citizenship status of any individual shareholder identified as “Canadian”. ”

III. Directors

3.1 The name and citizenship of each member of the board of directors of the company and any related holding company. ”

3.2 The details of any agreements or arrangements related to the election of directors of the company and any related holding company. ”

3.3 Evidence of Canadian residence and immigration or citizenship status of any individual director identified as “Canadian”. ”

IV. Officers

4.1 The name and citizenship of each officer, and office held, of each officer of the company and any related holding company, and details of any relationship between the officers and the shareholders ”

4.2 The details of any agreements or arrangements related to the appointment of officers of the company and any related holding company. ”

V. Financing

5.1 The complete details of the financial structure of the company and any related holding company, including the source of debt and equity financing. Please provide details as to the share structure, source of financing (banks, shareholders, passive investors, etc.), and domestic or foreign funding through both voting and non-voting investments. ”

VI. Agreements

6.1 Copies of any agreements or covenants between the company and any foreign partner or affiliate. ”

6.2 The details of any other agreement or arrangement which could affect whether the company or any related holding company are or are not controlled in fact by Canadians. ”

Important Notice: Industry Canada reserves the right to review all ownership and control information submitted with this form and to request further information.

(Printed Name and Signature)

(Position Title)

(Date)