Licence Exempt Personal Communications Services in the Frequency Band 1910-1930 MHz

Amended by:

DGTP-007-00/ Policy and Licensing Procedures for the Auction of the Additional PCS Spectrum in the 2 GHz
DGRB-005-00/ Frequency Range (June 2000)
1.0 Introduction

Industry Canada announced the designation of the 1910-1930 MHz band for licence exempt Personal Communications Services (PCS) devices on June 15, 1995, through the release of Gazette Notice DGTP-005-95/DGRB-002-95 entitled Policy and Call for Applications, WIRELESS PERSONAL COMMUNICATIONS SERVICES IN THE 2 GHz RANGE, Implementing PCS in Canada. Further spectrum utilization policy provisions for the operation of licence exempt PCS devices in the 1910-1930 MHz band are outlined in this document.

Licence exempt devices are radio apparatus which are exempt under the Radiocommunication Act from the requirement to operate under a radio licence in specified radio frequency bands and which conform to appropriate Industry Canada spectrum policies, regulations and technical standards. Licence exempt PCS (LE-PCS) can be characterized as wireless, short range, personal communication devices which may be found in homes and offices. LE-PCS may provide a full range of services including telephony, wireless local area networks (LAN) and remote equipment monitoring. In some instances LE-PCS applications could be integrated with licensed PCS service offerings, such as a dual mode PCS handset where the handset functions as a cordless phone in the home or office.

This spectrum utilization policy addresses the principle issues governing the use of the 1910-1930 MHz band including eligibility requirements, transition rules for the displacement of incumbent fixed microwave systems and the mandate and functions of an industry organization to facilitate the introduction of LE-PCS devices in Canada.

2.0 Background

On November 5, 1994, the Department of Industry issued Gazette Notice DGTP-006-94 entitled Policy Discussion and Proposals Respecting the Future Provision of Personal Communications Services and Frequency Spectrum in Canada in the 2 GHz Range. In this notice the Department identified the use of 1850-1990 MHz frequency band for PCS in Canada and further identified the 1910-1930 MHz band for licence exempt PCS applications. At the same time a moratorium on the licensing of new fixed microwave stations was placed on the entire PCS spectrum range, 1850-1990 MHz.

Respondents to the discussion paper supported the use of the 1910-1930 MHz band for LE-PCS devices for a variety of reasons including the practical benefits of aligning with the United States. Other key points that prevailed in this consultation process include the following:

1. Further consultation is required on the possible need and role of an industry organization to assist in the deployment of LE-PCS in Canada.
2. An etiquette governing the technical operational compatibility of LE-PCS devices, similar to the Winforum etiquette of the United States, is required.

3. There was little agreement on the transition mechanism, notification process and the notification period.
Industry Canada announced a policy framework and call for applications for the introduction of PCS on June 15, 1995, through the publication of Gazette Notice DGTP-005-95/DGRB-002-95 and the release of a document entitled Policy and Call for Applications, WIRELESS PERSONAL COMMUNICATIONS SERVICES IN THE 2 GHz RANGE. In addition, this policy document outlined a specific spectrum transition policy and rules for the existing fixed microwave stations, to permit the operation of PCS systems in the 1850-1910 MHz and 1930-1990 MHz bands. Regarding LE-PCS, the Department confirmed the designation of the 1910-1930 MHz band for LE-PCS and further subdivided the band as follows:

- 1910-1920 MHz: Asynchronous communication devices (eg. data)
- 1920-1930 MHz: Isochronous applications (eg. voice)

Also, within Section 7.5 of the PCS Policy document, the following points were raised regarding the introduction of LE-PCS:

1. Initially there may be sufficient spectrum in certain geographical areas to introduce non-nomadic licence exempt devices. (“Non-nomadic” refers to a device whose spectrum usage can be identified and controlled in a given area.) In some areas, it may be possible to coordinate LE-PCS devices with existing fixed microwave stations.

2. The operation of nomadic LE-PCS devices may not be possible until spectrum is made available country-wide.

3. An industry organization could play an important role in the introduction of PCS devices including the transition process.

4. Industry Canada concurred with the general view of industry that further consultation was required, particularly in the fixed microwave transition matter.

In June 1995, Industry Canada asked the Radio Advisory Board of Canada (RABC) to establish a special committee to address LE-PCS issues. Specifically, the Department requested recommendations on the transition process, and the mandate and structure of an industry organization that would oversee the introduction of LE-PCS in the 1910-1930 MHz band. This committee met on a number of occasions in the late summer and fall of 1995 and issued a final report, with recommendations, to the Department in November 1995. The report was entitled Licence Exempt Personal Communications Services, Recommendations of the Radio Advisory Board of Canada.

The special committee of the RABC recommended that an industry organization be created, independent of Industry Canada, whose mandate is primarily to coordinate the industry spectrum needs for the implementation of LE-PCS devices in the 1910-1930 MHz band. The organization would identify specific microwave assignments that need to be displaced and request, with appropriate justification, Industry Canada to issue the
appropriate notices. Further reference to the recommendations contained in this report are made in later sections of this policy document.
3.0 Spectrum Utilization Policy for Licence Exempt PCS Applications in the 1910-1930 MHz Band

3.1 Policy Provisions for Licence Exempt PCS Devices

3.1.1 Discussion

As indicated in Section 2, Industry Canada has already announced the designation of two sub-bands for asynchronous (e.g. data) and isochronous (e.g. voice) LE-PCS applications in the 1910-1930 MHz band.

The special committee of the RABC endorsed an earlier recommendation (from the RABC) that suggests that the licence exempt spectrum should not be used “for service for profit”, except where the use is complementary to licenced PCS service.

Industry Canada supports the use of LE-PCS spectrum for a diverse range of products that work in a stand-alone fashion or as a complementary function of licenced PCS services. The use of LE-PCS equipment for voice and data applications within the premises of a home, office, shop or industrial building are typical applications. The use of the licence exempt band to offer public PCS services will not be permitted. The provision of third party services is limited to the conditions specified in Section 3.1.2. The necessary regulations to define the provision of third party services will be promulgated in the future, if required.

Equipment manufacturers and suppliers of LE-PCS equipment are encouraged to consider the “intended use” of the 1910-1930 MHz band in their plans for development and sale of LE-PCS products.

3.1.2 Policy Provisions

1. Licence exempt PCS equipment operating in the 1910-1930 MHz band must be certified by Industry Canada.

2. The deployment of LE-PCS equipment in Canada is subject to the availability of suitable spectrum in the 1910-1930 MHz band. (See Section 3.2, Transition Policy)

3. The use of LE-PCS spectrum for the provision of public PCS service offerings is not permitted. Operation of licence exempt equipment where private, third party sale of services are offered is permitted where such services are exclusively within the premises owned, leased or managed by the operator.

4. The sub-band allocations are as follows:

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910-1920 MHz</td>
<td>Asynchronous communication devices (eg. data)</td>
</tr>
<tr>
<td>1920-1930 MHz</td>
<td>Isochronous applications (eg. voice)</td>
</tr>
</tbody>
</table>
3.2 Transition Policy

3.2.1 Discussion

Industry Canada held extensive public consultations on the introduction of PCS in Canada including the consequential transition of fixed services to make spectrum available in the band 1850-1990 MHz. In November 1994, the Department announced the precise frequency bands for PCS and through Canada Gazette DGTP-006-94 embarked on a major public consultation on licensing matters including the rules for the transition of microwave systems. Of the 27 submissions received, nearly all provided extensive comments on the transition process. The PCS policy, released on June 15, 1995, included general transition principles for both licensed and licenced exempt PCS in the 1850-1990 MHz band. Industry Canada continues to support these principles, which include the following:

1. The radio frequency spectrum is a national public resource the utilization of which will be allocated and planned to advance public policy objectives. The allocation of, and access to, the radio frequency spectrum will be adapted to meet changing user requirements, to provide spectrum that best meets the needs of the user, and to facilitate new and innovative services.

2. As a radio licence does not confer ownership nor a continued right to a particular radio frequency, the Department will continue to provide reasonable notice to inform users of any conditions or circumstances which could result in the displacement of their services or systems to other bands.

3. The PCS policy reconfirms that there is no liability or responsibility or intent by the Department to financially compensate spectrum users being displaced. Furthermore, as new services have been introduced, it has not been the practice of Industry Canada to ask new radio users to compensate existing users being displaced. Of course, private arrangements may be made between new radio users and existing users on a voluntary basis, within the provisions of the spectrum transition policy.

The transition policy for the LE-PCS spectrum should provide reasonable notification periods while ensuring that displacement actions are necessary for the implementation of LE-PCS. The transition rules for the LE-PCS spectrum should reflect the nomadic and non-nomadic nature of various LE-PCS product lines. The non-nomadic equipment can be deployed in many urban areas of Canada, provided that the supplier takes the necessary steps to avoid interference to/from local fixed microwave stations. On the other hand, nomadic equipment, which may be widely available at retail outlets, does not lend itself to any practical coordination mechanism. Industry Canada, in setting the minimum notification periods, has taken a number of factors into account including the following:
1. The displacement requirements for non-nomadic LE-PCS devices should affect a relatively small number of microwave assignments, given that coordination between LE-PCS suppliers and fixed service operators could eliminate some potential displacements.

2. The fixed microwave assignments in the 1910-1930 MHz band generally use large channel bandwidths, in the order of 10-29 MHz. Consequently, the displacement of one assignment in a given area can free-up considerable spectrum for LE-PCS devices.

3. The displacement exercise to make spectrum available for licenced PCS will partially clear the LE-PCS band due to the overlap of fixed microwave channels.

4. The introduction of nomadic devices will likely require that all or parts of the LE-PCS band be cleared. This may cause hardship to the incumbent microwave operators who could be faced with displacing a large number of assignments at once.

3.2.2 Transition Policy Provisions

The following transition policy provisions apply to the displacement of fixed stations to make available sufficient spectrum for licence exempt PCS devices in the 1910-1930 MHz band:

1. The displacement of frequency assignments of fixed stations and the date indicated in the notification will be based on demonstrated requirements for frequency spectrum necessary for the deployment of licence exempt PCS devices in Canada.

2. Non-Nomadic Licence Exempt PCS Devices

   2.1 Non-nomadic LE-PCS devices are defined as wireless devices whose spectrum usage can be identified as and controlled in a defined geographical area. The supplier must have control over the location of operation of such devices.

   2.2 Suppliers of LE-PCS devices, or their representative organization, 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).

   2.3 It is the responsibility of the LE-PCS equipment supplier(s), or their representative organization, 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.
2.4 The minimum notification period for the displacement of a fixed station frequency assignment is two (2) years.

3. Nomadic Licence Exempt PCS Devices

3.1 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.

3.2 It is the responsibility of LE-PCS equipment suppliers, or their representative organization, 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.

3.3 The minimum notification period for the displacement of fixed station frequency assignments to make spectrum available for nomadic LE-PCS devices across the country is three (3) years.

4. 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.

5. LE-PCS suppliers, or their representative organization, 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.

4.0 Mandate, Role, Structure and Operational Methods of an Industry Organization in the Introduction of LE-PCS in Canada

4.1 Discussion

Industry Canada supports the establishment of a single industry organization to advance the deployment of licence exempt PCS devices in Canada.
The response from the special committee of the RABC also indicates that such an organization would be in the interest of LE-PCS equipment manufacturers/suppliers and the incumbent fixed service operators. The basic mandate of the organization would be to advise Industry Canada on the fixed service transition and equipment compatibility matters. It would act as a focal point for LE-PCS deployment, collecting and collating industry information on the LE-PCS devices and formulating a national plan that reflects the deployment requirements and spectrum needs. It is recognized that, unlike the fixed service displacement process for licensed PCS, without an industry organization, the transition process would be driven by ad hoc requests from equipment manufacturers and suppliers which could lead to a disjointed transition exercise, which serves neither the fixed operators or the LE-PCS community.
4.2 Mandate and Role

The principal mandate of the industry organization is to provide advice to support the orderly introduction of licence exempt PCS devices in Canada in the 1910-1930 MHz band. The scope would include the following aspects:

- the coordination for industry of the transition of fixed station frequency assignments;
- the roll-out plan or deployment plan for LE-PCS devices; and
- the development of LE-PCS and fixed service coordination criteria.

The industry organization would act in an advisory capacity to the Department with no direct authority to displace existing licensees or to establish equipment compliance standards. Matters of displacement of fixed station frequency assignments will be handled in accordance with the Transition Policy as outlined in Section 3 of this document. The industry organization shall be open to all interested parties. The recommendations to Industry Canada should reflect a consensus view and, where appropriate, include dissenting opinions that have arisen during deliberations. Other points that further define the mandate and role of the industry organization include the following:

1. The organization should develop and maintain a deployment plan for nomadic and non-nomadic LE-PCS equipment. This plan shall denote the type of equipment, areas of deployment, spectrum requirements, deployment time frames and the identification of the affected fixed station frequency assignments.

2. The role of the organization is that of a facilitator and coordinator. Without input from interested parties such as manufacturers and users, it cannot suggest or recommend to Industry Canada any displacement action. It will be the responsibility of the industry organization to determine if substantive needs exist that warrant displacement of fixed service assignments. It is expected that the organization will adopt appropriate benchmarks to assist in the assessment of, or the need for, the displacement of any fixed station assignment(s). Any displacement action must be justified and deemed critical to the deployment of LE-PCS devices.

3. The organization should identify specific sub-bands, and operating conditions, in areas where non-nomadic devices could operate without potential interference to existing fixed service stations.

4. The organization should support private arrangements between LE-PCS equipment manufacturers/suppliers and affected fixed service operators for the early displacement of assignments in the 1910-1930 MHz band.

5. Note that the Department considers premature displacement of fixed station frequency assignment(s) a serious breach of public policy.
4.3 Structure

The creation, structure and funding of the industry organization would be the responsibility of the LE-PCS equipment manufacturers, or their agents. Industry Canada does not view this matter as requiring specific policy directions from government, however, on the question of membership the following points are offered as guidance:

1. Fixed service operators with assignments in the 1910-1930 MHz band, or their agent(s), be afforded full access to the proceedings and activities of the industry organization.

2. Industry Canada should be afforded observer status.

3. In general, any interested party should be permitted observer status at meetings of the industry organization.

The legal structure, including liability issues, of the industry organization should be established and well understood amongst the membership before any displacement requests are made.

4.4 Operational Methods

The operational methods are considered matters of the industry organization and, as such, do not require specific policy directives.

The industry organization should make specific recommendations to Industry Canada on fixed station assignment displacement requirements. The displacement guidelines, released by Industry Canada, entitled Displacement of Fixed Service Stations Operating in the 2 GHz Frequency Range to Accommodate Licensed Personal Communications Services (PCS), (CPC-2-1-09) provide details on the displacement process. Although this document was written primarily for licensed PCS operations, the process is generally applicable to licence exempt PCS.

The industry organization should forward recommendations dealing with equipment compatibility, sub-band designations and coordination criteria to the appropriate bodies in Industry Canada and the Radio Advisory Board of Canada (RABC).

5.0 Implementation

It is suggested that applicants contact the nearest office of Industry Canada regarding radio licensing in the bands covered in this policy document. General inquiries about the policy provisions may be addressed to the Spectrum and Radio Services Directorate, Telecommunication Policy Branch, 300 Slater St., Ottawa, Ontario, K1A 0C8 (Phone: 613-998-4470/3974) (Fax: 613-952-0567).
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