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Spectrum Management

Radio Systems Policy

Radio Systems Policies RP-003 and RP-005 Relevant to the Level of Usage of Mobile Systems and also the Definition of a Cellular Mobile Radio Service as originally set out in October, 1982

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Related Documents

SP-30-896 MHz, Part II - Spectrum Utilization Policy for the Mobile, Broadcasting and Amateur Services in the Frequency Range 30-896 MHz.

SMSE-001-05 Redeployment Plan for Spectrum Efficient Land Mobile Equipment in the Frequency Range 100-500 MHz (RDP 100-500 MHz)

SMSE-009-98 Redeployment Plan for Spectrum Efficient Land Mobile Equipment in the Frequency Range 100-500 MHz (RDP 100-500 MHz)

RP-019 Policy for the Provision of Cellular Services by New Parties

Canada

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Canada Gazette Notice DGTP-008-94 issued on November 26, 1994, proposed that the Radio Systems Policy (RP-005), for dispatch type mobile radio interconnection with the public switched telephone network, be rescinded. The 1994 Notice also dealt with the definition of a cellular radio service as originally set out in October, 1982. The present Notice provides the decisions on these matters and also raises a further but related matter of the loading guidelines for trunked mobile radio systems contained in the Radio Systems Policy RP-003.

A) Radio Systems Policy RP-005 for Dispatch Type Mobile Radio Interconnection with the Public Switched Telephone Network

RP-005, was issued in 1985 and addressed the issue of the effect on the use of the radio spectrum due to the interconnection of dispatch type mobile systems with the public switched telephone network (PSTN). This policy was intended to ensure the continued availability of spectrum for non-interconnected mobile radio communications (such as dispatch type mobile systems). It was recognized that the characteristics of the communications of dispatch systems comprise very short time duration messages whereas the messages of systems interconnected to the PSTN were significantly longer. The longer telephone messages could potentially create extensive demand for channel capacity and consequently for frequency spectrum. This policy limited the use of mobile interconnected telephone calls to retain access to spectrum and the priority of utilization for dispatch type mobile communications.

However, as recognized in the public comments, there are changes taking place with mobile radio technology which significantly increase the capacity of mobile systems traditionally used for dispatch systems enabling the addition of more service capabilities in the same amount of spectrum. These changes include the adoption of digital technology, trunking techniques and cellular frequency re-use techniques. It is expected that these radio system design and operational measures will enable the provision of mobile telephony without adversely affecting the communications capacity available for non-interconnected communications such as dispatch services.

Based on these considerations, Industry Canada proposed in the 1994 Notice that the Radio System Policy, RP-005 be rescinded. However, it was also stated that there would be a need for Industry Canada to require at least a minimum level of channel use or spectrum efficiency under certain circumstances. This proposal to rescind the RP-005 under these circumstances was supported by public comment and the RP will be rescinded. However, there was also some comment that there be an Industry Canada requirement that the minimum level of channel use may be varied according to regional spectrum congestion. Industry Canada concurs with this comment.

Some comment suggested that large integrated mobile systems evolving in the trunked mobile bands and providing both dispatch and mobile telephony should be subject to certain conditions applied to the licensing of cellular service providers. The conditions suggested were the rollout of services in a prescribed time limit, meeting prescribed levels of research and development and safeguarding the privacy of customer information.

Industry Canada has given consideration to the comments made, however, is of the view that the circumstances governing the evolution of established mobile dispatch systems into

integrated mobile systems differs from the situation that prevailed in the granting of licenses to two cellular providers in any geographical area, in blocks of spectrum set aside exclusively for the purpose. With respect to rollout, Industry Canada will continue to require that radio channels authorized for wide area integrated systems be implemented in accordance with schedules established in the licensing process, as a condition of license.

With respect to the matter of research and development commitments, Industry Canada is of the view that it would be difficult to mandate commitments for research and development based on a distinction as to when a mobile system had become wide area in comparison with the licensees of cellular radio. However, Industry Canada will encourage licensees for wide area systems to make the appropriate investment in research and development. The plans of applicants of wide area systems for investment in research and development will be a consideration in the application process. As to the matter of privacy of communications, this is a concern of mobile telephone users and we expect that all mobile service providers will take the necessary steps to safeguard privacy.

Based on the review of public comments, *Industry Canada rescinds the Radio Policy RP-005. Industry Canada may require at least a minimum level of channel use or spectrum efficiency under certain circumstances and in certain geographical areas as determined by the managing region of Industry Canada.* This matter of requiring a minimum level of channel use or spectrum efficiency is considered further in Part C of this Notice in a general discussion of loading criteria for trunked mobile systems.

B) Definition of Cellular Mobile Radio as originally set out in October, 1982

The Gazette Notice DGTP-007-94, published in November 1994, also dealt with a related matter of the definition of cellular mobile radio. On October 23, 1982, the former Department of Communications adopted, among other things, a definition for a cellular mobile radio system, published in Gazette Notice DGTN-006-82. The definition of cellular mobile radio set out in the 1982 Notice read as follows:

"A cellular system is a high capacity mobile radio system in which radio channels are assigned to one or more geographic cells within a defined service area." The definition then continued to describe the function of cell handover.

The 1982 Notice also went on to say:

"While this definition intentionally avoids placing any restriction on the type of mobile radio service to be provided by a cellular system, applicants are reminded that the assignment of radio frequency spectrum for cellular mobile radio was made expressly to alleviate the current shortages of frequencies for mobile telephone service, and to provide for long-term growth, including the introduction of the portable telephone. Therefore, *the Department will only consider at this time applications to provide a public mobile telephone service with some form of interconnection with the public switched telephone network [emphasis in original]*".

In the 1994 Notice, Industry Canada proposed a clarification to the definition for cellular radio to make it explicit that services such as dispatch, paging and mobile data could be carried by the cellular service providers. Although this proposed clarification was supported,

some parties commenting on the 1994 Notice expressed concerns that the wording of the clarification invited the development of non-cellular mobile services in bands designated for cellular radio. The point was also made that the cellular service providers currently provide other services such as paging in non-cellular bands.

In addition, Industry Canada released on June 15, 1995 the policy and call for applications for "Wireless Personal Communications Services in the 2 GHz Range". The policy provides among several provisions, full flexibility for the development of Personal Communications Services (PCS) and does not predetermine the services to be offered. This policy also places the use of the cellular spectrum on an equal footing with PCS at 2 GHz and regards both of these frequency bands as resources to advance the Telecommunications Objectives in Wireless Personal Communications.

In view of these developments, Industry Canada will place no limitations on the types of mobile radio or personal communications applications in the cellular mobile bands. However, in response to the concerns expressed by the potential competitors to expanded cellular services, Industry Canada believes that the bands designated for cellular mobile radio will continue to be used primarily for the provision of mobile telephony in the foreseeable future.

C) Consideration of the Loading Guidelines of Radio Systems Policy RP-003

The Radio Systems Policy RP-003 issued in January 1983 contains loading guidelines for trunked (multichannel) mobile radio systems. These loading guidelines were applied as well in the Radio Systems Policy RP-005 in the context of mobile systems interconnected to the PSTN. As discussed in Part A of this Notice, the Radio System Policy RP-005 is rescinded.

Industry Canada has been considering the application of these loading guidelines. We are of the view that the current guidelines, which comprise specific objectives for the number of mobile terminals per radio channel, have served a useful purpose in the consideration of license applications for trunking systems in many situations by establishing a minimum level of required usage of mobile channels prior to the assignment of additional channels. However, in some instances Industry Canada has found that in areas of spectrum congestion that it was more appropriate to use, as an alternative, a loading criteria based on communications traffic analysis (i.e. an estimation of the resulting grade-of-service).

Industry Canada invites public comment on the merits and disadvantages of the present use of the loading guidelines of RP-003, and other alternatives such as the use of criteria based on communications traffic analysis as a replacement or supplement. Views on other alternatives to the use of these criteria are welcomed.

Industry Canada invites interested and affected parties to provide their views and comments on the proposals contained in Part C of this Notice.

The document entitled, **Radio Systems Policies RP-003 and RP-005 relevant to the level of usage of mobile systems and also the definition of a cellular mobile radio service as originally set out in October, 1982**, is available electronically via the Internet at the following addresses:

Anonymous file transfer (FTP)

info.ic.gc.ca/pub/ic-data/regulatory/gazette/dgtp

Gopher

[info.ic.gc.ca/port 70/Industry Canada Documents/
Regulatory Information and Documents/Gazette/dgtp](http://info.ic.gc.ca/port70/IndustryCanadaDocuments/RegulatoryInformationandDocuments/Gazette/dgtp)

World Wide Webb (WWW)

<http://info.ic.gc.ca/ic-data/regulatory/gazette/dgtp>

Submissions in response to Part C of this Gazette Notice should be addressed to the Director General, Telecommunications Policy Branch, Industry Canada, 300 Slater Street, Ottawa, Ontario, K1A 0C8 and must be received on or before 20 November 1995 to receive full consideration. All representations should cite the Canada Gazette Part 1 Notice publication date, title, and the Notice reference number.

Written comments received in response to this Notice will be made available for viewing by the public two weeks after the closing date of this Notice, during normal business hours, at the Industry Canada Library, 365 Laurier Ave. West, Ottawa, and at the Offices of Industry Canada at Moncton, Montreal, Toronto, Winnipeg and Vancouver, for a period of one year from the close of the comment period.

Dated at Ottawa
this 10th day of August, 1995

Michael Helm
Director General
Telecommunications Policy Branch

