



Industry  
Canada

Industrie  
Canada

DGRB-005-09  
March 2009

Spectrum Management and Telecommunications

# **Consultation on Transition to Broadband Radio Service (BRS) in the Band 2500-2690 MHz**

## Department of Industry

### Radiocommunication Act

#### Notice No. DGRB-005-09 – Consultation on Transition to Broadband Radio Service (BRS) in the Band 2500-2690 MHz

Through this notice, Industry Canada hereby announces a consultation on the transition to Broadband Radio Service (BRS) and on the criteria to be used in the issuance of BRS licences to operators of qualified Multipoint Communication System (MCS) licences and Multipoint Distribution Service (MDS) authorizations. This notice also introduces the Stakeholder Proposal Development (SPD) process, which will be conducted soon after the release of this notice.

The Department is also announcing a moratorium, effective immediately, on new applications for broadcasting certificates in the band 2500-2690 MHz. All applications for broadcasting certificates already in the possession of Industry Canada will be processed, culminating in the issuance of a broadcasting certificate should all requirements be met. All outstanding documents necessary for the processing of these applications must be received by the Department within three (3) months of the date of this notice, otherwise the application will be returned.

In March 2006, Industry Canada issued policy decision *DGTP-002-06 — Policy Provisions for the Band 2500-2690 MHz to Facilitate Future Mobile Service* ([www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08551e.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08551e.html)). This policy enabled the implementation of mobile services for both MCS and MDS operators subject to the return of current authorizations and the issuance of new spectrum licences with the flexibility to offer mobile, fixed and broadcasting services in approximately two thirds of the originally authorized spectrum.

Given that some incumbents indicated their intent to pursue their existing business plans and expressed concerns about the uncertain future status of mobile services in the band, the Department did not impose a fixed transition date to BRS licences in the 2006 policy. Instead, the Department reserved the right to consult at a future date on issues related to such a transition. Since the issuance of the policy in 2006, international developments at the technological and regulatory levels have removed the uncertainty about the implementation of advanced mobile services in this band.

Licences such as BRS, which support a mix of services, including mobile, fixed and broadcasting, are often referred to as ‘flexible-use’ licences. The Department is committed to taking the necessary steps for the implementation of BRS in order to increase flexibility in service provision that would benefit Canadians by enabling the development of competitive high-speed mobile services. To this end, the Department is initiating the consultation process to determine whether to renew the licences and continue with voluntary conversion to BRS, or adopt a firm transition date for the implementation of BRS and related transition policies.

Although the 2006 policy provided details in terms of the spectrum for the new flexible-use BRS licences, it did not address eligibility criteria for conversion of MCS and MDS authorizations to BRS licences, nor did it address the geographic conversion of site-specific MCS licences and MDS authorizations to spectrum licences for BRS. This consultation will be used to determine the criteria to be applied for the voluntary conversion pursuant to the 2006 policy, as well as for the eventual implementation of the transition policy.

### **Submitting comments**

Respondents are requested to provide their comments in electronic format (XHTML, WordPerfect, Microsoft Word, Adobe PDF or ASCII TXT) to the following e-mail address: [spectrum.operations@ic.gc.ca](mailto:spectrum.operations@ic.gc.ca), along with a note specifying the software, version number and operating system used.

Written submissions should be addressed to the Director, Spectrum Management Operations, Radiocommunications and Broadcasting Regulatory Branch, Industry Canada, 300 Slater Street, Ottawa, Ontario, K1A 0C8.

All submissions should cite *Canada Gazette*, Part I, the publication date, the title and notice reference number DGRB-005-09. Parties should submit their comments no later than May 15, 2009, to ensure consideration. Soon after the close of the comment period, all comments received will be posted on Industry Canada's [Spectrum Management and Telecommunications Web site](http://www.ic.gc.ca/spectrum) at <http://www.ic.gc.ca/spectrum>.

The Department will also provide interested parties with the opportunity to reply to comments from other parties. Reply comments will be accepted until June 15, 2009.

### **Obtaining copies**

Copies of this notice and of documents referred to herein are available electronically on Industry Canada's [Spectrum Management and Telecommunications Web site](http://www.ic.gc.ca/spectrum) at <http://www.ic.gc.ca/spectrum>.

Official versions of *Canada Gazette* notices can be viewed at <http://canadagazette.gc.ca/partI/index-e.html>. Printed copies of *Canada Gazette* can be ordered by telephoning the sales counter of Canadian Government Publishing at 613-941-5995 or 1-800-635-7943.

March 6, 2009

---

Leonard St-Aubin  
Director General  
Telecommunications Policy Branch

---

Michael D. Connolly  
Director General  
Radiocommunications and  
Broadcasting Regulatory Branch

## Contents

<b>1.</b>	<b>Intent .....</b>	<b>1</b>
<b>2.</b>	<b>Background .....</b>	<b>2</b>
<b>3.</b>	<b>Consultation on a Firm Transition Date.....</b>	<b>4</b>
<b>4.</b>	<b>Consultation on Criteria to be Used when Issuing BRS Licences .....</b>	<b>4</b>
	4.1 Overview.....	4
	4.2 Qualification Requirements and Treatment of Incumbents .....	5
	4.3 Geographic Service Areas.....	8
<b>5.</b>	<b>Licence Fees.....</b>	<b>9</b>
<b>6.</b>	<b>Licence Conditions.....</b>	<b>9</b>
	6.1 Licence Term .....	9
	6.2 Licence Transferability and Divisibility and Subordinate Licences.....	10
	6.3 Eligibility Criteria .....	10
	6.4 Displacement of Incumbents.....	10
	6.5 Radio Station Installations .....	11
	6.6 Provision of Technical Information.....	11
	6.7 Compliance with Legislation, Regulations and other Obligations .....	11
	6.8 Technical Considerations.....	11
	6.9 International and Domestic Coordination.....	11
	6.10 Lawful Interception.....	11
	6.11 Research and Development (R&D) .....	12
	6.12 Implementation of Spectrum Usage.....	12
	6.13 Mandatory Antenna Tower and Site Sharing.....	12
	6.14 Annual Reporting.....	12
	6.15 Amendments .....	12
<b>7.</b>	<b>Submitting Comments.....</b>	<b>13</b>
	7.1 Instructions for Submitting Comments.....	13
	7.2 Public Access.....	14
<b>8.</b>	<b>Stakeholder Proposal Development on a Band Plan for BRS .....</b>	<b>14</b>
<b>9.</b>	<b>Additional Consultations.....</b>	<b>16</b>
	9.1 Consultation on a Policy and Licensing Framework for the Auction of Liberated and Available Spectrum.....	16
	9.2 Consultation on Licence Fees .....	16
<b>10.</b>	<b>Further Information .....</b>	<b>17</b>
	<b>Appendix A: Incumbent MDS and RDU Stations having Broadcast Certificates or Pending Applications.....</b>	<b>18</b>

## 1. Intent

The 2006 policy decision, *DGTP-002-06 — Policy Provisions for the Band 2500-2690 MHz to Facilitate Future Mobile Service*, adopted a spectrum utilization policy that designates this band for mobile, fixed and broadcasting use. The term used in this and future documents for policy, technological and licensing purposes in this band will be Broadband Radio Service (BRS) where any of the allocated services can be used, including mobile, fixed or broadcasting.

Transition to BRS licensing is intended to provide maximum flexibility to operators by allowing them to offer a variety of services based on market demand rather than on a single purpose licence (fixed or broadcasting distribution). Increased regulatory flexibility would allow licensees to realize the full potential of the spectrum and benefit Canadians by enabling the development of competitive high-speed mobile services.

The licence terms for incumbents in the band are coming to an end in 2011. In accordance with the 1999 Multipoint Communication System (MCS) policy,<sup>1</sup> a consultation process should 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 a licence or if renewal fees and/or changes to conditions of licence are contemplated. The Department is initiating this consultation process to determine whether to renew the licences and continue with voluntary conversion<sup>2</sup> to BRS, or adopt a firm transition date to BRS and related transition policies.

While the 2006 policy provided details in terms of the spectrum for the new flexible licences under BRS, it did not address eligibility criteria for conversion of Multipoint Communication System (MCS) and Multipoint Distribution Service (MDS) authorizations to BRS licences, nor did it address the geographic conversion of site-specific MCS licences and MDS authorizations to spectrum licences for BRS. This consultation will establish the criteria to be used in such conversion to enable the Department to process requests pursuant to the 2006 policy. It is also proposed that these same criteria be used in the transition policy for the issuance of BRS licences for any remaining qualified site-specific MCS licences and MDS operations should they not be already converted to BRS. This consultation also provides an opportunity for the public to comment on the conditions of licence to be attributed to the voluntarily converted BRS spectrum licences until such time as the consultations to finalize the policy and licensing framework, which may include additional conditions, are concluded.

Finally, the Department is placing a moratorium, effective immediately, on new applications for broadcasting certificates in the band 2500-2690 MHz.

---

<sup>1</sup> See <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01858.html>

<sup>2</sup> The word conversion is used in this document when the licences are returned voluntarily prior to the end of term in exchange for a BRS licence, as opposed to the word ‘transition,’ which is used when the Department clears a band for the implementation of new services starting at a specific date. Transition policies also address the treatment of all incumbents; in this particular case, it would also address the treatment of incumbents not eligible for BRS licences.

## 2. Background

The *Spectrum Utilization Policy for the Fixed and Broadcasting Services in the Band 2500-2686 MHz* (SP 2500 MHz) was first released in 1985 and then revised in 1989 and 1991. The band was divided into 6 MHz channels that yielded 31 channels in the band 2500-2686 MHz split on a 16/15 basis between the fixed and broadcasting service. In SP 2500 MHz, MCS was defined as one- or two-way video applications in the fixed service that includes Instructional Television (ITV) and fixed point-to-multipoint systems. MDS was defined as a point-to-multipoint distribution system intended for reception by the public. It followed that MDS would be authorized pursuant to licensing by the Canadian Radio-television and Telecommunications Commission (CRTC) under the *Broadcasting Act*. The CRTC has issued MDS licences on a market-by-market basis, using its competitive licensing process.

In 1995, after a public process, Industry Canada issued licences to several school boards in Manitoba for the carriage of distance education and several MCS channels were licensed in Manitoba for ITV. At the same time, two private entities applied for and received MCS licences. Only one of these two licensees remains in operation today.

In response to interest from several companies, Industry Canada launched a competitive licensing process in 1999 for MCS systems in the band 2500-2596 MHz to provide a range of local telecommunications distribution services across Canada, but with the exclusion of Manitoba.<sup>3</sup> On March 22, 2000, the Department announced the recipients of the MCS spectrum licences from this competitive licensing process.<sup>4</sup>

The remaining 4 MHz in the band (2686-2690 MHz) contiguous with the top end of the MDS band was divided between MCS and MDS systems for fixed-return spectrum. The result is that the band 2500-2690 MHz is divided between two very specific and limited services. The band plan consists of two large, unpaired spectrum blocks and 4 MHz of spectrum from 2686-2690 MHz for return links for MCS and MDS.

At the World Radiocommunication Conference in 2000 (WRC-2000), the band 2500 to 2690 MHz was identified for IMT-2000 radio services (also known as third generation mobile or 3G services). The identification of this band by the ITU has created significant interest, as it is the only band identified by the ITU for next generation mobile services on a global basis. High-capacity mobile services may be offered in this band because of good radio propagation characteristics, the prospect of relatively low-cost equipment and the large spectrum blocks that can accommodate the latest broadband technologies. These factors make this spectrum unique and valuable.

---

<sup>3</sup> See <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01858.html>

<sup>4</sup> See <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf02107.html>

Following WRC-2000, there was concern that existing MCS/MDS services would be affected by the future use of 3G services in the band. In November 2001, Industry Canada indicated that the fixed and mobile services would be allocated throughout the band 2500-2690 MHz, but this announcement did not change the terms and conditions of existing licences. Incumbent licensees could continue to pursue their business plans in accordance with the terms and conditions of their licences. The Department also indicated that it would consult on licensing considerations.<sup>5</sup>

In April 2004, the Department announced changes to the *Canadian Table of Frequency Allocations* in order to allocate fixed and mobile services across the band, and sought public comments on licensing considerations arising from the changes in the frequency allocations.<sup>6</sup> The result was the release of the policy in March 2006 that announced provisions to facilitate future mobile services in the band.<sup>7</sup> This policy states that "...enabling the mobile service gives effect to the fundamental reallocation of the spectrum made in 2001. There is an overriding policy need to accommodate the introduction of new services, such as mobile and broadband Internet access, and to encourage the most efficient use of the spectrum. Consequently, the development of licensing considerations appropriate to the mobile service is important."

At the time of issuance of this policy, there remained some uncertainty regarding the timing and amount of spectrum required to implement mobile services. Some operators indicated a desire to pursue new wireless opportunities, including mobile services, whereas others were uncertain as to the timing for the implementation of new services. As a result, the Department did not launch an exercise to displace incumbent licensees and change their spectrum assignments, but instead adopted a voluntary conversion policy. In this 2006 policy, the Department reserved the right to decide whether and when to adopt and implement a new band plan as well the right "*to take any action necessary to ensure that the new band plan is implemented and that the incumbents fully conform to the new band plan and this policy, at a date determined by the Department and after due notice.*" The Department also advised that it would consult the industry on these matters.

The term of the licences of incumbent licensees ends in 2011 and, according to the 1999 policy for MCS, a consultation would take place should changes to the licences be envisaged. The Department is initiating the consultation process for the transition to new BRS licences, as the Department proposes that BRS licences will be issued rather than renewing MCS licences. A transition policy would affect all incumbents in the band 2500-2690 MHz because the sub-bands 2535-2568 MHz and 2657-2690 MHz would not be part of the BRS licences issued to incumbents after the transition date. Eligible MCS and MDS incumbents would be issued BRS licenses for approximately two thirds of their current spectrum holdings. The bands 2535-2568 MHz and 2657-2690 MHz, and all other available spectrum, would be made available through an auction.

Lastly, this paper addresses conditions of licence that will apply to both licences issued through voluntary conversion, as well as those issued as a result of the transition policy.

---

<sup>5</sup> See <http://www.ic.gc.ca/eic/site/ic1.nsf/eng/02881.html>

<sup>6</sup> See DGTP-004-04 <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08162.html>

<sup>7</sup> See DGTP-002-06 <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08551.html>

### **3. Consultation on a Firm Transition Date**

Following the release of the 2006 policy, there was interest and support for the decision to issue BRS licences. Companies began assessing the new options for going forward and began testing equipment capable of offering services that could operate under BRS licences. More recently, the Department received an application for conversion of an MDS licence to BRS and approval for a licence was granted.

The Department notes that continuing with the voluntary conversion process as set out in the 2006 policy will result in a piecemeal process, which will make transition to a new band plan extremely challenging. Given that MCS and MDS licences expire in 2011, the Department is hereby consulting on whether renewal of MCS and MDS licences at the end of the current licence term is appropriate given the circumstances, or whether March 31, 2011, should be set as the firm transition date to BRS licensing.

Setting a firm transition date would facilitate the adjustment of incumbents to a new band plan to be consulted on in the near future – see Sections 8 and 9.1. It would allow for a single release of the spectrum currently held by the Department, along with the spectrum made available as a result of the conversion and transition to BRS licensing.

The Department is seeking comments on its proposal to adopt a firm transition date to BRS rather than renew MCS and MDS licences.

Should a firm transition to BRS be adopted, the Department is proposing March 31, 2011, as the transition date to BRS, as it coincides with the end of licence term for the current MCS licences.

In parallel with this consultation, the Department will organize discussions with MCS and MDS incumbents, with the goal of developing proposals to align the licences with a new internationally compatible band plan applicable to BRS. These discussions, referred to as Stakeholder Proposal Development (SPD), would use the 2006 policy as a baseline and take into consideration the views of the various stakeholders. If the SPD discussions result in a proposal from the incumbents, such a proposal will be included in the subsequent public consultation for consideration. Further details regarding the SPD process are provided in Section 8.

### **4. Consultation on Criteria to be Used when Issuing BRS Licences**

#### **4.1 Overview**

The 2006 policy outlined the options available to MCS licensees and MDS operators, but did not address the qualification requirements for issuance of a BRS licence nor the geographic dimension to be assigned to BRS licences. This section addresses the criteria to be used to establish eligibility for conversion and the geographic service area for BRS licences issued on the basis of the 2006 policy.



In a letter to the CRTC dated June 20, 2003, Industry Canada informed the CRTC that the Department was imposing a moratorium on the availability of MDS spectrum for areas where MDS broadcasting licences had not been issued. In a subsequent letter to the CRTC dated September 27, 2006, Industry Canada informed the Commission that the Department would be issuing a consultation paper on the issues related to setting a firm transition date to allow for nationwide implementation of a new band plan and the mobile service in the band 2500-2690 MHz. This letter also stated that the Department would not consider renewing broadcasting certificates for any MDS licences beyond 2011, until the next round of consultations clarifies the timing for the implementation of the mobile service and the new band plan.<sup>8</sup>

Three types of MCS licences have been issued to date:

- (1) site-specific licences for school divisions in Manitoba for the carriage of distance education and Instructional TV (ITV);
- (2) radio licences for the provision of Internet access in Manitoba; and
- (3) spectrum licences for the provision of a range of fixed local telecommunications distribution services across Canada, except in Manitoba.

And there are two types of CRTC authorizations considered in this consultation:

- (1) licensed MDS; and
- (2) licence-exempt RDUs.

## **4.2 Qualification Requirements and Treatment of Incumbents**

### **4.2.1 MCS Licences in Manitoba**

Site-specific MCS licences exist only in the province of Manitoba. In 1991, SP 2500 MHz defined MCS as one- or two-way video applications in the fixed service that includes ITV and fixed point-to-multipoint systems. Licences were issued to school boards in Manitoba for distance education and in ITV. The Department notes that unlike all other MCS licences, the licences issued to Manitoba school boards cover small amounts of spectrum, from 1.5 MHz to 26.6 MHz. The application of the conversion criteria, in which any spectrum in the sub-bands 2535-2568 MHz and 2657-2690 MHz needs to be returned in exchange for increased flexibility, would leave some school boards with reduced spectrum and, in most cases, not enough to benefit from the efficiencies of BRS equipment.

Around the same time as the school boards were applying for licences, two private companies applied to the Department for MCS licences in Manitoba with the intention of offering wireless data services. Both companies were issued licences for 6 MHz channels; however, only one company remains operational today, providing Internet services in addition to its MDS offering.

The Department is seeking comments on the options that should be made available to the school boards and the commercial MCS licensee in Manitoba. These options include transitioning to BRS, adopting a transition policy with a suitable notification period, grandfathering, or allowing the school boards to retune elsewhere in the band.

---

<sup>8</sup> <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08701.html>

In considering these options, it is important to note that traditionally, when introducing new services in a band, the Department adopts a transition policy whereby incumbents must move out of the band after a suitable notification period and at their own cost when it has been demonstrated that the incumbents' operation prevents the deployment of the new services. The Department may identify new frequency bands in which the incumbents can apply for new licences in order to continue their operations and retune their equipment to the new frequencies. In other cases, the Department grandfathers the incumbent's licences, which provides continued protection against interference. In these cases, new licensees may make agreements with the incumbents to encourage the incumbent to vacate the band.

The Department seeks comments on the options that should be applied to the Manitoba school boards and the commercial MCS licensee:

- Option 1 – Eligible for conversion to BRS;
- Option 2 – Subject to a transition policy; or
- Option 3 – Grandfathered.

#### **4.2.2 MCS Spectrum Licences**

After Industry Canada issued licences to the Manitoba school boards and the two private companies in 1995, the Department received numerous requests for the use of this band for point-to-multipoint systems for the commercial provision of broadband access. This led to the 1999 MCS policy that resulted in spectrum licences being issued, through a competitive process, to two Canadian carriers for all parts of Canada except Manitoba.

These licences will expire on March 31, 2011, and form a part of this consultation only with respect to setting a firm transition date to BRS.

#### **4.2.3 CRTC-Licensed MDS Broadcasting Stations**

The Department notes that there are three components to the authorization of CRTC-licensed MDS systems:

- (a) a CRTC Decision;
- (b) an Industry Canada broadcasting certificate; and
- (c) a CRTC broadcasting licence.

The requirements for MDS broadcasting stations are further elaborated in section 22 of the *Broadcasting Act*.

The CRTC issues decisions for market areas, some of which identify large areas of a province. CRTC licences may be for all or part of the area covered by the decision. Industry Canada issues broadcasting certificates for individual MDS transmitters, where the requirements set out in [BPR-6 - Application Procedures and Rules for Multipoint Distribution Television Broadcasting Undertakings](#) have been met. The broadcasting certificate provides Industry Canada's authorization to serve a specific geographic area as defined by an associated contour map. Over time, as MDS operators have advanced their deployments, there are areas where only one or two of the required three components' authorizations exist.

Appendix A identifies licensees and locations for MDS stations for which a broadcasting certificate has been issued or for which an application for a broadcasting certificate has been received and is still considered active.

CRTC licences are renewed following a public process to establish the terms and conditions of the licences for the subsequent term. Licences for MDS stations will expire on August 31, 2011.

In response to requests from MDS operators, the CRTC agreed that MDS operators could use up to 50% of their MDS spectrum for non-broadcasting purposes. This usage requires a separate spectrum licence from Industry Canada that must be renewed annually. The existing licences are for 6 MHz blocks of spectrum. The conversion of licences to BRS applies only to those frequencies in the band 2500-2690 MHz. The Department notes that these licences cover the same frequencies as the MDS authorizations and, as such, are subject to the same considerations.

Industry Canada invites comments on which component(s) (i.e. CRTC Decision, Industry Canada broadcasting certificate, and CRTC licence) should be required for licensed MDS in order to qualify for conversion to BRS in a given area.

Should MDS stations that do not meet the eligibility criteria be protected through a transition policy (notification period prior to displacement) in the event that a firm transition date to BRS is adopted?

#### 4.2.4 CRTC Licence-Exempt Broadcasting Stations in Rural Areas

The CRTC allows for the operation of licence-exempt broadcasting stations. In an appendix to Broadcasting Public Notice CRTC 2002-45, pursuant to subsection 9(4) of the *Broadcasting Act*, the CRTC exempted from the requirements of Part II of the Act and any regulations, those persons carrying on radiocommunication distribution undertakings (RDUs) as defined by specific criteria. The criteria included, among other things, that the RDUs:

- (a) serve small, rural and remote communities having small populations;
- (b) distribute the services of one or more programming undertakings;
- (c) meet all the technical requirements of Industry Canada, including acquiring all authorizations or broadcasting certificates prescribed by the Department; and
- (d) not make use of digital MDS technology.

The Department notes that licence-exempt broadcasting stations are low-power and located in rural areas of the country where it is likely that their existence will not hinder the future deployment of BRS.

Comments are also sought on whether CRTC licence-exempt systems that serve small, rural and remote communities having small populations should be treated differently from the CRTC-licensed systems.

Should these undertakings not be eligible for conversion and a firm transition date to BRS is adopted, the Department seeks comments on what would constitute a suitable notification period for these stations to retune to available frequencies or cease operating. Notification would be given only if the MDS station would prevent the deployment of a BRS system.

### **4.3 Geographic Service Areas**

#### **4.3.1 MCS Licences**

Section 4.2 above provides the background regarding both site-specific and spectrum MCS licences.

Site-specific MCS licences were issued on a fixed point-to-point and point-to-multipoint basis. The majority of these licences are located within the geographic confines of two Tier 3 areas or six Tier 4 areas. In a limited number of cases, point-to-multipoint systems with site-specific licences issued to one carrier cross two Tier 4 area borders.

MCS spectrum licensees were awarded for the provision of commercial broadband services through a comparative process. These licences will be treated in accordance with the conditions of licence specified at the time that the licences were issued, and are considered part of this consultation only with respect to the setting of a firm transition date.

#### **4.3.2 MDS Authorizations**

The CRTC has licensed MDS systems based on the market area to be served, whereas Industry Canada requires contour maps to be included with the broadcasting certificate application. Neither the market areas nor the system contour maps correspond directly to spectrum licence areas (service area tiers based on Statistics Canada's Census Divisions and Subdivisions) most commonly used by Industry Canada ([http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h\\_sf01627.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01627.html)). There are four tier levels, with Tier 4 being the smallest areas, and Tier 1 corresponding to a national licence.

The Department notes that there are certain advantages to using Tier 4 areas to define the BRS authorizations for operators converting from MDS. In particular, by using the smallest tier areas, the Department is able to more closely match the contour maps of the MDS authorization. In some cases, the assignment of more than one Tier 4 area may be required. Where operators plan to continue to offer fixed services, the smaller licensed areas may be more practical and offer opportunities for more operators to be licensed.

The use of Tier 3 areas has other advantages. Tier 3 areas are larger than Tier 4 areas and would facilitate the planning and implementation of large scale, high-mobility systems. They are also consistent with the smallest licence area issued for mobile operations in the AWS auction.

Based on the coverage maps provided by MDS operators, there is only one MDS entity per tier in any given tier irrespective of whether Tier 3 or Tier 4 areas are selected. It should be noted that an entity may have more than one MDS authorization located within a given Tier 3 or 4 area. In such cases, only one MDS authorization in a given Tier service area is required to qualify in order to obtain a BRS licence for that tier.

Industry Canada seeks comments on whether Tier 3 or Tier 4 licence areas are the most appropriate for the conversion of site-specific MCS licences to BRS spectrum licences, where applicable, and for conversion of MDS authorizations, including Industry Canada spectrum licences issued in the 2596-2690 MHz band.

## 5. Licence Fees

MDS licensees operating in the 2600 MHz frequency band as non-broadcasting service providers are required to apply for MCS spectrum licences and pay the annual radio authorization fees established in *Canada Gazette* Notice DGRB-013-99. The MDS licensees operating as commercial broadcasting undertakings pay fees stipulated in the *CRTC Broadcasting Licence Fee Regulations* (1997). Site-specific MCS licensees pay an annual licence fee based on the licence fee structure established in Schedule III of the *Radiocommunication Regulations*. Given the changes to allocations in the 2500-2690 MHz band, Industry Canada believes that it is necessary to review the existing licence fees.

The Department will be consulting on a new licence fee applicable to all BRS licences issued to incumbents through either the voluntary conversion process or the transition policy.

In the interim, the radio authorization fees established in *Canada Gazette* Notice DGRB-013-99 will continue to apply to MCS spectrum licences. This fee will also be used for all BRS licences issued pursuant to the conversion or transition processes until such time as a new fee order has been established. The existing licence fees will remain in effect for site-specific MCS licences.

## 6. Licence Conditions

Licensees must be fully aware of their obligations with respect to licence terms and conditions. Industry Canada will monitor compliance and take any necessary action to ensure compliance and to enforce the provisions of the *Radiocommunication Act* and the *Radiocommunication Regulations*.

The Department proposes that the following interim conditions apply to BRS licences issued when converting MCS licences or MDS authorizations pursuant to the 2006 policy.

All conditions of licence and authorizations (i.e. MCS, BRS, and MDS broadcasting certificates) are subject to change following the consultation on the policy and licensing framework for the auction of available and liberated spectrum in the band 2500-2690 MHz. This will allow for licence conditions to be aligned and consistent with future licences issued in this frequency band.

### 6.1 Licence Term

The BRS licences issued through a conversion process will expire on March 31, 2021. This would be the same expiry date for BRS licences issued through the transition process should a firm transition date of March 31, 2011 be adopted.

With a view to establishing a common process for renewal of all spectrum licenses, the nature and details of the renewal process for long-term licences will be developed through a separate consultation to be initiated by the Department in the context of the *Framework for Spectrum Auctions in Canada*. That renewal process would apply to all long-term licences, including BRS. Licence renewal of BRS licences will be subject to the rules developed through that public consultation.

## **6.2 Licence Transferability and Divisibility and Subordinate Licences**

The licensee may apply in writing to transfer its licence in whole or in part (divisibility), in both the bandwidth and geographic dimensions. Departmental approval is required for each proposed transfer of a licence, whether the transfer is in whole or in part. The transferee(s) must also provide an attestation and other supporting documentation demonstrating that it meets the eligibility criteria and all other conditions, technical or otherwise, of the licence.

The Department may define a minimum bandwidth and/or geographic dimension (such as the grid cell) for the proposed transfer. Systems involved in the transfer shall conform to the technical requirements set forth in the applicable standard.

The licensee may apply to use a subordinate licensing process. As with a transfer of licence, an applicant for a subordinate licensing process must meet all eligibility criteria and all other conditions, technical or otherwise, of the licence.

For more information, refer to Industry Canada's Client Procedures Circular, *Licensing Procedure for Spectrum Licences for Terrestrial Services* (CPC-2-1-23), as amended from time to time, which can be found at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01875.html>.

Should a spectrum cap be implemented in this band, compliance with the spectrum cap will be required when considering a licence transfer or the issuance of a subordinate licence.

## **6.3 Eligibility Criteria**

A licensee operating as a radiocommunication carrier must comply on an ongoing basis with the eligibility criteria in section 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.

A licensee operating as a radiocommunication service provider must comply on an ongoing basis with the eligibility criteria in section 9(1) 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 transaction within its knowledge.

For more information, refer to Industry Canada's Client Procedure Circular, *Canadian Ownership and Control* (CPC-2-0-15), as amended from time to time, which can be found at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01763.html>.

A licensee that intends to offer broadcasting services must meet the eligibility criteria as determined by the CRTC through the *Broadcasting Act* and obtain a broadcast licence from the CRTC.

## **6.4 Displacement of Incumbents**

The licensee must comply with existing and future transition policies related to the displacement of fixed systems as may be issued.

## **6.5 Radio Station Installations**

Although site-specific radio licences will not be required for each radio station, licensees must ensure that each radio station is installed and operated in a manner that complies with Industry Canada's Client Procedures Circular, *Radiocommunication and Broadcasting Antenna Systems* (CPC-2-0-03), as amended from time to time, which can be found at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08777.html>.

## **6.6 Provision of Technical Information**

When Industry Canada requests technical information on a particular station or network, the information must be provided by the licensee to the Department according to the definitions, criteria, frequency and timelines specified by the Department. For more information, refer to Client Procedures Circular, *Licensing Procedure for Spectrum Licences for Terrestrial Services* (CPC-2-1-23), as amended from time to time, which can be found at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01875.html>.

## **6.7 Compliance with Legislation, Regulations and other Obligations**

The licensee is subject to, and must comply with, the *Radiocommunication Act*, the *Radiocommunication Regulations* and the International Telecommunication Union's *Radio Regulations* pertaining to its licensed radio frequency bands. The licence is issued on condition that the certifications made in relation to this licence are all true and complete in every respect. The licensee must use the assigned spectrum in accordance with the *Canadian Table of Frequency Allocations* and the applicable Industry Canada policies, procedures and standards, as amended from time to time. The licensee must also abide by applicable provisions of other statutes and rulings of other statutory bodies, such as the Canadian Radio-television and Telecommunications Commission (CRTC) or the Competition Bureau.

## **6.8 Technical Considerations**

The licensee must comply with the appropriate Radio Standards Specifications and Standard Radio System Plans, as amended from time to time.

## **6.9 International and Domestic Coordination**

The licensee must comply with the current and future agreements established with other countries. While spectrum licences are not subject to individual site licensing requirements, the licensee may be required to furnish all necessary technical data for each relevant site.

The licensee will use its best efforts to enter into mutually acceptable sharing agreements that will facilitate the reasonable and timely development of their respective systems, where applicable, and to coordinate with other licensed users in Canada and internationally, where applicable.

## **6.10 Lawful Interception**

Licensees using 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.

The licensee may request the Minister of Industry to forbear from enforcing certain assistance capability requirements for a limited period. The Minister, following consultation with Public Safety Canada, may exercise the power to forbear from enforcing a requirement or requirements where, in the opinion of the Minister, the requirement is not reasonably achievable. Requests for forbearance must include specific details and dates indicating when compliance to the requirement can be expected.

Applicants should be aware that a legislative package is being developed to ensure that law enforcement and national security agencies acting with lawful authority have effective access to communications and information. Industry Canada continues to meet with Public Safety Canada and the Department of Justice on this initiative, and will provide licensees with appropriate guidance until such time as any new legislation is enacted.

### **6.11 Research and Development (R&D)**

All licensees operating as radiocommunication carriers must invest, as a minimum, 2 percent of their adjusted gross revenues resulting from their operations in this spectrum, averaged over the 10-year term of the licence, in eligible research and development activities related to telecommunications. Eligible research and development activities are those which 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. Businesses with less than \$5 million in annual gross operating revenues are exempt from research and development expenditure requirements, except where they have affiliations with licensees that hold other licences with the research and development condition of licence and where the total annual gross revenues of the affiliated licensees are greater than \$5 million.

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* (GL-03), which can be found on the Spectrum Management and Telecommunications website at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01638.html>.

### **6.12 Implementation of Spectrum Usage**

The Department will take into account implementation in considering eventual renewal of BRS licences.

### **6.13 Mandatory Antenna Tower and Site Sharing**

The licensee must comply with the mandatory antenna tower and site sharing requirements set out in Industry Canada's Client Procedures Circular, *Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements* (CPC-2-0-17), as amended from time to time, which can be found at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09081.html>.



## 6.14 Annual Reporting

Licensees must submit an annual report for each year of the licence term. The report must include the following information:

- a statement indicating continued compliance with all conditions of licence;
- an update on the implementation and spectrum usage within the area covered by the licence;
- existing audited financial statements with an accompanying auditor's report;
- a report of the research and development expenditures for licensees operating as radiocommunication carriers whose annual gross operating revenues exceed \$5 million (the Department reserves the right to request an audited statement of research and development expenditures with an accompanying auditor's report);
- supporting financial statements where licensees are claiming an exemption based on an annual gross revenue of less than \$5 million; and
- a copy of any existing corporate annual report for the licensee's fiscal year with respect to the authorization.

Annual reports are to be submitted, in writing, to Industry Canada at the address below within 120 days of the licensee's fiscal year-end. Where a licensee holds multiple licences, the reports should be broken down by service area. Confidential information provided will be treated in accordance with section 20(1) of the *Access to Information Act*.

Manager, Emerging Networks  
Radiocommunications and Broadcasting Regulatory Branch  
Industry Canada  
300 Slater Street, 15th floor  
Ottawa, Ontario K1A 0C8

## 6.15 Amendments

The Minister of Industry continues to have the power to amend the terms and conditions of spectrum licences (paragraph 5(1)(b) of the *Radiocommunication Act*).

Industry Canada seeks comments on these licence conditions proposed for voluntarily converted BRS licences.

## 7. Submitting Comments

### 7.1 Instructions for Submitting Comments

Instructions for submitting comments can be found in *Canada Gazette* Notice DGRB-005-09. After reviewing all input received, the Minister of Industry will make final policy decisions. A notice announcing the decision will be published in the *Canada Gazette*.

## 7.2 Public Access

All submissions received in response to this consultation paper will be made available for viewing on the Spectrum Management and Telecommunications website at the following address:  
<http://www.ic.gc.ca/spectrum>.

## 8. Stakeholder Proposal Development on a Band Plan for BRS

The Stakeholder Proposal Development (SPD) involves the facilitation of discussions with MCS and MDS incumbents, with the goal of developing proposals to align the spectrum that they would retain following the transition to BRS with a new internationally compatible band plan applicable to BRS. These discussions would use the 2006 policy as a baseline and take into consideration the views of the various stakeholders and the international band plan model (see Figure 2). If the SPD discussions result in a proposal from incumbents, such a proposal will be included in the subsequent public consultation for consideration.

Frequency planning and the details of implementation have a significant impact on the usability and value of the spectrum. The effects can range from enabling substantial economies of scale, allowing new applications and technologies and facilitating roaming arrangements, to severely curtailing deployment and leading to significant guard bands required to avoid harmful interference.

Currently, the band is divided into two large, contiguous, unpaired blocks of spectrum. Internationally, band plans have been proposed that are based on the basic model of paired blocks, separated by an unpaired block of spectrum.

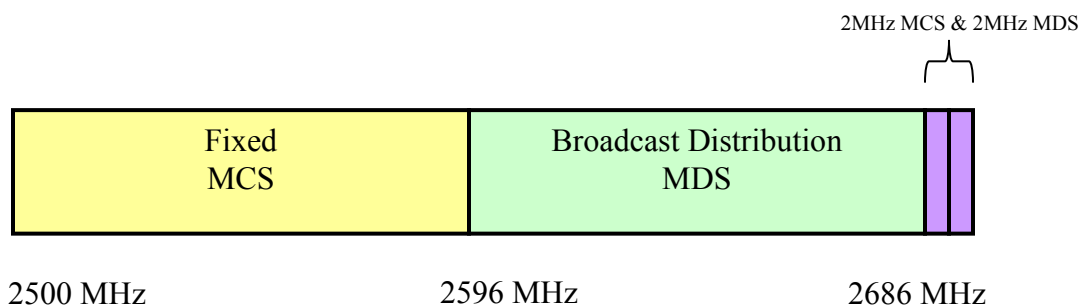


Figure 1: Current Band Plan in Canada

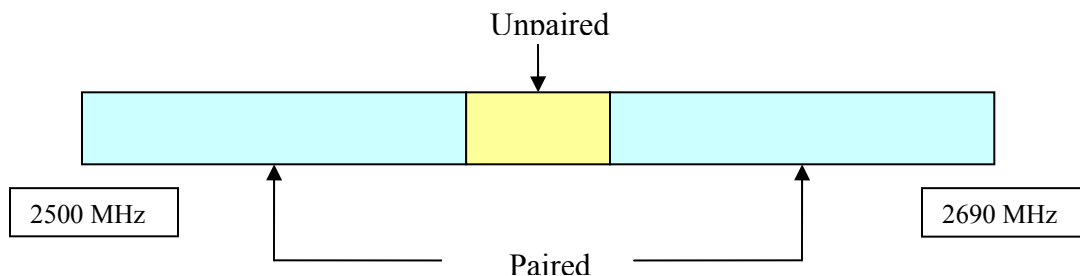


Figure 2: Basic model of the band plan adopted by the European Commission, the United States and many other countries around the world

The basic model allows for paired blocks of spectrum, which is typical for wide area mobile systems. This model can also be used for fixed wireless access and multimedia. The U.S. Federal Communications Commission (FCC) adopted this basic model through which incumbents have the flexibility to deploy Time Division Duplex (TDD) technology (unpaired) or Frequency Division Duplex (FDD) technology (paired) anywhere in the band.

In Canada, incumbents currently hold unpaired spectrum. As per the 2006 policy decision, Industry Canada intends to migrate from the current band plan shown in Figure 1 to the basic model of the band plan as shown in Figure 2. The Department expects that relevant technical issues, such as the use of TDD or FDD technology and high-power or low-power usage, will be raised in the informal discussions and may be included in the proposal put forward in the next public consultation on the use of spectrum in this band.

The migration of the incumbent's network facilities and terminal devices from the existing services and band plan to the new technical parameters and band plan for BRS is another suggested topic of the SPD discussions. Although Section 3 above addresses the issue of a firm date for the MCS/MDS licence transition to BRS, it is recognized that the physical migration of the associated network facilities will require a finite amount of time due to the technical complexities involved. Through the SPD process, the incumbents may wish to propose to the Department an orderly migration process by which the existing network facilities in the band will be replaced or converted to BRS, with a minimum of costs and service disruptions to existing users.

Recognizing that significant guard bands may be required between spectrum using FDD and TDD technologies, as well as between unsynchronized TDD systems, Industry Canada believes that it is in the industry's interest to carefully consider the technological aspect in formulating a proposal for technical rules. These discussions could lead to the development of a proposal that would accommodate all MCS and MDS incumbents in a band plan compatible with the basic model and be agreeable to the stakeholders.

The SPD process will begin soon after the release of this consultation on transition and is expected to be completed within three (3) months. A summary record of the discussions will be made available.

## **9. Additional Consultations**

In order to give effect to the mobile allocation and flexible licences in this band, several additional issues need to be addressed in future consultations. The Department intends to consult on these issues in order to finalize the transition to BRS, to finalize the band plan and licence conditions, to develop the policy and licensing framework for the auction of available spectrum, and finally to adopt new fees. These issues have been divided into groups of topics following different steps.

### **9.1 Consultation on a Policy and Licensing Framework for the Auction of Liberated and Available Spectrum**

This consultation will involve three major elements:

- (1) the policy framework;
- (2) the licensing framework; and
- (3) the band plan and relevant technical issues.

Areas that the Department will consult on in the policy framework include:

- currently unlicensed spectrum;
- spectrum that may be returned pursuant to the 2006 policy; and
- spectrum made available after the transition of incumbents to their new BRS licences.

The consultation will also address the licensing framework for the auction of the band 2500-2690 MHz and is expected to include:

- conditions of licence applicable to all BRS spectrum licences (as a starting point, the Department will propose the conditions of licence, applicable on an interim basis to the BRS licences issued through conversion or transition);
- additional conditions of licence applicable to the spectrum to be auctioned (there may be changes to the licence conditions to BRS licences issued to current MCS and MDS incumbents in order to align and be consistent throughout this frequency band); and
- market and competition issues (the Department may consult on the use of tools to promote competition such as a spectrum cap or a spectrum set-aside for new entrants).

Finally, the consultation will address the band plan and relevant technical issues and is expected to include:

- the migration from the current to the new band plan;
- proposal(s) from the SPD process; and
- changes to the *Canadian Table of Frequency Allocations* pursuant to WRC-07 that increased the constraints on future satellite systems in order to better protect terrestrial systems.

### **9.2 Consultation on Licence Fees**

The Department will consult on a licence fee for BRS licences; the consultation may take place after the auction of available spectrum. These licence fees should reflect the market value of the spectrum to the extent possible.

## **10. Further Information**

All spectrum-related documents referred to in this paper are available on the Spectrum Management and Telecommunications website at <http://ic.gc.ca/spectrum>.

For further information concerning the process outlined in this document or related matters, contact:

Manager, Emerging Networks  
Radiocommunications and Broadcasting Regulatory Branch  
Industry Canada  
300 Slater Street, 15th floor  
Ottawa, Ontario K1A 0C8  
Telephone: 613-990-4411  
Fax: 613-991-3514  
E-mail: [spectrum.operations@ic.gc.ca](mailto:spectrum.operations@ic.gc.ca)

**Appendix A: Incumbent MDS and RDU Stations Having Broadcast Certificates  
or Pending Applications**

<b>Licensee</b>	<b>Location</b>
CABLEVISION T.R.P. INC.	Rimouski
CABLEVISION T.R.P. INC.	Rivière-du-Loup
CABLEVISION T.R.P. INC.	Trois-Pistoles
CLUB SOCIAL LA GRANDE	Camp Eastmain 1
CLUB SOCIAL LA GRANDE	Némiscau
CLUB SOCIAL LA GRANDE	Rupert
CRAIG WIRELESS INTERNATIONAL INC.	Abbotsford
CRAIG WIRELESS INTERNATIONAL INC.	Austin
CRAIG WIRELESS INTERNATIONAL INC.	Beausejour
CRAIG WIRELESS INTERNATIONAL INC.	Brandon
CRAIG WIRELESS INTERNATIONAL INC.	Chatfield
CRAIG WIRELESS INTERNATIONAL INC.	Chilliwack
CRAIG WIRELESS INTERNATIONAL INC.	Darwin
CRAIG WIRELESS INTERNATIONAL INC.	Dauphin
CRAIG WIRELESS INTERNATIONAL INC.	Elie
CRAIG WIRELESS INTERNATIONAL INC.	Falcon Lake
CRAIG WIRELESS INTERNATIONAL INC.	Foxwarren
CRAIG WIRELESS INTERNATIONAL INC.	Fraserwood
CRAIG WIRELESS INTERNATIONAL INC.	Hamiota
CRAIG WIRELESS INTERNATIONAL INC.	Kelowna
CRAIG WIRELESS INTERNATIONAL INC.	Lac Du Bonnet
CRAIG WIRELESS INTERNATIONAL INC.	Melita
CRAIG WIRELESS INTERNATIONAL INC.	Newdale
CRAIG WIRELESS INTERNATIONAL INC.	Penticton
CRAIG WIRELESS INTERNATIONAL INC.	Riding Mountain
CRAIG WIRELESS INTERNATIONAL INC.	Selkirk
CRAIG WIRELESS INTERNATIONAL INC.	Vancouver
CRAIG WIRELESS INTERNATIONAL INC.	Vernon
CRAIG WIRELESS INTERNATIONAL INC.	Victoria
CRAIG WIRELESS INTERNATIONAL INC.	Winnipeg
LOOK COMMUNICATIONS INC.	Aurora
LOOK COMMUNICATIONS INC.	Barrie
LOOK COMMUNICATIONS INC.	Brantford
LOOK COMMUNICATIONS INC.	Cambridge
LOOK COMMUNICATIONS INC.	Camp Fortune
LOOK COMMUNICATIONS INC.	Covey Hill
LOOK COMMUNICATIONS INC.	Fonthill
LOOK COMMUNICATIONS INC.	Georgetown
LOOK COMMUNICATIONS INC.	Guelph
LOOK COMMUNICATIONS INC.	Hamilton
LOOK COMMUNICATIONS INC.	Joliette
LOOK COMMUNICATIONS INC.	Kitchener
LOOK COMMUNICATIONS INC.	London
LOOK COMMUNICATIONS INC.	Milton
LOOK COMMUNICATIONS INC.	Mont-Royal
LOOK COMMUNICATIONS INC.	Orangeville
LOOK COMMUNICATIONS INC.	Oshawa
LOOK COMMUNICATIONS INC.	Ottawa
LOOK COMMUNICATIONS INC.	Québec
LOOK COMMUNICATIONS INC.	St. Catharines

LOOK COMMUNICATIONS INC.	Sainte-Anne-de-Bellevue
LOOK COMMUNICATIONS INC.	Saint-Hyacinthe
LOOK COMMUNICATIONS INC.	Toronto
LOOK COMMUNICATIONS INC.	Trois-Rivières
LOOK COMMUNICATIONS INC.	Upper Lachine
LOOK COMMUNICATIONS INC.	Woodstock
VAL GAGNE COMMUNICATIONS	Monteith
YOURLINK INCORPORATED	Annaheim
YOURLINK INCORPORATED	Birch Hills
YOURLINK INCORPORATED	Caron
YOURLINK INCORPORATED	Crooked Lake
YOURLINK INCORPORATED	Duff
YOURLINK INCORPORATED	Elstow
YOURLINK INCORPORATED	Grenfell
YOURLINK INCORPORATED	Kenaston
YOURLINK INCORPORATED	Lloydminster
YOURLINK INCORPORATED	North Battleford
YOURLINK INCORPORATED	Rama
YOURLINK INCORPORATED	Regina
YOURLINK INCORPORATED	Spiritwood Acres
YOURLINK INCORPORATED	Stranraer
YOURLINK INCORPORATED	Swift Current
YOURLINK INCORPORATED	Vanscoy
YOURLINK INCORPORATED	Veregin
YOURLINK INCORPORATED	Warmley
YOURLINK INCORPORATED	Watson
YOURLINK INCORPORATED	Wilkie
YOURLINK INCORPORATED	Yorkton
YOURLINK INCORPORATED	Zenon Park

Source: Industry Canada