

Canada Gazette Notice DGRB 002-09: Consultation on the Renewal of Cellular and Personal Communications Services (PCS) Spectrum Licences: March 28, 2009

Comments of First Networks Operations Inc.

Introduction

First Networks Operations Inc. (“FIRST or First Networks”) is a start up cellular company proposing to offer wireless service using 800 MHz spectrum. It will serve rural and remote areas that currently have no wireless mobile service or where the service is provided only by the mobile divisions of the incumbent telephone companies.

On March 28, 2009 Industry Canada published *Gazette Notice DGRB 002-09: Consultation on the Renewal of Cellular and Personal Communications Services (PCS) Spectrum Licences*. In this notice Industry Canada (“Industry Canada” or “the Department”) requested comments on its proposal to renew the licences and the licence conditions that would apply to new cellular and PCS licences and existing licences that expire on March 31, 2011.

The Department notes in *Gazette Notice DGRB 002-09* that it considers its spectrum licensing policy, as it has been amended and developed over the past 27 years, to have been successful in ensuring that the vast majority of the Canadian population is able to enjoy the benefits of mobile telephone service. It states that:

“The deployment of services in the cellular and PCS bands has been extremely successful. PCS and cellular service are in great demand, with more than 21 million wireless subscribers in Canada at the end of Q3/08. According to the CRTC’s 2008 report to the government, wireless service is available to 98% of Canadians and covers 20% of the geography. This coverage is significant considering Canada’s vast land mass, which covers just less than 10 million km².”

This statement makes it appear that the policies pursued by Industry Canada and to a lesser extent by the CRTC have succeeded in providing mobile telephone services throughout Canada to the satisfaction of all residents. First Network’s agrees with the Department that mobile services have been made available to the vast majority of the population. However, the statistics cited obscure the fact that the policies continue to leave large areas of the country underserved and many rural and remote communities without any wireless mobile services whatsoever.

Canada is a very large country with a highly urbanized population. Most Canadians live in or around large cities or close to them. Significant numbers also live in smaller centers on or near transportation routes in southern Canada. People in the relatively dense population areas in the south generally are adequately served and usually have access to more than one wireless services provider.

The same is not true for many rural and remote areas. In areas that are more distant from population centers or away from major transportation routes wireless service becomes progressively less available. In large areas of all provinces and territories services are often available only from a single provider. As such, customers in these areas do not have a choice of service provider and do not benefit from a competitive market in wireless service. They also have to put up with extended areas on transportation routes where there is marginal service or no service at all. The absence of serious competition in many rural areas of Canada may be a benefit to the incumbent mobile companies but does not serve customers very well.

Rural customers in southern Canada, however, can count themselves lucky compared with those in remote and northern areas. The residents of northern and remote areas in Canada typically have no access to wireless services whatsoever. Where cellular service is available in the north it is by and large confined to the larger population centers. Normally there will be only one service provider in the bigger centers and absolutely no service in the smaller communities. The northern and remote areas are characterized by small population centers, huge distances and severe climatic conditions. Consequently northern and remote areas are the ones that most need reliable and affordable wireless services.

First Networks agrees with the Department that cellular and PCS deployment has been extremely successful as long as it is referring only to *southern population centers*. FIRST does not agree that deployment can be called a success in Canada taken as a whole. The 80% of the geography that is not covered is not just empty space. It contains people and those people need reasonably priced wireless services. All wireless customers also need a choice of service providers before wireless deployment can be judged a success.

The Department notes with respect to rural areas:

“Although some rural areas of the country are still unserved by cellular and PCS, service is being provided in areas where licensees have determined that there is a viable and sustainable business case. Licensees continue to slowly expand their services to Canadians and there are mechanisms in place for others who are interested in obtaining spectrum in unserved and underserved areas.”

This statement appears to indicate Industry Canada recognizes that even in the face of overall success in providing service to the vast majority of Canadians; there is recognition that some areas are still unserved. The implication is that any lack of service in rural areas is explained by the absence of a viable and sustainable business case for providing services in those areas. The statement further suggests that any improvements in providing service in rural and remote areas will come as existing licensees slowly expand their services or that existing mechanisms are in place for third parties to obtain spectrum to serve unserved and underserved areas.

First Networks is of the opinion that the view expressed in this statement is incorrect on two counts. The first incorrect assumption is that the existing business model of the incumbent carriers is capable of eventually providing service in all areas of the country and secondly that the existing spectrum policy options for non-incumbent or third parties to provide service adequately address the service in rural remote areas. First Networks believes that both of these premises are incorrect. The resolution therefore is that a different model supported by different rules must be employed to provide service.

General Conditions in today's marketplace that work counter to the original intent of the policy when formulated

The existing AWS, PCS, Digital Cellular, Policy for the Provision of Cellular Services by New Parties (Notice # DGTP-005-98) and The Universal Connectivity Fund have all been trumpeted as bringing lower cost mobile services to Canadians and increasing access to mobile services. In each and every case this may be the case for Canadians who live in the more densely populated and southern parts of Canada but it does not apply to those living in Northern Canada, be it Manitoba, Ontario, Quebec or elsewhere.

Many agencies and associations use the broad statistical averages that the Department references in DGRB 002-09 (98% of Canadians having cellular services and that cover 20% of Canada's geography). While this is certainly an achievement it does not answer the question of what percent of the population has more than one provider? More important is what percent of the geography has more than one provider?

Under the current wireless business model, the incumbent mobile license holders must invest in infrastructure upgrades where they can get the best return and where they can protect their highly competitive urban market share. This *does not and cannot* translate into bringing cellular service to the 'unserved and underserved', 'rural and remote' markets. There is simply no incentive to spend network capital in areas that have little prospect of earning a return comparable to the returns on investment in dense urban areas. So while the statistics accurately portray that 98% of Canadians have access to wireless services, there are two thirds of a million people who lie outside the service boundaries who lack any wireless service and many times more who lack a choice of service providers. Currently there is no viable plan in place to address this gap in wireless service.

First Networks considers that Industry Canada's policies, respecting the provision of wireless services in areas of low population density, do not reflect the changes in technology that have enabled new business and technical models for providing low volume/low density service elsewhere in the world.

Network Architecture/Business Model

All wireless incumbents currently employ network switching systems that have evolved from non-IP based large centralized switching. This architecture, while it is evolving towards a more flexible design, is not friendly to: satellite back-haul as an integral part of

the network; low cost industry-standard IP devices; or intelligent edge-of-network control devices. Developments in these areas are making it possible to provide wireless service in small and remote communities at a small incremental cost compared to the more traditional systems employed by the incumbent wireless carriers. In the vast majority of cases the incumbent's core network architecture does not allow a "mix and match" of standard off-the-shelf devices that provide low cost, low traffic volume solutions for mobile service delivery.

The incumbent network model is based on the premise network development should occur outward on a contiguous basis, following transportation corridors. While this makes economic, financial and market sense in southern Canada it does not in rural/remote & unserved/underserved areas. The very long road distances between communities that very often use satellite and air travel as their preferred service methods favour 'islands' of communications service linked by satellite. Again this runs counter to network planners, their technology and their investment models

Flexible, IP-based, satellite network designs are currently in use in many countries around the world often in areas that are characterized by dispersed populations in habiting extended geographic areas. This model is poorly or not at all understood by regulators, investors or analysts in Canada who continue to believe in a technology or network model that requires massive capital investment, the kind of investment that can only be undertaken by very large carriers with access to equally large capital resources. As a result such low-cost, low traffic volume approaches to rural/remote & unserved/underserved areas have not been supported, encouraged or adopted, to the detriment of those Canadians who in fact need the flexibility of mobile communications the most.

Technology designed, developed and deployed for low density, remote markets operating elsewhere in the world should be encouraged through the creation of policy options that are distinct from those for dense urban and suburban areas. The current wireless development model in Canada discriminates against the rural/remote & unserved/underserved areas. A one-size-fits-all approach to the provision of wireless service has served rural and remote areas poorly and needs to be amended to encourage development of these markets. Department policy must begin to look at urban and rural/remote markets in Canada as separate and distinct and design policies for these separate markets.

First Network's suggestions on policy options are outlined in further comments below.

Proposed Changes to Some of the Existing Licence Conditions at Renewal

4.1 Licence Term and Renewal

First Networks has no comment on this issue at this time.

4.2 Spectrum Aggregation Limit

First Networks has no comment on this issue at this time.

4.3 Research and Development

It can be argued that the SR&ED provisions have benefited Canada and the research community, however this tax provision has had little direct effect on the Canadian wireless community's service provisioning performance, in fact during the period that SR&ED has been in effect Canadian leadership in wireless service delivery has fallen behind most other parts of the world.

SR&ED funding by small carriers in Rural/Remote & Unserved/Underserved areas is only feasible if they join 'consolidator' groups that provide for co-operative research. The likelihood of applicable results from the required SR&ED investment for such markets is very low, especially given the size of the required investment. A change of definition based on market size and provision to encourage innovative application of existing technology into these types of demographic and geographic conditions could be more beneficial.

4.4 Resale and Roaming

See below

4.5 Implementation of Spectrum Usage

The Department notes with respect to spectrum usage that the cellular and PCS markets are well established. It states that majority of the Canadian population is covered by these services. As First Networks has explained above, the use of general population statistics understates and does not reflect the reality throughout vast areas of Canada where there is no service or service only by the incumbent telephone companies' wireless services. There are therefore large areas in rural Canada where spectrum has been assigned to incumbent wireless carriers that is not being used at all. There are also some incumbents that have been granted PCS spectrum that they are not using. These carriers sit on unused PCS spectrum in high-density urban areas while they continue to operate 800 MHz spectrum which is better suited to rural/remote & unserved/underserved areas. A rational spectrum policy would take account of this waste or misuse of resources to encourage new entrants where the incumbents have failed to provide service. Such a policy would also encourage the most appropriate use of spectrum to ensure that lower frequency spectrum is used in rural areas where it is more effective and provides better network coverage.

In the same vein, Industry Canada should also consider not allowing 800 MHz incumbent carriers to add future 700 MHz spectrum when they have failed to build-out their 800 network into rural areas. The 700 MHz band is one of the best commercial frequency options (as defined by North American availability

of network equipment, handsets and frequency reach) for providing service under the demographic and geographic constraints in the rural/remote & unserved/underserved market areas.

Existing Licensing Processes for Related to Service in Unserved and Underserved Areas

Gazette Notice 002-09 notes that the Department has mechanisms in place for parties other than the incumbent wireless companies who are interested in obtaining spectrum in unserved and underserved areas. The two mechanisms are: the use of secondary markets, and the provisions outlined in RP-019, *Policy for the Provision of Cellular Services by New Parties*. First Networks considers that both of these mechanisms have severe shortcomings and have not produced the outcomes for which they were intended.

Transfer/Subordinate Licensing of Spectrum/Commercial Agreement

The secondary market mechanism involves the transfer of spectrum and/or subordinate licensing agreements between an incumbent wireless carrier and a new entrant to provide service in an area that the incumbent does not plan to offer service. Although this type of arrangement would appear to offer a reasonable means of gaining access to unused spectrum, in practice it is difficult to work out mutually satisfactory commercial arrangements between two such entities. This arises mainly from the simple disparity between the two parties.

The incumbent carrier for all intents and purposes owns the spectrum and certainly exercises complete control over it. The incumbent also is vastly larger and has enormous resources as compared with a new entrant. There is no equality in negotiating the terms of transfer or subordinate licensing. The incumbent in effect has the power and the incentive to dictate the terms of the commercial relationship. The incumbent as spectrum owner has effective control over the entrants expansion plans *if* it is successful. It can also build commercially restrictive covenants into the agreements for spectrum and the other services for which the entrant depends on the incumbent. The entrant must accept the conditions demanded by the incumbent or risk being denied access to spectrum. Because spectrum is a resource that the entrant cannot do without, control of the relationship rests entirely with the incumbent. Consequently, the incumbent exercises effective control over the business of the entrant.

RP-019 Process

The procedures established under RP-019, *Policy for the Provision of Cellular Services by New Parties* permit parties to request Industry Canada to assign them 800 MHz spectrum that is not being used in areas where there current no cellular service or where there is only one service provider. The mechanism has been little used to date because it suffers from a number of problems.

The primary problem with RP-019 is that it is a public process. The new entrant has to announce to its potential competitors that it intends to offer service in a particular area. The Department then asks the incumbent owner of the unused spectrum whether it has any plans to offer service in that area within a specified time frame. The process also entails a public notice to solicit where other parties are interested in providing service in the specified area. This process is enormously time consuming and expensive for a new entrant. More importantly it telegraphs the entrant's intentions to its competitors and allows them to develop a competitive response to block or further delay the new service provider.

Both the transfer/subordinate licensing and RP-019 process suffer from one main flaw. The incumbent owns/controls the scarce resource, spectrum. It therefore has the power to set the terms of any commercial arrangement to its own advantage. The RP-019 process on the other hand gives the incumbent tremendous power to block or delay the new entrant and gives its competitors advance notice to they can prepare a pre-emptive response.

First Networks considers the relative lack of third party wireless entrants in Canada as ample evidence of the inadequacy of these mechanisms in extending service to unserved and underserved areas.

Recommendations respecting Spectrum Licensing in Canada

Gazette Notice 002-09 states that Industry Canada proposes to renew cellular and PCS licences where the licence is in compliance with all licence conditions. However, First Networks takes the view that the existing licensing regime has failed to provide the means and incentives through which wireless services could be extended to unserved and underserved areas. That being the case First Networks offers the following recommendations:

1. Spectrum in densely populated areas should be treated differently than spectrum in rural and remote areas. The Department should examine the possibility of decoupling both cellular and PCS licence spectrum in unserved and underserved rural remote areas from the incumbent's currently existing deployed network areas. Incumbents existing operating networks should be part of the of the renewal process. Areas where they have not built network at the time of the licence renewal should be treated as part of a new a Rural/Remote and Unserved/Underserved Licence Policy. This would effectively remove unused spectrum from control of the incumbent and place it in the hands of the Department to promote the provision of wireless service in unserved and underserved areas.
2. In keeping with the recommendation to treat high and low population areas differently, future spectrum auctions should not include rural/remote and unserved/underserved areas in a manner that bundles them with high population areas. Combining high and low density areas for the purposes of auction has not

lead to effective service in the low density areas. Experience has shown that combining service areas with high and low densities does not lead to adequate service or competition in the low density parts of the combined areas.

First Networks believes that the Department must undertake a fundamental review of its licensing policies in rural and remote areas if it wants to achieve universal access to wireless services

Conclusion

First Networks believes that the Department should undertake a thorough review of its spectrum licensing policies in light of two significant facts. The first fact is that its existing policies have not produced the desired result of extending wireless service to all Canadians. Although the unserved and underserved areas in Canada represent only a small portion of the population, they represent a large amount of geography. People in these rural and remote areas have special needs and would benefit significantly from the provision of wireless service. These benefits include: enhancements to road safety in isolated areas; aiding in the development of resource exploration and extraction industries; support for small/medium sized businesses and contractors; provision of additional flexible voice services that reflect the mobile demands of rural and seasonal residences; and maintenance of family structures within the context of rural-urban migration trends.

The second fact is that the network and business models on which Department policy has been based is no longer the only model for providing wireless services. It does not require huge and massively capitalized service providers to provide service in isolated communities. Companies like First Networks can provide service in isolated areas at a significantly lower infrastructure investment and at relatively low cost.

Department policy has to recognize the inadequacy of its existing policy for rural and remote areas and undertake a review of its mechanisms to grant spectrum to new entrants in the light of First Networks comments and recommendations above.

First Networks would like to thank the Department for the opportunity to provide comments for this consultation on the review of cellular and PCS licences.