Look Communications Inc.

Response to

Notice Number DGTP-002-07

Consultation on a Framework to
Auction Spectrum in the 2 GHz
Range including Advanced Wireless Services

May 2007
May 23, 2007

Look Communications Inc. Response to Proposals in:

Notice No. DGTP-002-07 Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services

General

Look Communications Inc. is pleased to provide input to the consultation process detailed in the notice “Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services”. Look has decided to respond to all sections where comments are solicited, as well as the other essential topics that must be addressed prior to the consultation process for AWS, such as “Infrastructure Sharing”.

Look is a Multipoint Distribution Service (MDS) provider that operates in Ontario and Quebec with licenses from the Canadian Radio-television and Telecommunications Commission and fixed broadband wireless licenses from Industry Canada. A pioneer in digital television in Canada, Look has deployed an extensive (2596 – 2686 MHz) MDS broadcast network in Ontario and Quebec to provide television and wireless internet services to over 20,000 Canadian families and businesses. The wireless internet product offered by Look utilizes the MCS and MDS return bands spanning 2150 – 2162 MHz.

Look recognizes that this consultation is an important step in the growth and development of wireless mobile markets in Canada. The ongoing efforts by the Department to make additional spectrum available for both fixed and mobile applications and its intent to align spectrum uses with the United States will provide Canadian consumers with a wider range of wireless services and products that will meet their individual desires and needs.

Look is pleased to provide the following responses and recommendations to the Department:
2.7 Addressing the Potential for New Entry

Industry Canada:

In consideration of the present circumstances, the Department seeks comments on whether there is a need for measures intended to enable market entry in the AWS spectrum auction.

Look’s Response:

Measures to enable, and to encourage market entry in the AWS spectrum auction are most definitely required. Look agrees with the assertion put forward in the consultation notice that, “Creating an opportunity for new entry at the time of auction is, in many respects, the only time to introduce further competition in the wireless industry.”

The cellular industry in Canada is currently dominated by Rogers Wireless, Bell Mobility and Telus. Nearly all the extremely valuable mobile spectrum awarded to the incumbents (Rogers Cantel Wireless & Bell Mobility) was awarded in the mid eighties, with a nominal yearly rental fee and nearly all PCS spectrum licenses awarded in the 2001 auction were acquired by these companies. Mobile 3G data services in the PCS band are widely available along with fixed data services in the 2500 – 2596 MHz MCS band (license held by Rogers and Bell in all provinces except Saskatchewan and Manitoba). These three companies divided up the PCS auction among themselves and paid nearly identical amounts for the same amount of PCS spectrum, but received their initial spectrum allocation for free in the late nineties. To encourage other players to enter the wireless market via the AWS spectrum auction will require special incentives, such as a spectrum set-aside and bidding incentives.

The risk of not taking explicit action to enable and promote market entry is the continued consolidation and dominance of market power by the big three cellular concerns who are best placed to win the AWS spectrum auction. As stated in the consultation notice, the risk of taking explicit action is that of potentially uneconomic entry. But that is highly unlikely. There are many “second tier” communication companies in Canada who may now be ready to “step up”, some on a national and others on a regional basis. Possible contenders are the smaller telcos such as SaskTel and MTS Allstream as well as cable MSOs such as Videotron, Cogeco and Shaw. The market place is currently dominated by “bundle packages” where a service provider offers a package that includes television, home telephone, home internet and wireless services. Companies such as Videotron, Shaw and Cogeco are clearly missing their own wireless offering from their service package and are at a disadvantage as a result. The risk of uneconomic entry is low. There is undoubtedly interest from relatively large concerns to procure an AWS license.

The choice cell site locations have already been taken by the large wireless concerns that are in position to rapidly deploy an AWS network by co-locating the AWS base-station in existing cellular sites and placing new antennas on existing towers. In addition municipalities have serious problems with the visual look of such antennas that are
placed on towers and roof top buildings. In contrast, new market entrants will be faced with a significant delay to deploy an AWS network and may not be able to obtain significant market share as a result. Given this imbalance, some form of infrastructure sharing must be considered. Newcomers must be able to share cell-sites with the wireless incumbents. Sharing should include towers, antennas, antenna down-leads, electric power, fiber-optic conduits and perhaps the actual base-station radio and related electronics (if the two parties use the same wireless technology). The decision on infrastructure sharing must be made clear, mandatory and with regulatory enforcement availability, failing which the incumbents will make it prohibitive to negotiate individual arrangements (by way of example, cable companies taking years to grant access to cable internet services). These policies must be in place well before the auction to permit new entrants the time to assess the policy. This will facilitate the availability of capital to these new entrants as financial markets are reluctant to provide funding to a new entrant when it is competing with an oligopoly. This will also ensure a larger participation of potential bidders as well as higher prices for the auction by the government.

In section 3, Look will support the idea of mandating incumbent wireless operators to offer roaming services, which will be much easier to implement, if infrastructure sharing is in place.

2.7.1 **Spectrum Set-Aside**

<table>
<thead>
<tr>
<th><strong>Industry Canada:</strong></th>
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<tbody>
<tr>
<td>The Department seeks comments as to whether a certain amount of spectrum should be set aside for new entrants. Comments should include a precise description of those who should or should not be entitled to bid.</td>
</tr>
<tr>
<td>Comments are sought on the amount of spectrum that could potentially be set aside. Comments should include whether a single block should be set aside or if the set-aside could be broken up into two or more blocks.</td>
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<tr>
<td>Comments should stipulate how such provisions would be in the public interest, and provide supporting evidence or rationale.</td>
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<tr>
<td>Comments are sought on the implementation of the set-aside post auction and the duration of any conditions of licence specific to the set-aside that may affect the licence such as divisibility and transferability.</td>
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<tr>
<th><strong>Look’s Response:</strong></th>
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<tr>
<td>Look agrees that a certain amount of spectrum should be set aside for new entrants, and not be available to the cellular incumbents. Companies that should not be entitled to bid on the spectrum set-aside are Rogers Wireless and its affiliates (including Fido), Bell Mobility and it affiliates and Telus Mobility and its affiliates.</td>
</tr>
</tbody>
</table>
New wireless entrants should be allowed to bid on spectrum not included in the spectrum set-aside. Hence, new entrants will have the right to bid on any piece of the AWS bands whereas the three major incumbents can bid on only the spectrum blocks outside the spectrum set-aside.

To attract new entrants, and to encourage them to bid on spectrum not part of the set-aside, it will be suggested in the comments to Section 6 that a “handicap” should be included in the bidding process where a new entrant is given a 50% “new entry” credit. This takes into account both the awarded spectrum given to the three major incumbents as well as the 25 year lead time to market that they have enjoyed.

As an incentive to encourage market entry, it is recommended that 30 MHz of paired (1700/2100 MHz) spectrum be set aside for new market entrants. The 30 MHz of paired spectrum can be drawn from either spectrum blocks A, B, C or D of Figure 1 in the consultation notice. One possible combination that may be suitable for the set-aside is spectrum block B (5 + 5 MHz) and block C (10 + 10 MHz).

The 30 MHz of paired spectrum block would provide sufficient high mobility spectrum to offer an extensive range of services, including voice and data and would help to offset the advantage held by the big three cellular incumbents who currently dominate the mobile bands in Canada. This will clearly encourage new entrants into the market and foster greater competition in the wireless communications field, ultimately benefiting Canadian consumers.

In addition, the 1670-1675 MHz should be set aside for new entrants. This “orphan” piece of spectrum requires the development of proprietary handsets for the Canadian market. However, it may be useful for broadcast video purposes (One such network is being beta tested by Modeo in the United States) and may help ease the high bandwidth demands that video services place on a network for new entrants.

2.7.2 Spectrum Aggregation Limit on Auctioned Spectrum

**Industry Canada:**

*The Department seeks comments as to whether an auction spectrum aggregation limit should be placed on the amount of spectrum that can be acquired by a single wireless service provider and its affiliates. Comments should include the amount of spectrum for the auction spectrum aggregation limit, to which bands it should apply and the duration.*

**Look’s Response:**

If AWS spectrum is set aside for new entrants then a spectrum aggregation limit is not strictly required and may in fact reduce competitive bidding for the remaining spectrum, resulting in lower returns for the auction.
If AWS spectrum is not set aside for new entrants then an AWS spectrum aggregation limit of 30 MHz of paired spectrum (15 + 15 MHz) is proposed for the 1710-1755 MHz and 2110-2155 MHz band only, for the proposed 10 year term. Aggregation limits for the PCS expansion band (1910-1915 and 1990-1995) and 1670 – 1675 MHz need not be considered. The incumbents already have such a lead and strategic advantage in the PCS that there will unlikely be any other bidders.

The aggregation limit should apply to the combined spectrum holdings of a wireless service provider and its affiliates. Affiliates should be clearly defined to include any companies who are affiliated for legal purposes or have a partnership or undertaking with respect to their wireless spectrum holdings such as the Inukshuk Wireless partnership of Bell and Rogers.

Any participant that has a wireless affiliation or a partnership should be considered affiliates for the upcoming AWS auction. For example, Rogers and Bell (“Inukshuk Wireless Partnership LLP”), applied in 2005 to Industry Canada to put all new 2.3 GHz and 3.5 GHz spectrum recently acquired in an auction into a partnership. It was only after being denied permission by Industry Canada did these two companies remove their 2.3 GHz and 3.5 GHz from the partnership (for the time being). Clearly they are partners, plan to be partners and given their choice, would most likely put their entire spectrum into the partnership. Rogers and Bell should be considered affiliates.

3.0 Mandated Roaming

**Industry Canada:**

The Department invites comments on mandating incumbent mobile wireless operators to offer roaming services – to both competing and non-competing Canadian carriers – to foster the development of competitive wireless communication services.

Comments are invited on the extent to which the lack of mandated roaming could be a barrier to entry into the wireless market.

Comments are sought on what services should be included in any mandated roaming and to what specific frequency band(s) roaming should apply.

Comments are sought on the mechanisms that would best implement the policy objectives regarding roaming.

**Look’s Response:**

Look supports the idea of mandating incumbent mobile wireless operators to offer roaming services to both competing and non-competing Canadian carriers. The justification for mandated roaming is as clear now as it was in 1995 with the emergence of digital cellular telephony. Without mandated roaming a new service provider will only be able to offer limited coverage to customers while the network is being deployed (likely...
over the course of several years). This will be a significant barrier for entry into the market as incumbents can fall back to traditional voice and data services in the PCS bands to overcome coverage gaps in the growing network. Roaming will also permit and facilitate the development of regional mobile service providers like Videotron in Quebec, yet still permitting national coverage to their customers.

Roaming services should include all applications including both voice and data applications. Roaming and resale of services should apply for transfers between one AWS network to another (assuming the handset supports the technology used in the other AWS network), or from an AWS network to a PCS network. To be fair to incumbent wireless operators, transfers from a competing AWS network to their network should only be permitted in areas where the competing service does not have coverage because it is only a regional service provider or has not completed its rollout with a time limit of two years. This can be done by setting up a pre-determined “tariff” for players who would like to roam on networks outside of their respectful licensed area, in other words employ a tariff similar to the one in place today with local interconnects, DSL and Long Distance (assuming mandatory infrastructure sharing is in place). It is also fair to set caps for data services for visiting users so as not to overload the incumbent network.

4.1.1 The Bands 1710-1755 MHz and 2110-2155 MHz

**Industry Canada:**

Comments are sought by the Department as to whether:

1. band plan shown in Figure 1 should be adopted in Canada — if not, please provide specific alternative options and the rationale justifying your suggestion;

2. the Department should allow TDD operation in these sub-bands if they meet the conditions listed above — if not, please provide the rationale supporting your view.

**Look’s Response:**

Look agrees with the Department that the band plan shown in Figure 1 below, (and listed in Table 1) should be adopted in Canada.

![Figure 1 - Proposed Band Plan](image)
Table 1 - Proposed Block Sizes

<table>
<thead>
<tr>
<th>Block Licences</th>
<th>Pairing</th>
<th>Amount of Spectrum</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1710-1715 MHz and 2110-2115 MHz</td>
<td>2 x 5 MHz</td>
</tr>
<tr>
<td>B</td>
<td>1715-1720 MHz and 2115-2120 MHz</td>
<td>2 x 5 MHz</td>
</tr>
<tr>
<td>C</td>
<td>1720-1730 MHz and 2120-2130 MHz</td>
<td>2 x 10 MHz</td>
</tr>
<tr>
<td>D</td>
<td>1730-1740 MHz and 2130-2140 MHz</td>
<td>2 x 10 MHz</td>
</tr>
<tr>
<td>E</td>
<td>1740-1755 MHz and 2140-2155 MHz</td>
<td>2 x 15 MHz</td>
</tr>
</tbody>
</table>

Looks supports the Department’s idea of technology neutrality for the band. As such, Look supports the use of TDD operation in the bands 1710-1755 MHz and 2110-2155 MHz.

4.1.2 The Band 1670-1675 MHz

**Industry Canada:**

Comments are sought by the Department as to whether:

1. the band plan as proposed should be adopted in Canada — if not, please provide specific alternative options and the rationale supporting your suggestion;

2. the technological neutrality related to duplexing should be adopted in Canada — if not, please provide the rationale supporting your view.

**Look’s Response:**

Look agrees with the Department that the band plan as proposed should be adopted in Canada.

Look agrees with the Department that specifications for the band should be technologically neutral. Language relating to duplexing should be dropped altogether.

FCC Part 27, which details the band plan for 1670-1675 MHz makes no mention of duplexing, therefore to foster alignment with the US plan, Canada should do the same. The FCC sold a single national license for 1670 – 1675 MHz to Crown Castle in FCC Auction 46 in 2003. Crown Castle, through its subsidiary Modeo is deploying a national video service in the band to permit users to watch broadcast TV on a handset. Modeo is currently soliciting wireless carriers to adopt their service and offer it to their customers.
Of particular interest to Canadian carriers is that Modeo is licensed for and has deployed stations with an EIRP of 2000 watts. If this network sees wide-scale deployment then it may not be practical to offer a two-way data service with this band for much of Canada. However, broadcast services such as the Modeo system may still be practical.

The upshot is that language relating to duplexing is not necessary for the 1670-1675 MHz band. It may be interpreted to preclude the use of the band for broadcast services in case someone wants to offer a service similar to the Modeo network in the United States. Given the demands that video applications place on wireless data networks there is merit to this application.

The 1670-1675 MHz can also be used for applications involving large data file transfers such as music and video clips. The band 1670-1675 MHz will carry the high data rate traffic and the low bit-rate return required to support handshaking for the download can come from anywhere within the PCS band or the new 1710-1755 MHz and 2110-2155 MHz paired band. In this scenario the idea of “static” duplexing loses all meaning, especially for an IP type connection.

4.1.3 The Bands 1910-1915 MHz and 1990-1995 MHz

**Industry Canada:**

Comments are sought by the Department as to whether:

1. the band plan as proposed should be adopted in Canada -- if not, please provide specific alternative option and the rationale supporting your suggestion;

2. the standards for PCS should be applicable to this spectrum -- if not, please provide the rationale supporting your view.

**Look's Response:**

Look agrees that the band plan proposed by the Department should be adopted in Canada. Look supports the proposal made by the Department that the standards for PCS should be applicable to this spectrum.

4.2.1 AWS Service Areas, 1710-1755 MHz and 2110-2155 MHz

**Industry Canada:**

Comments are sought on the proposed tier sizes for AWS spectrum.

Comments are sought on whether the block and tier sizes given above will allow the entry of new carriers in the market.
Look’s Response:

Look agrees with the proposed Block and tier sizes for the AWS spectrum as described in Table 2.

<table>
<thead>
<tr>
<th>Block Licences</th>
<th>Pairing</th>
<th>Amount of Spectrum</th>
<th>Proposed Tiers</th>
<th>Number of Licences</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1710-1715 MHz and 2110-2115 MHz</td>
<td>2 x 5 MHz</td>
<td>4</td>
<td>172</td>
</tr>
<tr>
<td>B</td>
<td>1715-1720 MHz and 2115-2120 MHz</td>
<td>2 x 5 MHz</td>
<td>4</td>
<td>172</td>
</tr>
<tr>
<td>C</td>
<td>1720-1730 MHz and 2120-2130 MHz</td>
<td>2 x 10 MHz</td>
<td>3</td>
<td>59</td>
</tr>
<tr>
<td>D</td>
<td>1730-1740 MHz and 2130-2140 MHz</td>
<td>2 x 10 MHz</td>
<td>3</td>
<td>59</td>
</tr>
<tr>
<td>E</td>
<td>1740-1755 MHz and 2140-2155 MHz</td>
<td>2 x 15 MHz</td>
<td>2</td>
<td>14</td>
</tr>
</tbody>
</table>

4.2.2 PCS Expansion Service Areas, 1910-1915 MHz and 1990-1995 MHz

Industry Canada:

Comments are sought on the proposal of Tier 2 service areas.

Look’s Response:

Given the small size of the spectrum block, a Tier 2 service area is the logical choice.

4.2.3 1670-1675 MHz Service Areas

Industry Canada:

Comments are sought on the proposal of Tier 2 service areas.

Look’s Response:

Given the small size of the spectrum block, a Tier 2 service area is the logical choice.

4.4 Adjacent Channel/Same Area Coordination

Industry Canada:

Comments are requested on technical considerations for AWS systems in the applicable bands.

Look’s Response:

Look currently uses the band 2150 – 2162 MHz for the upstream link of its FDD wireless data service. Look understands that 2150 – 2155 MHz will be reclaimed for AWS but is
naturally concerned about the impact of AWS on its remaining upstream spectrum (2156 – 2162 MHz).

Until out-of-block emission limits are established in an upcoming Radio Standards Specification document it will be difficult to assess the impact on Look’s data service. It is quite likely some guard band space will be needed to reduce adjacent channel interference. However, there have been discussions (see the last paragraph of section 3.2 in the consultation) favouring the displacement of fixed systems above 2155 MHz identified as impeding the deployment of AWS. Look applauds the Department’s viewpoint that the displacement of incumbent stations should be justified technically and that studies are required.

Look is willing to discuss coordination issues with the Department and to assist in reaching an accommodation for the co-existence of Look’s data service and AWS.

4.5 Sharing Issues with other Services

*Industry Canada:*

*Comments are requested on technical considerations for sharing of AWS systems with other services in the applicable bands.*

*Look’s Response:*

Look currently employs the 2150-2155 MHz band as part of the return band for its FDD wireless data service. Look regrets the impending loss of the 2150 – 2155 MHz band but appreciates that the Department has mandated that incumbents will be protected during the transition period.

5.3 Licence Term, Renewal and Implementation Requirements

*Industry Canada:*

*Comments are sought on the licence term, implementation and renewal proposals. Specifically, comment is sought on:*

- *the proposal to use a ten year licence term;*

- *whether an interim implementation requirement should be imposed;*

  if yes, respondents should provide a rationale and an explanation of the implementation parameter(s) the Department should consider, the time frame for such a measure and the means of determining compliance (e.g. technical measurement methods, affidavit, number of subscribers in area);

- *whether the renewal expectancy provisions and process are suitable;*
if not, respondents should provide a description of the rationale for different approaches;

• whether requiring application for renewal two years before licence expiry is appropriate;

• the means of determining compliance (e.g. technical measurement methods, affidavit, number of subscribers in area); and

• the provisions the Department should consider when a licensee is determined to not fully meet the renewal expectancy requirements (e.g. the revocation for part or all of the spectrum or geography).

Look’s Response:

Look supports the Department’s license plans of a ten year term with an application for license renewal in year eight.

As for interim implementation requirements, Look agrees that a “use-it-or-lose-it” requirement should be a condition of the license. A suggested time frame for such a measure is five years, assuming that both mandatory roaming and infrastructure sharing policies are implemented prior to the auction. This should be sufficient time to raise capital and to begin deployment. A suitable measure to ensure interim implementation requirements is the number of towers offering service in the license area. The number of towers should be sufficient to provide coverage for at least 10% of the population centers and highways in the license area.

5.4 Conditions of License

Industry Canada:

The Department seeks comments on the proposed conditions for the AWS, PCS expansion and 1670-1675 MHz spectrum bands.

Look’s Response:

Look agrees with the Department on the proposed license conditions.

5.5 Post-auction Licensing Process

Industry Canada:

The Department seeks comment on all aspects of the proposed post-auction licensing process for AWS, PCS expansion and 1670-1675 MHz spectrum.
Look’s Response:

Look has no comments on this issue at this time.

6.0  Financial Aspects of the Auction

*Industry Canada:*

The Department seeks comments on the opening bids and pre-auction deposits for AWS licences.

Look’s Response:

To attract new entrants, and to encourage them to bid on spectrum not part of the set-aside, we suggest that a “handicap” should be included in the bidding process where a new entrant is given a 50% “new entry” credit.

Conclusion

The advent of AWS services in Canada on both a national and regional basis will change the map of the wireless industry in Canada and will represent a quantum leap in the level of wireless services to Canadians. Look Communications Inc. commends the Department for addressing these issues and believes that the changes proposed will promote competition resulting in better service and better choice for customers in Canada.

Look Communications Inc. would like to emphasize the recommendation that mandatory provisions for both roaming and infrastructure sharing must be in place with enforcement by a designated agency for reasons explained previously, well before any auction guidelines / rules are finalized and the commencement of the auction.

We look forward to continuing to work with the Department as it continues its review to provide increased choice for Canadians, while optimizing spectrum usage.

Yours truly,

Gerald T. McGoey
Vice-Chairman and Chief Executive Officer
Look Communications Inc.