

February 28, 2011

SENT BY EMAIL TO: Spectrum.Engineering@ic.gc.ca

Manager, Mobile Technology and Services  
Engineering, Planning and Standard Branch  
Industry Canada  
300 Slater Street  
Ottawa, Ontario  
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Dear Sirs:

**Subject: Canada Gazette, Part I, November 30, 2010, Notice No. SMSE-018-10: Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum**

1. Globalive Wireless Management Corp. (“WIND”) is pleased to respond to Canada Gazette, Part I, November 30, 2010, Notice No. SMSE-018-10: Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum (the “Consultation”).

**(A) EXECUTIVE SUMMARY**

2. In the Consultation, Industry Canada (the “Department”) has sought input on a number of policy objectives to be promoted through the auction of spectrum in the band 698-806 MHz (the “700 MHz Band”) and the means to achieve them. The Department has indicated that it is “committed to ensuring that Canadian consumers, businesses and public institutions...benefit from the availability of new, advanced and affordable telecommunications services in all parts of the country.”<sup>1</sup> In addition, the Department has indicated that it intends to “maximize the economic and social benefits that Canadians derive from the use of radio frequency spectrum”.<sup>2</sup>
3. WIND embraces these objectives and believes that meaningful and sustained competition in the wireless industry is critical to achieving each of them.
4. A review of the competitive landscape both before and following the 2008 auction of spectrum in the Advanced Wireless Services (AWS) bands confirms that enhanced competition in the sector has resulted in Canadians enjoying substantially more affordable wireless service as well as new and innovative product offerings and terms of service. It

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<sup>1</sup> The Consultation, page 1.

<sup>2</sup> Ibid. Page 1.

further confirms that if Canadians are to continue to benefit from the lower prices and improved terms of service resulting from increased competition in the sector and if the Department is to maximize the social benefits that Canadian derive from spectrum, the Department must take advantage of the opportunity presented by the availability of spectrum in the 700 MHz Band (and, to a lesser extent, the 2500 MHz band) to strengthen the conditions for effective, meaningful and sustainable competition and to prevent the warehousing of spectrum for anti-competitive purposes. According to CIBC World Markets, “[t]oday, as little as 10 MHz of spectrum gets an entrant in the door to offer voice at the low end. Tomorrow, with the growth of mobile video, video telephony and cloud computing, this baseline would have moved and entrants may need many multiples of 10 MHz to stay in the game.”<sup>3</sup>

5. This means that the Department must ensure that through the timing and framework for the upcoming spectrum auctions, new entrants are given access to all or substantially all of the newly available spectrum on reasonable terms, including terms that will enable them to minimize costs associated with building new, state of the art networks through reasonable tower sharing and domestic roaming arrangements and terms that will provide them with access to adequate and reasonably priced capital.
6. The framework for the AWS auction (and the wireless competition which resulted) was extremely beneficial for Canadian consumers in particular and the Canadian economy in general. WIND is pleased to offer its views on how the framework for the 700 MHz and 2500 MHz auctions can be used to ensure that sustained and meaningful competition in the wireless sector delivers new, affordable telecommunications services to all Canadians and maximizes the benefits derived from the use of spectrum.
7. In its submission, WIND recommends the following specific measures as part of an auction framework designed to ensure that new entrants are given the access to spectrum on reasonable terms that will enable them to continue to sustain the competition that has been so beneficial to the Canadian consumer:
  - (i) The Department should provide that, on a region by region basis, carriers that have access to 800 MHz spectrum (either directly or indirectly as a result of access provided through network sharing arrangements) are not eligible to participate in the auction for the 700 MHz Band;

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<sup>3</sup> CIBC World Markets, Institutional Equity Research, Industry Update, Wireless Providers, February 1, 2011.

(ii) The Department should provide for mandated roaming on terms substantially similar to those in the AWS auction, but with mandated seamless handoff, caps on wholesale roaming rates (or other measures to ensure that roaming rates are not excessive) as well as certain other refinements as noted below; and

(iii) The Department should provide for mandatory tower and site sharing on terms substantially similar to those in the AWS auction, but with some process improvements, including a modified dispute resolution mechanism.

8. These measures are required whether the federal government liberalizes foreign ownership rules relating to telecommunications carriers or not. Access to capital on reasonable terms is just one competitive disadvantage which has challenged new entrants and which needs to be addressed if new entrants are to continue to improve competitive intensity in the wireless marketplace.
9. WIND's detailed submissions are set out below. Given the critical importance of the questions in section 7 (regarding competition in the sector) to this Consultation, WIND's detailed responses to those questions are outlined first below. WIND's detailed responses to the balance of the questions in the Consultation are set out in the order raised following its responses to the questions in section 7 (with numerical references in the headings being to the relevant sections of the Consultation).

## **(B) DETAILED SUBMISSION**

### **Q7-1. The current state of competition in the wireless market.**

10. WIND was one of several new entrants licensed as part of the 2008 auction of spectrum in the "Advanced Wireless Services" (AWS) band as well as spectrum in the PCS and 1670-1675 MHz band. At the time, after observing that approximately 95% of the wireless market was controlled by three incumbents, the Department stated "[w]e are looking for greater competition in the market and further innovation in the industry...our goals are lower prices, better service and more choice for consumers and business..."<sup>4</sup>
11. The Department was justifiably concerned. International benchmarks at the time suggested that Canada's wireless market lagged behind

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<sup>4</sup> Industry Canada News Release, November 28, 2007, Government Opts for More Competition in the Wireless Sector see [http://www.ic.gc.ca/eic/site/ic1.nsf/eng/h\\_0040.html1](http://www.ic.gc.ca/eic/site/ic1.nsf/eng/h_0040.html1)

those of other jurisdictions based on several measures, including affordability and penetration. According to the International Telecommunications Union, for example, between 2002 and 2007, Canada fell from 9<sup>th</sup> to 19<sup>th</sup> place in terms of cell phone usage, just ahead of Bosnia and Botswana. At the time of the study, Canada's wireless penetration stood at 61.7% while wireless penetration in the US stood at 83.5%. On average, Canadians paid about 13.8 cents per minute of use, compared to about 6.5 cents per minute of use paid by their American counterparts. Finally, according to the Merrill Lynch Global Wireless Matrix for 2008, the combined profit margins enjoyed by Canadian wireless providers was the highest in the world at 45.4% compared to the US equivalent of 34.4% and the "developed markets" at 38.1%.

12. In an attempt to address those issues, the Department established a licensing framework for the AWS auction which provided for approximately 40% of the available spectrum to be set aside for new entrants to the wireless market with the express purpose of enhancing competition in Canada's wireless industry. In addition, conditions of license were introduced relating to mandatory roaming and tower sharing.
13. Since the AWS auction concluded in the summer of 2008, four new entrants, including WIND, have entered the wireless marketplace and a number of others have announced plans to launch wireless service imminently. In addition, two of the three largest wireless carriers, Bell and Telus, have jointly built and activated a new national HSPA network. Each of the four new entrants have built new networks and established multiple points of distribution in the markets in which they have launched. Their collective contributions to the Canadian economy, as a result, go well beyond the substantial license fees they paid following the AWS auction.
14. The competition (both actual and imminent) that resulted has delivered benefits to the Canadian consumer in the form of reduced prices, primarily in voice, as well as greater choice in the range of commercial plans offered.
15. For example, CIBC World Markets estimates that "[w]ith the entry of the AWS entrants, price competition has led to a re-price in voice of about 17% over two years (based on change in the incumbents' voice ARPU over time...)"<sup>5</sup> In addition, all of the incumbents have eliminated highly unpopular system access fees, although at the time

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<sup>5</sup> CIBC World Markets, Institutional Equity Research Industry Update, February 1, 2011.

that it did so, one of them introduced a new “regulatory recovery fee”.<sup>6</sup> Canadians now enjoy access to a variety of unlimited voice and data plans previously not available to them.

16. As the Department is aware, WIND successfully bid for spectrum from within the new entrant set aside and proceeded to build a state of the art 3G + GSM-based HSPA network. It was the first of the new entrants to launch its wireless service to customers when it launched service in Toronto on December 16, 2009. Since then, it has expanded its service to Calgary, Edmonton, Ottawa and Vancouver, it has attracted over 250,000 subscribers and it has hired over 1100 direct employees (and provided employment indirectly for many more). It has established call centers in Peterborough and Mississauga and built a substantial distribution network in all markets in which it offers service. In other words, WIND has contributed substantially to the Canadian economy.
17. In the 14 months since its launch, WIND has also driven innovation and improved value to Canadian consumers. WIND was the first wireless carrier in Canada to offer both unlimited voice and unlimited data plans to Canadian consumers. It was the first to launch a state of the art 3G+ HD (High Definition) Voice-Ready network infrastructure. It was the first to include Caller ID, Call Forward, Call Waiting and Call Holding on all voice plans. It was the first to include Canada-wide unlimited calls between callers on the same network at no extra cost on all voice plans. It was the first to launch an international prepaid credit transfer service. It was the first to build an on-line community for continuous customer dialogue and feedback. And it was the first to offer prepaid and postpaid customers the same handsets and rates for both voice and data. As of today’s date, it continues to be the highest rated of Canada’s wireless carriers with the Better Business Bureau.
18. In delivering these benefits to Canadian consumers, WIND and the other new entrants have succeeded in overcoming substantial competitive disadvantages. These have included the following:
  - (i) Relatively high cost of capital. WIND and many but not all other new entrants have been unable to secure capital through public offerings and, as new businesses with very short track records of earnings, face significantly higher financing costs than their incumbent competitors;

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<sup>6</sup> Peter Nowak, CBC News, “Rogers axes system access fee but adds new charge”, September 22, 2009. See <http://www.cbc.ca/technology/story/2009/09/22/rogers-scrapping-system-access-fee.html>,

(ii) Fewer handset models. The new entrants have had access to a relatively small selection of handsets, partially as a result of the limited supply of handsets available for AWS spectrum (or, in the case of Public Mobile, G Band spectrum). Apple's iPhone, for example, is currently not manufactured for use with either AWS or G Band spectrum. At least one incumbent carrier has taken steps that have restricted the supply of handsets available to new entrants even further, by contracting for exclusive access to all of one manufacturer's handsets that were compatible with AWS spectrum in Canada.<sup>7</sup> (That carrier, it should be noted, has yet to deploy its AWS spectrum);

(iii) Higher cost of deploying AWS spectrum. As described in greater detail below, the incumbent carriers with which the new entrants are competing hold spectrum in a range of bands, including 800 MHz spectrum, that are less expensive to deploy than AWS spectrum. WIND's engineers estimate that building a network to deploy AWS spectrum is 30-50% more expensive than building one designed to operate on lower frequency bands such as the 800 MHz band licensed to its incumbent competitors. In addition, as a result of having vast spectral inventories, the incumbents have been able to benefit from efficiencies not available to new entrants who hold less spectrum overall and typically spectrum in just one band;

(iv) Regulatory uncertainty. This is a factor that has affected WIND uniquely. The highly subjective nature of the control in fact test in the Telecommunications Act has resulted in the CRTC and the Department and the Government of Canada arriving at different conclusions regarding WIND's compliance with Canadian ownership and control requirements. This uncertainty has made it even more difficult for WIND to attract financing on reasonable terms and has been challenging to overcome in the marketplace; and

(v) Relatively High Wholesale Roaming Rates. The wholesale roaming rates charged to carriers by their roaming partners is proprietary and confidential. As a result, WIND has been unable to determine what other new entrants (and indeed incumbents) are paying as wholesale roaming rates. Given the relatively small number of Canadian carriers able to offer the AWS new entrants domestic roaming services before they launched and given that those new entrants were for the most part unable to offer that carrier reciprocal roaming services, WIND believes that new entrants have been at a competitive disadvantage to incumbents in negotiating wholesale domestic roaming rates. WIND is aware of the roaming rates it is paying to its US roaming partners. The amounts it is paying in Canada substantially exceed those amounts, particularly for SMS and data roaming.

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<sup>7</sup> WIND learned of this arrangement as it was preparing to launch service in late 2009.

19. In addition, the new entrants have entered a market where there are substantial disincentives to consumers changing carriers. For example, when the new entrants launched, many consumers were already bound by term agreements with incumbents, which agreements effectively locked in those customers for two or three year terms. The new entrants had to choose between incentivizing consumers to terminate those contracts early (and incur substantial early termination fees) or waiting for those consumers to come off contract. In addition, most Canadians own handsets which are “locked” to their current carriers’ networks. This means that to move to a new carrier, those consumers have to purchase new handsets. These disincentives affect all carriers, but given that new entrants began with no customers, the disincentives disproportionately hurt new entrants.
20. Notwithstanding all that has been achieved since the AWS auction, there continues to be considerable room for improvement in the Canadian market. According to the recent Bank of America Global Wireless Matrix, Canada’s wireless penetration has increased from 67% in 2009 to 72.7% in 2010. This represents an increase in wireless penetration of 5.7%, which is impressive until compared with the US, which in 2010 had 98.7% wireless penetration and saw a 9.7% increase in penetration from the prior year. Canada still ranks last in wireless penetration among developed countries. More importantly, perhaps, from a public policy perspective, the benefits of competition (reduced prices, increased choice) have been largely confined to date to the urban areas in which new entrants have launched.
21. That Canada’s wireless market continues to lag would be of less concern if Canadian consumers could rest assured that competition would expand and continue to deliver improvements to all Canadians. Unfortunately, this is not the case. The competitive environment is extremely fragile and at risk.
22. Although there are more than twenty-four wireless service providers in Canada, the national market continues to be highly concentrated in the hands of three large facilities-based providers. Many if not most provinces continue to be dominated by one or two players. WIND estimates that the new entrants together account for only about 1.9% of market share of the Canadian marketplace, measured by subscriber numbers.
23. The ability of new entrants such as WIND to continue to compete meaningfully with the national and regional incumbent carriers will be jeopardized if they are not able to secure access to 700 MHz spectrum on commercially reasonable terms, including terms that will enable them to minimize costs associated with building new, state of the art

networks through reasonable tower sharing and domestic roaming arrangements and terms that will provide them with access to adequate and reasonably priced capital. The reasons for this will be explored in greater detail below.

24. In summary, though the state of competition in the Canadian wireless market has improved since the AWS auction due to the aggressive competition from new entrants, it remains extremely fragile for a number of reasons. These include the vast spectrum holdings of the incumbents, which will fuel their growth for the next five to ten years, the corresponding small amount of spectrum licensed to the new entrants, which, unless relieved, will choke their expansion in the short to medium term and the continued market dominance of the incumbents and their flanker brands (including the willingness of at least one of them to engage in anti-competitive behavior). For these reasons, we believe that it is rational, reasonable and necessary for the Department to take aggressive action in assigning the 700 MHz spectrum to carriers which do not have other spectrum below 1 GHz. The survival of these carriers is necessary to ensure that competition in wireless continues.

**Q7-2. Comments on the impacts of government measures adopted in the AWS auctions.**

25. The framework for the AWS auction provided a number of mechanisms that together made it possible for several new entrants to compete effectively with incumbent carriers. In addition to the new entrant set aside, these included mandatory domestic roaming and mandatory tower sharing. As we have seen above, the resulting competition has led to the introduction of new and improved service offerings and pricing plans and has made wireless service more affordable to Canadians fortunate enough to live in the largely urban areas serviced by new entrants.
26. The new entrant set aside was absolutely critical as a precondition to the establishment of enhanced competition in the sector. Without it, WIND is confident that all available spectrum would have been awarded to incumbent wireless carriers willing to pay a premium to keep competition from eroding their substantial profit margins. Mandated domestic roaming has also contributed substantially to the new entrants' ability to attract subscribers and therefore it has enhanced the new entrants' ability to provide the effective competition the government sought to introduce.
27. Despite these very substantial achievements, the government measures adopted in the AWS auctions have not been uniformly successful in

reducing levels of market concentration or in overcoming barriers to entry.

28. For example, the condition of license relating to mandatory roaming was successful in overcoming a significant barrier to entry: it enabled new entrants to offer wireless service in areas not yet serviced by their own networks. On the other hand, it was less effective in ensuring that the wholesale roaming rates being charged to new entrants were not excessive and in giving new entrants the freedom to offer attractive retail rates to their customers. As a result, Canadian consumers continue to be frustrated by both the high cost of domestic roaming and unanticipated roaming charges. WIND has attempted to help its customers to avoid surprises by programming its handsets to show when the customers are in WIND zones and when they are roaming, but it continues to hear from customers who have been surprised by both the high cost of domestic roaming and unanticipated roaming charges. The mandatory roaming condition of license did require that the domestic roaming partner provide roaming services on commercially reasonable terms, but WIND's experience was that the arbitration process was impractical as a means of enforcing that requirement.
29. Mandatory tower sharing represented a constructive attempt by the Department to reduce the high cost of entry by minimizing the number of towers required to be built by the new entrants. In theory, mandatory tower sharing should have enabled WIND and other new entrants to build fewer towers and therefore to reduce their speed to market and costs (while also minimizing the negative impact to Canadians of tower proliferation). In practice, the anticipated benefits of the policy were not fully realized.
30. WIND has responded to the Department's request for information and comments in the context of its review of mandated roaming and tower and site sharing. In WIND's response, it has shared with the Department its views on how the mandatory roaming and tower sharing policies might have been more effective.

**Q7-3, 7-5, 7-6 and 7-7. Specific Measures Needed in the 700 MHz and/or 2500 MHz auction to sustain competition.**

31. If the new entrants are to continue to offer meaningful and enhanced competition, the Department should ensure that the auction frameworks for both the 700 MHz and the 2500 MHz bands include specific measures to increase and sustain competition.
32. The Department has made clear that it intends to use an auction mechanism to award spectrum in both the 700 MHz and the 2500 MHz

bands. WIND agrees with the Department's view that "[A]uctions are a transparent, fair and efficient spectrum assignment mechanism." Having said that, it should be noted that the new entrants which acquired spectrum through the AWS auction have paid substantially more (per MHz) for their spectrum than their incumbent competitors, which enjoy lower cost spectrum awarded through selection processes other than competitive auctions. WIND submits that in establishing the auction framework, the Department should take this into account.

33. The Department has indicated that auctions for the two bands may be combined or conducted separately. WIND submits that the auctions of the two bands should be conducted together to maximize carriers' ability to raise finance and to plan for optimized deployment of the spectrum. For reasons described in greater detail below, the 700 MHz spectrum is much more attractive to WIND (and we suspect, most other carriers) than spectrum in the 2500 MHz band. As a result, WIND submits that if the auctions are conducted separately, the auction of the 700 MHz band should be conducted first.

#### **Set Asides and Caps**

34. The Department has invited views on specific measures such as spectrum set asides and spectrum caps.
35. WIND submits that while these more traditional measures are appropriate for the auction of 2500 MHz band, given the unique value of the 700 MHz Band and the very limited amount of 700 MHz spectrum available, a different approach is required in relation to that band. For that band, WIND recommends that the Department instead stipulate that that only parties which do not hold 800 MHz spectrum (either directly or indirectly as a result of access provided through network sharing arrangements) in any region should be eligible to participate in the auction for 700 MHz spectrum for that region.
36. In any event, given the substantial amount of spectrum already licensed to incumbents (including 800 MHz spectrum which has many of the same propagation characteristics of the 700 MHz band), whether the Department elects to use set asides or caps, the measures it selects should be chosen with a view to ensuring that all or a substantial portion of the 700 MHz spectrum is awarded to new entrants.
37. Given that Bell and Rogers (through their partnership in Inukshuk) will have access to 120 MHz of mobile BRS spectrum for the vast majority of the populated centres of the country, they should be prohibited from bidding for additional spectrum in those areas. Outside of those areas, there should be an appropriate spectrum cap to

allow others to provide competitive wireless services. Because WIND does not have a strong interest in the BRS band at this time, it will refrain from making a suggestion as to the appropriate level of caps that are pro-competition and in the public interest.

### **Mandatory Roaming and Tower/Site Sharing**

38. In addition to the measures outlined above, WIND submits that the Department should, as part of the frameworks for the auctions of both spectrum bands, provide for mandatory roaming and tower sharing, as it did in the AWS auction. Both measures, but particularly mandated roaming, were important contributors to the policy outcomes sought and partially achieved through the AWS auction. Without mandated roaming in particular, WIND is unlikely to have considered participating in the AWS auction as it would have assumed that it would not have been able to offer domestic roaming to its customers and therefore would have projected fewer subscribers in its business plan. The number of subscribers it could attract without mandated roaming would not have justified building a network and, indeed, licensing spectrum for the substantial amounts it ultimately paid.
39. The Department recently indicated that it was reviewing the conditions of license relating to mandated roaming and tower and site sharing. WIND has submitted information to the Department to support that review, including its detailed recommendations on how those policies might be made even more effective. WIND considers that a number of the recommendations that it made in that context are particularly critical in the context of these upcoming auctions and so will reiterate them below.
40. First, WIND recommends that the Department expand the condition of license relating to mandatory roaming to include mandatory seamless handoff. The Department's decision not to mandate seamless handoff as part of the AWS auction has resulted in no new entrant being able to provide this service to its customers (to WIND's knowledge) and has meant that seamless handoff has become a competitive issue. This became particularly apparent when Rogers launched a national advertising campaign for its flanker brand, Chatr, in which it relied on Chatr's ability to offer seamless handoff as a competitively distinguishing feature from new entrants. Although the Competition Bureau concluded that the claims in that campaign that Chatr offered "fewer dropped calls than new wireless carriers" were false and misleading, Rogers was able to use WIND's inability to offer seamless handoff (and Chatr's ability to provide it) to make Chatr more attractive to prospective customers than should be the case, given the facts.

41. We understand that at least one incumbent has argued that providing seamless handoff is both difficult technologically and expensive. This is completely inconsistent with our experience, what we have heard from other international carriers and with the international experiences of several of WIND's senior executives.
42. As the Department is aware, WIND has applied to the CRTC for an order declaring that Rogers' provision of seamless handoff to Chatr constitutes an undue preference. WIND submits that with or without a positive disposition of this application from the CRTC, Canadian consumers would benefit from a policy clearly mandating seamless handoff on reasonable commercial terms as a part of the framework for both upcoming auctions.
43. Second, WIND recommends that the Department reconsider the length of the mandated roaming period and extend that mandated period to ten years from the award of the license. We understand that in mandating in-territory roaming for new entrants for only five years as part of the AWS auction (except for national new entrants which substantially meet the five year roll-out requirements outlined in their license), the Department wished to provide new entrants with incentive to build their networks as quickly as possible. At the time, five years may have seemed to have been ample time for new entrants to build extensive networks. WIND is extremely proud of the size and quality of the network that it has built in a relatively short time frame. Having said that, there is no question that there have been a number of factors beyond WIND's control which have meant that WIND's roll out has been slower than it anticipated at the time of the AWS auction. These have included the difficulty of securing tower sharing arrangements with incumbents and the difficulty of securing municipal approvals for new towers.
44. It is clear that if the current five year limit on mandated roaming is not extended to ten years for AWS spectrum, there will be significant detrimental impact on a new entrant's ability to compete. We trust the Department will take this into account when reviewing its current rules. For the 700 MHz and 2500 MHz spectrum, realizing that five years is considerably too short to expect new entrants to build out their systems, the Department should from the outset determine that mandated roaming should be extended to a full ten years.
45. Third, WIND recommends that the Department clarify that new entrants may become "national new entrants" for the purposes of the mandatory roaming condition of license relating to the AWS licenses

through the acquisition of all other mobile frequency bands, including the 700 MHz and 2500 MHz bands.

46. Fourth, WIND recommends that the Department consider including in the upcoming auction frameworks measures that might improve the competitive intensity of domestic roaming services or other measures designed to deliver to Canadian consumers the improved pricing for roaming services that they have seen for other wireless services. This could involve prohibiting a carrier offering domestic roaming services from imposing exclusivity restrictions in the roaming agreement or requiring that the carrier offering domestic roaming services provide the other carrier with favoured nations protection (effectively guaranteeing new entrants the same wholesale rates the incumbents charge to each other). Another approach might be setting caps on wholesale domestic roaming rates (including step-pricing for longer voice and data sessions) as part of the framework for both auctions. Any one or more of these measures would limit unreasonably high incumbent profit margins from roaming and address increasing consumer frustration with high roaming charges.
47. Finally, WIND recommends that the Department consider implementing procedural improvements to improve the effectiveness of mandated tower sharing, including introducing more effective dispute resolution alternatives to the currently mandated arbitration process.

**Q. 7-4. How would the adoption of changes to Canada's foreign investment restrictions affect WIND's view.**

48. Industry Canada recently launched a consultation (the "Foreign Investment Consultation") on options relating to amendments to or elimination of foreign investment restrictions in the Canadian telecommunications sector. WIND submitted detailed comments in the context of that consultation and will not reiterate its detailed submissions here.
49. WIND submits that further measures would be required in the 700 MHz and 2500 MHz auctions to increase competition even if any one of the three options described in the Foreign Investment Consultation were implemented.
50. A key reason to liberalize foreign ownership restrictions is to improve access by new entrants to capital on reasonable commercial terms. The existing new entrants, which meet current Canadian ownership and control requirements, are at a significant competitive disadvantage to their incumbent counterparts because they are unable to access on reasonable terms the vast amounts of capital required to build

telecommunications networks while still complying with Canada's ownership and control rules. This is crucial because the telecommunications business is extremely capital intensive and Canadian capital markets are sufficiently small that it is impossible to raise the amounts of capital required on reasonable commercial terms solely in Canada.

51. Nonetheless, reasonably priced capital alone will not be enough to provide the enhanced competition that will drive better prices and improved innovation for Canadian consumers. As noted above and below, without access to additional spectrum on commercially reasonable terms, it will be very difficult for any new entrant to continue to meet the needs of its customer base while still offering the types of unlimited voice and data plans recently introduced. Without additional measures, WIND submits that it would be highly unlikely that new entrants would succeed in securing additional spectrum on any reasonable commercial basis. The incumbents have much more to gain from depriving new entrants of sorely needed 700 MHz spectrum than they would lose by paying substantial (and commercially unreasonable) license fees for that spectrum.
52. Given the importance of access to new spectrum, new capital and the likely close timing of liberalization of foreign ownership restrictions in relation to both auctions, WIND suggests that sustaining the competitive framework for wireless services in Canada requires the concurrent provision to new entrants of the ability to access significant amounts of new spectrum as well as large amounts of new capital. Simply adopting one of these measures alone will not be enough given the nature of the incumbent-entrenched Canadian wireless marketplace.

**Q. 4-1. What is the general need for additional commercial mobile spectrum at this time and what do you anticipate future needs to be?**

53. WIND itself has minimal spectrum to meet its current requirements.
54. Based both on the sheer amount of spectrum awarded to the incumbent wireless carriers and on the extent to which they have deployed it, WIND does not believe that any incumbent carriers should require additional spectrum for the next five to ten years. This is supported by the fact that despite having acquired AWS spectrum in 2008 at an aggregate cost of in excess of \$2.5 billion, according to the report dated February 2011 and entitled "Over the Rainbow: Thoughts on the

Canadian 700 MHz Discussion” (the “Seaboard Report”), Rogers, Bell and Telus have yet to deploy that spectrum.<sup>8</sup>

55. With respect to future needs, the Department has correctly noted the exploding demand for mobile data services. Its observations are consistent with predictions of other industry watchers. For example, PriceWaterhouseCoopers has stated that “[t]he spectacular success of recent smartphones with unlimited data plans has demonstrated the underlying consumer demand for applications and services that drives rapid further demand for more data and greater bandwidth.”<sup>9</sup>
56. WIND submits that future needs must be evaluated not in general terms, but on a carrier by carrier basis, having regard to the amount of spectrum previously awarded to the applicable carrier (and, in the case of each of Bell and Telus, its network sharing partner for reasons described below), the use to which the carrier is likely to put such spectrum and the extent to which an award of new spectrum to such carrier is likely to contribute to the Department’s stated objectives of promoting “new, advanced and affordable” wireless service “in all parts of the country” and maximizing the “economic and social benefits” derived from that spectrum.
57. In other words, while it may be true that there will be a very dramatic increase in demand for mobile broadband service in the coming years, this fact alone does not suggest that all carriers will need access to additional spectrum to meet that demand.
58. As the Department is aware, since 2001, Bell and TELUS have operated under a network sharing agreement. That agreement has enabled them to combine their network assets (including each benefiting from spectrum licensed to the other) and to maximize coverage. As a result of this network sharing agreement, WIND submits that to gain a true understanding of each carrier’s spectral inventory and to determine how much each will require in the future, it is more appropriate in thinking about how much spectrum is enjoyed by each of Bell and Telus to consider the amounts of spectrum awarded to both of them combined (as well as the aggregate number of subscribers they service) than to consider them separately.
59. In the Consultation, the Department has provided data on the amounts of spectrum licensed to each carrier, on a band-by-band basis, in Canada. According to that data, each of the three incumbents have

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<sup>8</sup> Seaboard Report, Exhibit 8.

<sup>9</sup> PriceWaterhouseCoopers, “Be careful what you wish for...A look at the future of mobile data”, January, 2011.

been awarded very substantial amounts of spectrum in both absolute and relative terms, even taking into account only 800 MHz, PCS and AWS spectrum bands (and not allocations in the 2.5 GHz band licensed to Inukshuk, more on which below). In fact, each of the three incumbents currently has roughly as much or more of those types of spectrum as all other carriers combined, with Rogers enjoying substantially more spectrum than any other single carrier.<sup>10</sup>

60. Those 2.5 GHz allocations are currently are not licensed for mobile. WIND submits that in considering the spectral allocations of Rogers and Bell, however, these allocations should be taken into account because it is anticipated that this spectrum will be repurposed for mobile use.
61. Exhibit 5 of the Seaboard Report shows the Canadian spectrum holdings of each of the new entrants relative to Bell/Telus and Rogers (including the 2500 MHz frequencies awarded to the Bell/Rogers joint venture Inukshuk) and clearly demonstrates that the new entrants are spectrum poor by comparison to the incumbents. According to the Seaboard Report, “[a]t almost 175 MHz, the spectral inventory of Bell-Telus clearly dwarfs spectral asset licenses of any other wireless service provider. Rogers, at 165 MHz, is a relatively distant second...The relative paucity of spectral holdings amongst the challengers can be seen by looking at the ‘Others’ column. Even when shown in aggregate, the spectrum held by non-incumbents is only 45 MHz in the AWS band and a mere 10 MHz in the PCS band.”<sup>11</sup>
62. The richness of the spectral inventories held by the incumbents becomes particularly apparent through a comparison to international carriers. According to Exhibit 6 of the Seaboard Report, the Canadian incumbents enjoy far more spectrum than any other carriers in any other countries examined by Seaboard (with the US carriers’ inventories being deemed for these purposes to exclude the 700 MHz spectrum licensed to them recently, to facilitate an apples to apples comparison) and the Canadian new entrants are among the most spectrum poor. The spectral assets of Bell-Telus and Rogers, for example, as described above compare to Verizon’s pre-700 MHz holdings of less than 70 MHz or AT &T’s at 80 MHz.<sup>12</sup>

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<sup>10</sup> See Exhibit 3 of the Seaboard Report which shows Bell at 55.1 MHz, Telus at 56, Rogers at 97 and the “others”, including MTS Allstream, SaskTel, Videotron, WIND, Shaw, Mobicity, Bragg, Public Mobile “and others”, at 59.

<sup>11</sup> Seaboard Report, page 10.

<sup>12</sup> Seaboard Report, pages 12-13.

63. Seaboard has determined that, prior to the recent US auction of 700 MHz spectrum, Rogers enjoyed 232% more spectrum assets than AT & T, the most spectrum rich US carrier, and Bell/Telus enjoyed 246% more.<sup>13</sup> As Seaboard notes, this is despite the fact that these US carriers have more than ten times as many customers as Canada's incumbent carriers and are servicing a market with greater wireless penetration and higher minutes per use per subscriber.<sup>14</sup> These carriers have stated publicly that they do not consider that they require additional spectrum. For example, Ivan Seidenberg, Verizon's CEO, was asked about spectrum shortages and responded "My reaction is going to surprise you...I don't think we'll have a spectrum shortage the way this document suggests we will."<sup>15</sup>
64. The Department is currently considering how to best repurpose the 2500 MHz band to allow, among other things, commercial wireless use. Either 2500 MHz or 700 MHz spectrum could provide the additional spectrum needed to satisfy raw demand.
65. Of the two bands, 700 MHz likely to be more attractive to all carriers. The propagation characteristics of the 700 MHz Band make it generally more attractive than the higher frequency AWS, PCS and 2500 MHz bands. It is better able to penetrate structures than higher frequencies and its transmission qualities are such that it can be deployed at a lower cost (that is, with fewer towers covering the same geographic area). Second, because the largest US carriers such as AT & T and Verizon have secured substantial amounts of 700 MHz spectrum, handset manufacturers have begun to develop a wide range of devices for use in that range. This is in contrast to the relatively small number of devices that have been designed for use on AWS spectrum.
66. While the 700 MHz Band is likely to be attractive to all carriers, it is uniquely valuable to new entrants, who will need more spectrum to continue to offer the range of services they continue to provide as demand for mobile data grows. According to CIBC World Markets, "[t]oday, as little as 10 MHz of spectrum gets an entrant in the door to offer voice at the low end. Tomorrow, with the growth of mobile video, video telephony and cloud computing, this baseline would have moved and entrants may need many multiples of 10 MHz to stay in the

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<sup>13</sup> See Exhibit 7, Seaboard Report

<sup>14</sup> See Seaboard Report, page 13 as well as Exhibit 1 of the Seaboard Report.

<sup>15</sup> "FCC Takes A Jab at Verizon CEO over Spectrum", Wall Street Journal, April 8, 2010.

game.”<sup>16</sup> In other words, the amounts of spectrum licensed to them in the AWS auction will simply not be sufficient to enable new entrants to continue to provide consumers with a full range of services as the demand for data increases dramatically in the coming years. It will certainly force many to reconsider their unlimited data plans, which have been embraced by Canadian consumers.

67. The 700 MHz Band will also be particularly appealing to new entrants as it will give them capabilities that they do not enjoy through their high frequency AWS spectrum. The low frequency spectrum is the perfect complement to new entrants’ high frequency AWS spectrum. Spectrum in the 700 MHz Band would enable carriers which do not currently hold low frequency spectrum to improve indoor penetration in urban areas, and, more significantly, to build out their networks beyond urban areas more rapidly and at a much lower cost than they are able to do with AWS spectrum and than they could do if they were to license spectrum in the 2500 MHz band. This will not be as true of the incumbents, who already enjoy spectrum (800 MHz spectrum) with similar propagation characteristics to the 700 MHz Band.
68. One of the particular challenges WIND has faced in launching its network has been the limited supply of handsets for AWS spectrum, a shortfall made more challenging by other carriers’ exclusive deals with handset manufacturers.<sup>17</sup> Apple’s iPhone, for example, is not available for use on AWS spectrum. This puts carriers with only AWS spectrum at a significant competitive disadvantage with those able to offer a wider range of handsets. Looking ahead, having only AWS spectrum will become even more problematic for Canadian carriers. Verizon and AT & T, each of which have licensed both 700 MHz and 800 MHz spectrum, are likely to drive the development of a wide array of handsets and network for the US market. Without 700 MHz spectrum, new entrants are unlikely to be able to benefit from this equipment in circumstances where their incumbent competitors will.
69. WIND submits that in considering how to satisfy future needs of Canada’s wireless carriers, the Department should go beyond simply assuming that greater demand for data services will translate to a need for additional spectrum by each carrier. Instead, the Department should seek to maximize the benefit to the Canadian economy of the

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<sup>16</sup> CIBC World Markets, Institutional Equity Research, Industry Update, Wireless Providers, February 1, 2011.

<sup>17</sup> WIND learned, for example, that despite not having launched on AWS spectrum, Rogers has secured exclusive rights to all AWS handsets manufactured by ZTE for the Canadian market.

additional spectrum awarded considering on a carrier by carrier basis the amount of spectrum previously awarded to that carrier and the measures taken by the carrier to efficiently deploy and optimize that spectrum. The Department should seek to ensure that licensed spectrum is used by carriers to deliver services to Canadians and that spectrum is not hoarded for anti-competitive purposes.

70. The 700 MHz Band presents the Department with the opportunity to provide conditions which would enable new entrants to extend the benefit of competition beyond the urban areas they currently service and to offer even more meaningful competition in all areas.

#### **Q. 4-2 – 4-5 General Deployment Information**

71. WIND's responses to these questions are being submitted separately in Appendix A to this letter and are confidential and proprietary.

#### **Q. 5-1 Which of the four band plan options should be adopted in Canada?**

72. Of the options outlined in the Consultation, WIND recommends that Canada adopt Option 1 (Harmonize with the US band plan).
73. In making this recommendation, WIND considered a number of factors, including the extent to which the options presented would permit harmonization of equipment specifications, economies of scale for consumer and infrastructure equipment, cross border frequency coordination and interference, interference from adjacent bands and co-channels, the availability of contiguous spectrum, the amount of "usable" spectrum and the potential for roaming with a US carrier.
74. WIND prefers Option 1 because, taking the above described factors into account, it offers the most benefits of the Options presented. It would allow carriers to harmonize equipment specifications (leading to substantial economies of scale for consumer and infrastructure equipment), while also permitting cross border frequency coordination and US roaming.
75. In contrast, Options 2a and 2b offer the fewest opportunities for harmonization of equipment, which means fewer economies of scale for consumer and infrastructure equipment at least in the near future. They also offer the least amount of usable spectrum since they are divided into blocks of 8 and 10 MHz and 3 and 5 MHz respectively. Standard equipment currently supports 5 and 10 MHz channel bandwidths. Next year, the 1.4 and 3 MHz bandwidths will be supported. The 8 MHz blocks are not compatible with current equipment standards and so will lead to inefficient deployment:

carriers are likely to deploy 5 MHz blocks and so with 8 MHz blocks, there is a substantial risk that 3 MHz of spectrum will remain unused at least initially. (Carriers deploying LTE may deploy in blocks of 1.4 and 3 MHz, but these are not optimal since throughput and performance will be minimal, even lower than is the case with current 3G technology.)

- 76. Option 3 is preferable, in WIND’s view, to Options 2a and 2b, but not as advantageous as Option 1. Option 3 has the significant advantage of permitting the deployment of the greatest amount of contiguous spectrum as well as the largest amount of usable spectrum since as we understand this Option, it assumes that no spectrum is reserved for guard bands and so would permit operators to handle the guard bands and co-channel interference issues between them.
- 77. All of the options presented in the Consultation have the disadvantage that there would be interference from adjacent spectrum, specifically in the lower band, where there would be interference from digital television in the adjacent block starting at 698 MHz. Co-channel interference would also be an issue for Options 1 and 2a and 2b in particular coming from the blocks between 716 and 728 MHz on the other FDD blocks. For Option 3, this might be minimized if operators using adjacent channels were able to coordinate.
- 78. Our analysis is summarized in the below chart:

<b>Band Plans</b>	<b>Option 1</b>	<b>Option 2a</b>	<b>Option 2b</b>	<b>Option 3</b>
<b>Harmonization of Equipment Specifications</b>				
<b>Economies of scale for consumer &amp; Infrastructure equipment</b>				
<b>Cross-border Frequency coordination &amp; Interference</b>				
<b>Interference from Adjacent bands &amp; Co-Channels</b>				
<b>Availability of Contiguous Spectrum</b>				

<b>Amount of "usable" Spectrum</b>				
<b>Roaming with the U.S.</b>				

**Q. 5-2 Should the Department auction the guardbands or should these frequencies be held in reserve for future use?**

79. WIND recommends that the guardbands defined in all the band plans and options remain as they are and not be auctioned separately. We would suggest that any future auctions of these guardbands be subject to a separate consultation to ensure that any deployment of these guardbands does not raise interference issues for carriers using adjacent blocks.

**Q. 5-6. Public Safety**

80. The Department has requested comments on whether public safety broadband needs can be met by using commercial systems with priority access rights to public safety, at commercial rates.
81. Although WIND does not have the information that would enable it to comment on the needs of public safety, WIND notes that public safety agencies have been awarded some 700 MHz spectrum which it appears has not been deployed. Having said that, WIND believes that any commercial wireless operators that are successful in bidding in the auction for 700 MHz spectrum should work with public safety agencies to ensure that their needs are met and should provide access to their networks as required based on their actual needs and on reasonable commercial terms. WIND does not believe that such access should be on a priority basis or include a pre-emption right.

**Q. 5-9. If band plan Option 1, 2a or 2b is chosen, which of the three options relating to public safety should be adopted and why is this option preferred over the other options?**

82. Of the options described in the Consultation relating to the architecture for public safety systems, WIND recommends the adoption of Option 2. This option has the obvious advantage of permitting more spectrum to be deployed commercially. Given what WIND anticipates will be high demand for a limited supply of 700 MHz, maximizing the amount of spectrum available to commercial operators would benefit consumers without unduly hampering the operation of public safety

systems, which require relatively small bandwidths to service their applications.

**Q. 5-12 and 5-13. Tier Sizes**

83. WIND recommends that the Department use the same combination of Tiers 2 and 3 for the auction of the 700 MHz Band as it did for the AWS auction. This would enable the deployment of efficient large scale networks without making it impossible for regional players to participate meaningfully in the auction. Perhaps more importantly from WIND's perspective, this would provide new entrant AWS licensees with better opportunities to optimize their spectrum holdings.

**Q. 5-14 Comment on the LPTV transition described in the Consultation.**

84. Given WIND's view that obtaining 700 MHz spectrum will be critical to the new entrants, WIND suggests that the approach needed with respect to the LPTV transition is one that will ensure that all LPTV stations (wherever located) be displaced in sufficient time to permit the auctioning and deployment of the spectrum to high priority commercial wireless operators. As a result, WIND submits, the Department's decision about the timing of the auction (and resulting deployment of 700 MHz spectrum) should drive decisions about how to effect the LPTV transition. For the same reason, WIND supports Industry Canada's decision not to issue any additional broadcast licenses for LPTV stations in TV channels 52-59 (698-746 MHz).

**Q. 5.15 Comments regarding the Department's proposal to permit low-power licensed devices to operate in the band 698-764 MHz and 776-794 MHz only until March 31, 2012.**

85. WIND supports the proposal, provided that the Department promulgates strict rules and standards to ensure that no interference is generated by these devices that would harm the commercial systems using 700 MHz spectrum.

**Q. 6.1 Comment on the Department's proposed changes to the Canadian Table of Frequency Allocations for the band 698-806 MHz.**

86. WIND agrees with the changes proposed by the Department as described in the Consultation.

**Q. 6.2 Comment on the spectrum utilization policy described in the Consultation.**

87. WIND is in favour of the Department's proposal to dedicate the 700 MHz band to MBS (Mobile Broadband Services) and not to restrict the services offered by licensees under MBS other than to ensure compliance with technical compatibility requirements.

### **CONCLUSION**

88. In conclusion, WIND is grateful for the opportunity to comment on this important topic and to explain the reasons for its conviction that the auction frameworks for the 700 MHz and 2500 MHz bands must include specific measures to increase and sustain competition in Canada's wireless industry. These frequency bands represent Canada's last true opportunity to promote sustainable competition in the wireless industry. Only through sustained competition will the Department achieve its dual objectives of ensuring that all Canadians enjoy access to state of the art, affordable telecommunications services and of maximizing the social benefits derived from the use of the scarce resource that is spectrum.

**APPENDIX A  
SUBMITTED SEPARATELY**