Consultation on a Licensing Framework for Mobile Broadband Services (MBS) — 700 MHz Band

Canada Gazette Notice DGSO-002-12

Response by Xplornet

June 25, 2012
Executive Summary

1. Xplornet Communications Inc. and Xplornet Broadband Inc. (collectively, “Xplornet”) are pleased to submit the following comments in response to the Department’s paper, Consultation on a Licensing Framework for Mobile Broadband Services (MBS) - 700 MHz Band, as announced in Canada Gazette Notice No. DGSO-002-12. As Canada’s largest rural broadband provider, deploying fixed wireless and satellite broadband services across all regions of Canada, Xplornet welcomes this opportunity to comment on the development of a framework for the licensing of spectrum in the 700 MHz band.

2. Xplornet believes that Industry Canada needs to take into account the needs of rural residents and businesses, as well as new mobile wireless entrants in finalizing the auction framework. Industry Canada’s decision to adopt tier 2 only licences for the 700 MHz band auction makes it very expensive for Xplornet to acquire spectrum for its purpose of serving rural Canadians since it is not possible to bid solely for spectrum servicing low density areas. In light of this framework that disadvantages rural users of spectrum, Xplornet needs to be unencumbered to pursue partnerships that allow it to meet Industry Canada’s requirements while also enabling the company to access spectrum through direct ownership or other arrangements, which gives the company long term security of use. The current descriptions and lack of clarity on associated entity and affiliated entity rules do not give comfort that Xplornet will be able to pursue these necessary partnerships.

3. The proposed combinatorial clock auction (CCA) rules add uncertainty to the auction process and need to be carefully considered by the potential bidders and the auction manager well in advance of the auction event. Furthermore,
Xplornet believes that the CCA model needs to be carefully considered within the context of the auction framework and the timelines for finalizing the auction consultative process need to be adjusted to provide for due process. Xplornet suggests that there be at least two mock auction sessions and the closure date for potential comments on the auction process and CCA rules one month after the mock auction sessions.

**Introduction**

4. Industry Canada has indicated that the auction format would be a combinatorial clock auction. On May 30, 2012 Industry Canada provided an information session on the CCA rules with the auction consultant and auction manager. Industry Canada indicated that the CCA auction model and algorithm would be made available to qualified bidders 4-6 weeks before the auction and a mock auction would be held one week in advance of the auction event. Industry has not asked for detailed commentary on the appropriateness of this auction format or on the potential impact of CCA rules. Informed comments on the auction rules are critical to the success of the auction, from the perspective of all potential bidders and the auction market manager.

**Background**

5. The key principle behind Xplornet - Canada's largest rural broadband provider – is that rural residents and businesses deserve the same broadband services as those experienced by urban residents and businesses. This principle is consistent with Industry Canada’s goals of providing access to broadband as a key enabler for all Canadians.
6. Although relatively new to Canadian telecommunications, Xplornet is a successful broadband service provider, using multiple frequency bands: 3.5GHz, 3.65GHz terrestrial bands, plus Ka, Ku and NGSO satellite bands. Xplornet makes service available everywhere in Canada, including the hard to reach places. The company is a market leader in the adoption of new technology. It has overcome the challenges of Canada’s vast geography through its deployment of Canada’s first national 4G network, which leverages both terrestrial, fixed-wireless towers and the next-generation satellites. Xplornet services customers across the country, including just outside of major urban centres as well as rural and remote areas. Services are provided through a coast-to-coast network of local dealers and professional installers.

3. Service Area for Lloydminster

Industry Canada is seeking comments on whether or not the service area boundary for licences in the 700 MHz band should deviate from the provincial boundary around the City of Lloydminster, (Alberta/Saskatchewan).

7. No Comment.

4. Auction Format and Rules

Industry Canada is seeking comments on its proposal to use the CCA format, as well as the general attributes outlined above, including:

- the categories of generic licences;
- the guarantee of contiguity across blocks A and B in the lower 700 MHz band in a specific service area;
- the combined eligibility point and revealed preference activity rule in the clock rounds, and the revealed preference limit in the supplementary round;
- the use of a second-price rule; and the information to be disclosed during, and post-auction.
Generic licence categories

8. Xplornet agrees in general with generic licences as they simplify the bidding process by reducing overall combinations; however some specific issues are addressed later in this filing.

A & B block contiguity guarantee

9. Xplornet agrees with A&B block contiguity guarantee based on efficiency of spectrum operations for the system, unless geographic contiguity is favoured over frequency contiguity. (e.g. if a licensee wants the B block in three geographic areas, but only wants the A in two of those areas, it may lose contiguity to the third area by not securing the A block there as well.)

Combined eligibility and revealed preference activity rule in the clock rounds

10. The potential impact of large combinatorial bids in the clock rounds is the trumping of smaller regional / new entrant bids via the CCA price weighting mechanism. Xplornet develops its reservations regarding the CCA model in the Revealed preference activity rule in the supplemental round (see below) and clarifications needed on the CCA (see below). Once the CCA model is opened for discussion, the price weighting issue in the clock rounds would also be put on the table.

Revealed preference activity rule in the supplementary round

11. The application of the revealed preference activity rule in the supplementary round would appear to be inequitable; particularly the ability of bidders to increase revealed preference by making higher supplementary bids. It is likely
that only the three large incumbent carriers will have the remaining financial capacity to take advantage of this rule. This allows larger bidders to place bids on packages they do not necessarily want merely to ensure a higher second price is paid by the ultimate winner. In a ‘zero sum’ auction, the gain of a carrier will quite likely be at the expense of a regional and/or new entrant bidder.

12. It is difficult to determine the full impact of the revealed preference rule in the supplementary round without being able to test the CCA auction model well in advance.

13. There is considerable uncertainty with regards to the application of the CCA model, especially during the supplemental round where there will be highly complex bidding situations of various bands and geographic lots. In the situation where a smaller regional / new entrant bidder was the high bidder at the end of the clock rounds it would appear that large national incumbent bidders might be able to ‘trump’ the bid of the smaller regional bidder in the supplemental round;

14. Spectrum auctions require significant upfront financial commitment on the part of bidders. While there is an inherent uncertainty in competing with other players, the auction model and process should be fully understood well in advance, to avoid any further unnecessary layer of uncertainty which might result in insufficient financing;

15. Thus, in order to ensure that the tests of due process and fairness to all players be met in the context of the upcoming CCA auction, the spectrum authority / auction manager needs to provide sufficient information to bidders in order that they are able to provide informed commentary in the consultation process and
ultimately, make informed bidding decisions. Thus, we suggest at least two mock auctions be held prior to the closure of commentary on the auction framework and rules.

**Second-price rule**

16. As a rule, second-price is favourable to all bidders because the winning bidder will always pay less than what he/she actually bid.

17. The determination of how much less and the method by which it is determined appears questionable. In particular the weighting to achieve second price (move from Vickrey to boundary of ‘the core’) may be based on reserve prices, which may not turn out to be accurate at the end of the auction. E.g., if licence A’s reserve was 2x licence B’s, than the weighting disproportionately increases the price of licence A, even if the bid price for licence A was lower than licence B.

18. The weightings used in the second price rule should be based on the bidders’ actions (i.e. bid prices) not the reserve prices – the latter constituting an extraneous variable determined by the auction manager.

19. However, the second price rule appears as though it could be gamed as it incents bidders to artificially drive up the price by placing high bids (including supplementary bids) on packages they do not necessarily value to ensure their competitors pay a higher ‘second price’, if they have remaining eligibility.

20. Xplornet suggests an alternative weighting scheme based on parameters within bidders’ behaviour e.g. ratio of final bid prices to reserve, final bid prices, etc. Bidding is a more accurate determination of value, not reserve prices. Either method would result in better approximations of market value.
Clarifications needed on CCA

21. Industry Canada has not asked for questions on the CCA auction software. However, as previously indicated there is considerable uncertainty on how the CCA model would play out for bidders. CCA has been tested and used in other auctions, but Power Auctions admitted the most ‘products’ it has used CCA previously for in a spectrum auction was 16. The Canadian auction will have 56 products with considerable complexity of geographic and band combinations.

This level of complexity may unfairly impact bidders’ preparations, including the financial decision-making in advance. In fact, at this stage the following basic questions remain unclear:

- How do you know if you have won? And how much will you pay?
- When do you know if you have won?

22. Thus, there needs to be additional information provided on the model parameters, weightings and how the ‘win determination’ (e.g. the ‘solver’) actual works. Specifically, Industry Canada should provide the mathematics behind the ‘solver’.

23. There are also questions regarding the fundamental fairness of the model to smaller bidders that can only be addressed by providing further information on the parameters’ weightings and functioning of the model. Among the fairness concerns, we cite the following:

- It would appear that because combinatorial favours multi-lot bids – large incumbents will be able to bid at prices which are below full business
valuation for specific lots, contrary to regional players who will have to bid full business valuation.¹

- Win determination (particularly as to whether or not a bidder wins could be based on bids placed by another bidder e.g. Bidder A and B trump C) is too arbitrary. That two unrelated bidders value two separate licences more (this could ultimately apply to a combination bid on the BC and Newfoundland licences) should not determine if a bidder is willing to pay significantly more for one of the two licences does or does not win.

24. Industry Canada should make available the model algorithm to, or - at the very least - host mock auctions using the CCA model with the potential bidders well prior to the end of the consultative process and, by extension, the auction event. Bidders cannot comment in an informed fashion on the CCA model in the absence of detailed information (see comments in CCA Commentary section).

25. Xplornet requests access to the auction software and/or earlier ‘training’ or ‘mock’ sessions so bidders can become familiar with the CCA software and test its workings in complex bidding situations before submitting initial July 25 reply comments. CCA rules and their impacts cannot be fully evaluated in absence of having software & algorithm and/or mock auctions.

26. Industry Canada could hold mock auction sessions in very short order. The auction consultant Power auctions (Peter Cramton) indicated in the May 30,
2012 information session that bidders could use the model with only a half day of training.²

5. Bidder Participation – Affiliated and Associated Entities

Associated Entity – Any entities that enter into any partnerships, joint ventures, agreements to merge, consortia or any arrangements, agreements or understandings of any kind, either explicit or implicit, relating to the acquisition or use of any spectrum in the 700 MHz band will be treated as Associated Entities. Typical roaming and tower sharing agreements would not cause entities to be deemed associated.

Affiliated Entity – An affiliated entity is defined as a person who controls the entity, or who is controlled by the entity or by any person who controls the entity. “Control” means control in any manner that results in control in fact, whether directly through the ownership of securities or indirectly through a trust, agreement or arrangement, the ownership of a body corporate or otherwise. Control in fact is the ongoing power or ability, whether exercised or not, to determine or decide the strategic decision-making activities of an enterprise, or to manage or run the day-to-day operations of an enterprise.

27. Xplornet is Canada’s largest rural broadband provider. The acquisition of spectrum in the upcoming auction would allow the company to increase its service offering as well as improve product speeds, amount of bandwidth and the quality of service to rural subscribers. Xplornet’s plans directly responds to Industry Canada’s goals of rural deployment.

28. In the consultation process in 2011 regarding the 700 MHz and 2.5 GHz bands, Xplornet proposed an auction framework that would enable the company to improve rural broadband deployment. However, Industry Canada’s decision to adopt tier 2 only licences for the auction makes it very expensive for Xplornet to acquire spectrum for its purposes, since it is not possible to bid for spectrum serving largely low density areas.

² ibid.
29. In light of the auction framework adopted by Industry Canada, Xplornet will be forced to develop partnerships in order to - at a minimum - meet the population coverage requirements for 700 MHz licensees. In light of the framework that disadvantages rural users of spectrum, Xplornet needs to be unencumbered to pursue partnerships that allow it to meet Industry Canada’s requirements while also enabling the company to access spectrum through direct ownership or other arrangement which gives the company long term security of use.

30. It is Xplornet’s position that new entrants should be allowed to acquire spectrum on their own and develop commercial agreements (in advance of the auction or after the fact) that allow it to execute on its business plan without limiting the scope of its business arrangements.

31. Xplornet would ask that greater clarity and transparency be given to the associated entity and affiliated entity rules, including in respect of the much talked about arrangements between Bell and TELUS.

32. Xplornet thus asks the following questions:

- Is the existing Bell and TELUS current network sharing deal considered to have the characteristics of an associated entity as defined by Industry Canada for the purposes of the 700MHz auction? If so, what characteristics render it an associated entity arrangement or what characteristics exclude it from such consideration?

- If the network sharing arrangement is not considered an associated entity, upon what criteria would the designation be based?

33. If the Bell/TELUS network sharing arrangement is considered to be an associated entity and they are allowed to bid separately, any entities that win
spectrum in the 700MHz auction should be treated, at a minimum, in a similar fashion.

34. Consideration should actually be given to new entrants to promote affiliate relationships that make the best use of spectrum across each license area in recognition of the diverse uses and business case opportunities available in this spectrum band.

**Definition of associated entities**

35. Xplornet’s position is that any bidding party using this bid / ownership formula should be treated in an equivalent fashion to that provided by Industry Canada to existing capacity and network sharing agreements. Thus, from Xplornet’s perspective, the types of agreements that should be considered associated entities are summarized as follows:

- Exclusive spectrum sharing agreements and network sharing agreements should be considered associated entities. As Xplornet understands it, the Bell-TELUS agreement constitutes such an agreement and therefore the parties should be considered associated entities.

- A non-exclusive capacity leasing (carriers’ carrier) option should not be considered to constitute an associated entity. Such an arrangement contemplates being open to all carriers, and has no prior arrangement to reserve a specific amount of capacity for any one carrier.

**Information to be disclosed to the public for associated entity**

36. Individual bidders should not be required to disclose information as long as the bidders are not bidding together. Any level of disclosed information regarding
the arrangements of associated entities (unless it is simply to disclose that two companies are bidding together) could: (i) be injurious to the companies’ strategy; (ii) influence the bidding behavior of others; and/or (iii) result in a less than optimal auction outcome.

37. Ultimately, the CCA auction is designed to promote ‘truthful bidding throughout the auction process, i.e. bidding in a manner that is consistent with how a bidder truly values the package’. Access to information on the particular details of associated entities constituted by other bidders will likely influence the way bidders behave. This outcome could result in bidders moving away from value bidding to less optimal forms of bidding – for example, bidding to deny spectrum to the other parties or bidding to drive up values in rivals’ markets.

The provision that typical roaming and tower sharing be specifically excluded from the revised definition of associated entities and whether other types of agreements such as the purchase of backhaul capacity should be deemed excluded

38. Roaming and tower sharing should continue to be excluded.

The proposal that entities that are deemed associated entities may apply to be treated as separate entities for participation in the auction

39. Yes. However, we would ask Industry Canada that if ‘associated entities’ are deemed to be separate for the purpose of the auction, that appropriate spectrum caps rules be implemented that address the differences between incumbent and non-incumbent restrictions when considering as part of an associated entity.

The proposals that are deemed to be associated entities may request to have the spectrum caps apply to them separately, based on an analysis of their association and of whether they intend to compete in the same licence service area

40. The extent to which spectrum caps should apply separately to two companies that may form an association should be dealt with exclusively in terms of the spectrum aggregation limits. For example, if Bell and TELUS intend to bid separately, they are subject to their own spectrum caps.

41. Two companies may have, in principle, an agreement to share capacity to some extent. However, if they choose to bid separately then there should be no opportunity for collusion, and there should be no bidding restrictions beyond the rules contained in the auction framework. After the auction closes, the extent to which they can aggregate their spectrum should be subject to spectrum cap rules.

42. Rules with respect to spectrum aggregation between two associated entities - that may allow at least one of the associated entities to exceed its cap - need to be scaled depending on the status of the companies that constitute the associated entity. For instance, incumbents and non-incumbents have different caps, so applying the cap jointly to an associated entity that includes an incumbent and a new entrant raises the question of which cap to apply.

43. Therefore, there should be a set of rules with respect to allowing the cap to be exceeded depending on the status of the companies in an associated entity. We suggest the following guidelines:

I. **Two incumbents** – if allowed to have the cap apply separately, it should be an overall cap of two paired licences total for the associated entity.
Otherwise, if the caps were applied separately, and as listed in the framework, it would allow two incumbents to partner and acquire, and share, the A, B, C, D and E blocks. This arrangement would provide the incumbents more than 45 MHz of contiguous spectrum.

II. **An incumbent and non-incumbent** – allowed up to two prime blocks of spectrum, plus the A block. Theoretically, this combination could acquire the A, B, C, D, E blocks as above, but would not due to lack of need & limited financial resources.

III. **Two non-incumbents** – no restrictions beyond their own individual caps (e.g. up to four paired blocks).

*The criteria to be considered in determining whether the entities are competing*

44. Xplornet believes Industry Canada must treat all parties fairly. In considering whether parties are competing, Industry Canada needs to first examine historical agreements such as Bell and TELUS in setting the terms for this auction, and ensure that equivalent rules apply.

5.1 Prohibition of Collusion

*Industry Canada is seeking comments on the rules prohibiting collusion that would apply to bidders in the 700 MHz auction.*

45. Xplornet reiterates its position that Industry Canada should allow bidders to either bid jointly in associated entities — or bid separately. If bidding separately there can be no sharing of information prior to or during the auction, especially if the separate bidders are actually associated entities who were granted separate bidding privileges for certain reasons. If they do they should be subject to disqualification from bidding. There can be no in-between position.
6. Conditions of Licence for Spectrum in the 700 MHz Band

Industry Canada is seeking comments on:

- its proposal to issue spectrum licences in the 700 MHz band with a 20-year licence term.
- the proposed wording of the condition of licence related to the spectrum aggregation limits.
- the proposed wording of the condition of licence related to transferability and divisibility.
- the proposed wording of the condition of licence related to eligibility criteria.
- the proposed wording of the condition of licence related to the treatment of existing spectrum users.
- the proposed wording of the condition of licence related to radio station installations.
- the proposed wording of the condition of licence related to the provision of technical information.
- its proposed condition of licence related to compliance with legislation, regulation and other obligations.
- the proposed condition of licence related to technical considerations, and international and domestic coordination.
- the proposed wording of the condition of licence related to lawful intercept requirements.
- the proposed condition of licence related to the research and development requirement.
- the application of the proposed wording of the licence condition related to rural deployment requirements. Specifically, comments are sought on the assessment of “access to two or more paired blocks of spectrum” for the purposes of this condition of licence.
- the application of the general deployment condition of licence as stated above. Specifically, comments are sought on:
  - the population coverage, as specified in Table 3, for each licence service area; and
  - the time frame proposed whereby the requirement must be met.
- the proposed condition of licence related to the requirement for annual reporting.
The proposed wording of the condition of licence related to the spectrum aggregation limits.

46. As written, the cap rules seem to allow the use of capacity on another network. Capacity leasing is not a transfer of licences or issuance of new licences, nor is it a matter of ownership or control. Industry Canada needs to recognize that if a licensee as spectrum provider grants exclusive (or ‘guaranteed’) access to spectrum to another licensee, this effectively changes the cap for the designated licensee. Industry Canada needs to incorporate exclusive or guaranteed spectrum in the wording of the condition of licence related to the spectrum aggregation limits.

The proposed wording of the condition of licence related to transferability and divisibility.

47. The spectrum caps put in place for the 700 MHz auction will continue to be in place for five years following licence issuance. Therefore, no transfer of licences or issuance of new licences will be authorized that allows a licensee to exceed the spectrum caps during this period. Any change in ownership or control granting a right or interest to another licensee in this band may be considered as licence transfer for the purpose of this condition of licence whether or not the licensee name is changed as a result. The licensee must request approval by the Minister of Industry for any change that would have a material effect on its compliance with these spectrum aggregation limits. Such a request must be made in advance for any proposed transactions within its knowledge.
The proposed wording of the licence condition related to rural deployment requirements. Specifically, comments are sought on the assessment of “access to two or more paired blocks of spectrum” for the purposes of this condition of licence.

48. As written, any licensee having access to two or more paired block through association has to full fill the deployment requirements of 90% of the population of the HSPA network footprint within the next five years and 97% within the seven years of the issuance of the initial 700 MHz licence. Xplornet reiterates its prior comments that forced build outs are not useful policy tools to encourage sustainable deployment but rather such build outs only serve to damage smaller competitors and, long term, further exacerbate the lack of availability of services in rural areas. It is submitted that, as written, the current build out requirements are neither helpful nor harmful and, as such, such not be modified at this time.

The application of the general deployment condition of licence as stated above. Specifically, comments are sought on:

- the population coverage, as specified in Table 3, for each licence service area; and
- the time frame proposed whereby the requirement must be met.

49. In the 2008 AWS auction a total of 59 Tier 3 service areas were auctioned. Most of Tier 3 service areas cover the major urban centers; consequently, the population coverage in those areas is high. A lower population coverage percentage should be used for the Tier 2 service areas designated for the
upcoming 700 MHz auction to recognize the lower population densities and higher cost of service in rural areas. Various formula could be applied to take these factors into account, for example, using the AWS percentages for the minimal population coverage, the formula would be: minimum population coverage = sum (percentage of minimum population coverage in Tiers 3 within a Tier 2) / (the number of Tier 3 in that Tier 2 service area + 1).

**End of document**