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25 June 2012

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Sent Via Email

Re: Canada Gazette, Part I, April 2012, Consultation on a Licensing Framework for Mobile Broadband Services (MBS) - 700 MHz Band, DGSO-002-12

1. Public Mobile welcomes the opportunity to provide comments on the licensing framework for mobile broadband services on the 700 MHz band.

2. As Industry Canada is aware, the 700 MHz band is highly prized by wireless operators due to its propagation characteristics, related efficiencies and the device ecosystem that has developed for this frequency band. It is with this in mind, that the Department must consider which aspects of the proposed licensing framework advance its policy objective of ensuring sustainable competition.

3. Public Mobile supports the Department’s proposal to conduct a Combinatorial Clock Auction (CCA). We believe the CCA format allows for the most efficient distribution of spectrum resources through auction.

4. Public Mobile is not going to re-argue issues in this consultation that have already been debated. Our views about most policy questions have been made clear in past consultations regarding spectrum, roaming and antenna and site sharing.
5. Our comments in this consultation focus on the key issues that are most relevant to us as a new entrant wireless provider and issues that are relevant to the conduct of the spectrum auction. Public Mobile’s failure to comment on a particular issue that is or could be adverse to Public Mobile’s comments viewed as a whole should not be taken by the Department as support of, or acquiescence to, such comments. Further, we reserve the right to comment on additional areas of concern that may arise after review of other parties’ submissions in our reply comments to this consultation.

6. Our comments revolve around 4 main areas:

   a. Comments on the Department’s proposed definitions of “generic” blocks of spectrum
   b. Comments on bidder participation – “affiliated” and “associated” entities
   c. Comments on the proposed structure of the CCA format
   d. Comments on the proposed amendments to the Conditions of Licence (COLs)

7. We are looking forward to participating in the 700 MHz auction, however, we submit that the Department should take some small but meaningful steps to encourage sustainable competition so that smaller players, and not just large and dominant Incumbents, have the opportunity to acquire 700 MHz spectrum.

   **A. Comments on the Department’s proposed definitions of “generic” blocks of spectrum**

8. Public Mobile submits that the Department’s proposed plan for “generic” licences is flawed, and the plan as proposed will disadvantage certain types of bidders. The flaw is immediately revealed when trying to determine the value of the Lower A Block.

9. Public Mobile agrees that the Lower A Block should not be valued similar to the “prime” blocks of spectrum in particular the Lower B and C Blocks. (Industry Canada is proposing to design the auction so that if a bidder wins the A licence and one of either the B and C licences in a service area, then the bidder will automatically be assigned the Lower A and B Block licences in that service area. Using the Lower A and Lower B blocks together provides a carrier with 20 MHz of paired spectrum.)

10. There are two significant impediments to utilizing the Lower A Block for wireless service:

   a. Interference with broadcasting entities operating on Channel 51. Industry Canada has not clearly communicated what the plan is for any entities currently operating or licensed to operate, on Channel 51. Until a concrete plan is communicated, with clear timelines and costs associated with clearing broadcasters from Channel 51 detailed, the value of the Lower A Block cannot be reliably calculated. The Department must resolve this issue well before any auction for the Lower A Block takes place.

   b. Because of the question of interference, there has been a severe lag in the development of a handset ecosystem that supports the Lower A Block in the United States. This will likely delay deployment of this spectrum in Canada as the technology ecosystem develops.
These two interrelated issues create significant difficulty in determining the true value of the Lower A Block. More important, unless they are addressed, they create a competitive advantage in the auction for specific bidders.

11. The well-documented issue of interference due to Channel 51 distorts the true value of the Lower A Block. However, there is a simple solution - remove any broadcasters using Channel 51 to eliminate the interference issue. The Department has taken the first step of preventing new broadcasting licences using Channel 51. However, the Policy and Technical Framework for Mobile Broadband Services simply recommends that acquirers of the Lower A Block licences negotiate with the relevant broadcasters for a “mutually acceptable solution.”

12. However, this approach fails on two fronts. First, it only serves to prolong the uncertainty around this spectrum until after spectrum auction. It requires bidders to participate in the auction, and assign a value to the spectrum, not knowing if a “mutually acceptable solution” is available, or whether it can be accomplished in a timely manner at an acceptable cost. This uncertainty naturally favours the large Incumbent carriers who have both an excess of unused spectrum to operate on and can afford to pay for large quantities of spectrum which will likely remain unused for years. Second, the acceleration of vertical integration in Canada has given these same Incumbent carriers an unfair advantage at addressing this issue. The licence holder for Channel 51 in Toronto is City-TV, a subsidiary of Rogers Communications. Should Rogers acquire the Lower A Block in the Southern Ontario region, they would have every incentive to quickly address the interference issue. For anyone else, especially a new entrant such as Public Mobile, Rogers would have every incentive to delay or prevent any such resolution. This advantage both skews the relative valuation of the Lower A Block and provides a single bidder a lower level of uncertainty at the time of the auction.

13. To resolve these issues with the Lower A Block and to ensure a level playing field in the auction, it is important to have a clearly defined policy to remove all existing broadcasters from Channel 51. This requires both a firm deadline and clearly stated costs (if any) associated with moving an existing broadcaster from Channel 51 to a new channel. Only with certainty around the timing and cost associated with resolving the interference issue can all bidders be in a position to value this spectrum and compete in the auction equally. (To prevent any game playing by existing incumbent broadcasters who are vertically integrated, the holder of a Channel 51 license that acquires the Lower A Block in the same market should not be permitted to utilize the Lower A Block license prior to that deadline.)

14. The proposal to pair the Lower A Block with the Lower B Block also significantly complicates the “generic” quality of the Lower B and C Blocks. The band plan already raises questions about the generic quality of these two licences. Since the nature of technology and transmit limits in the unpaired D Block are unknown at this point, high powered transmissions from transmitters located close to end-users in the Lower C Block could theoretically introduce interference, rendering parts of the Lower C Block unusable. This in turn may introduce the need for additional filtering capabilities; introducing costs that may distort spectrum valuation and network build scenarios.

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15. The potential interference issues described above could be resolved in the auction process in the assignment round. Bidders would be free to value the potential advantages of the Lower B Block over the Lower C Block through bidding. However, the proposal to automatically pair the Lower A Block and the Lower B Block makes this impossible.

16. The guarantee of contiguous spectrum for lots in the same generic block category is standard in CCA spectrum auctions. However, with the proposal put forward by Industry Canada, the rule is taken a step further to guarantee contiguous spectrum across different categories of generic lots, and this distorts the value of the Lower A and Lower B Blocks so that the Lower B Block ceases to be “generic.”

17. Public Mobile submits that if bidders value contiguous spectrum, or prefer the Lower B Block over the Lower C Block on its own merits, then the Department should let them express that preference in the assignment round. Bidders would have to bid for the Lower B Block where they won the Lower A Block; an expression of the true value of each particular block and a more efficient way to allocate spectrum than the Department has proposed.

B. Comments on bidder participation—“affiliated” and “associated” entities

18. Public Mobile and many others have argued in the past that Bell and TELUS should be considered associated or affiliated entities and required to bid jointly in the spectrum auction. In our comments on the Department’s Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum (SMSE-018-10) we noted press releases from Bell and TELUS detailing their plans for both their existing shared HSPA network and their shared LTE network. Given that they have been sharing spectrum and network for their existing operations, using Cellular, PCS and AWS spectrum, it would be absurd for that sharing not to extend to 700 MHz spectrum.

19. We believe the currently proposed definitions for both “associated entities” and “affiliated entities” are adequate. These capture instances where separate entities are sharing spectrum and network resources in a manner that could serve to limit or reduce competition. Typical roaming and tower sharing agreements do not serve the same purpose. (However, as discussed separately in our comments in the Mandatory Antenna Tower and Site Sharing and Mandatory Roaming Consultation, DGSO-001-12, those roaming and tower sharing agreements should be considered evidentiary in any arbitration proceedings that arise.) Under the proposed definition, there is no question that Bell are TELUS and “associated entities.” It would also appear that Rogers and MTS are also “associated entities,” at least within the province of Manitoba.

20. Public Mobile supports Industry Canada’s existing policy that “associated entities” only be permitted to participate in the auction process through a single bidder. This existing rule most effectively ensures both a level playing field between all bidders in the auction and serves to enhance sustainable competition.

21. Specifically, if Bell and TELUS are permitted to participate separately in the auction and allowed to, effectively, double the spectrum cap, there could be a significant impact on both the auction

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3 Public Mobile Comments, Department’s Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum (SMSE-018-10), Para 118-21.
and competition. Acting separately, Bell/TELUS would be allowed to acquire and share the entire Lower 700 MHz spectrum band – with each acquiring one of the prime blocks and the two of them splitting the Lower A Block and the two unpaired blocks. This would result in one “associated entity” controlling five blocks, or 40 MHz of spectrum, two-thirds of the 60 MHz spectrum available in the auction. Extending this policy to the 2500 MHz auction would permit TELUS to acquire 40 MHz out of 60 MHz of 2500 MHz spectrum in all “Region B” high value spectrum areas. Combined, Bell and TELUS would be permitted to acquire a significant majority of the new spectrum, on top of already controlling the most extensive spectrum portfolio on the planet.

22. Public Mobile submits that the only parties who will benefit from Bell and TELUS being allowed to bid separately are Bell and TELUS. Canadian consumers will have less choice in wireless networks and competition in the wireless service markets will be stifled by allowing two large and dominant incumbent carriers to share their resources but count separately under the spectrum caps. Further, the Government may collect less revenue because permitting “associated entities” to bid separately will not enhance competition in the bidding process. They will be seeking complementary spectrum in the auction and not bid against each other. (This form of collusion is the very reason the existing policy does not allow them to participate separately.)

23. However, should Industry Canada decide to allow (as proposed in Para. 69 and 70 of the consultation document) Bell and TELUS to either participate separately in the auction or to have the spectrum caps applied separately, it must do so very carefully.

24. The proposal in the consultation document provides very vague requirements for “associated entities” to participate in the auction with separate caps.

   To obtain this approval, entities would be required to demonstrate that they intend to compete separately in the applicable licence area and continue to function as competitors to a level satisfactory to Industry Canada. In making this determination, Industry Canada would consider all relevant factors.4

25. If the Department is to allow this option for existing, or future, “associated entities,” there need to be clearly defined criteria for circumstances that permit two “associated entities” to either participate separately or to have the spectrum caps applied separately. Further any such request to be exempted from the general policy which requires those entities to participate as through a single bidder, should be public information, including the rationale and justification for providing such an exemption. Such clarity and public disclosure is important to ensure there is a clear understanding by all bidders of the status of “associated entities” and to ensure that there is a level playing field where all bidders understand what is, and is not, permitted between these entities.

26. As proposed, Public Mobile agrees that the definition of “affiliated entities” should be maintained and that “affiliated entities” should not be permitted to participate in the auction separately nor have the spectrum caps applied separately under any circumstances.

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4 Consultation Document, Para 70.
**C. Comments on the proposed structure of the CCA format**

27. Most of the proposals for the structure of the CCA format are fairly standard and are designed to support the objectives of the auction. However, there are a few aspects to the proposed structure that do not correspond to Combinatorial Clock Auctions as they have been designed and conducted in the past. As is discussed below, some of these create the potential to distort both auction behaviour and the competitive nature of the process.

*Information Disclosure*

28. Public Mobile agrees with the proposal to release only limited information during the auction process itself. This approach provides sufficient information that bidders can properly assess their own strategies and effectively bid for their most valuable packages of licences.

29. However, Industry Canada is proposing to make an unusual amount of information publicly available following the conclusion of the auction:

- the list of winning bidders, licences won and prices to be paid;
- the bids submitted by each bidder in every clock round, including their identity;
- the supplementary bids submitted by each bidder, including their identity; and
- the assignment bids submitted by each bidder, including their identity.

30. It is reasonable to expect billions of dollars will be bid in this auction. The full record of bids submitted throughout the course of the auction reveals considerable commercially sensitive information about bidding strategies and goals that can give competitors significant insight into a company's strategic direction.

31. Public Mobile submits that even with an unsuccessful bid, commercially sensitive information is disclosed through bidding amounts and preferences; what regions a bidder was interested in, how much this bidder was willing to pay, and when a bidder chose to switch to another package. Disclosing this information can cause harm to all bidders, but is particularly sensitive to losing bidders (whose bids would otherwise be unknown as they have not submitted any winning bids).

32. This concern is particularly significant with the 2500 MHz auction planned within a year of the 700 MHz auction. Releasing detailed information about all bidding behaviour would provide competitors considerable insight into a particular bidder's strategic plans and could impact participation and behaviour during the 2500 MHz auction. More important, such disclosure could impact behaviour in the 700 MHz auction. A bidder that is concerned about being outbid in the 700 MHz auction and is concerned about giving away strategy could choose to not bid as a means to keep this information confidential. This hinders the ability of the CCA auction to encourage full disclosure of package valuations, and could impact prices should “second price” bidders be discouraged from bidding.

33. In addition, this information is not normally disclosed at the conclusion of a CCA format. Other jurisdictions have uniformly rejected the idea of information disclosure of this type, either during or after the auction.
### International CCA Comparison: Information Disclosure at Different Auction Stages

<table>
<thead>
<tr>
<th></th>
<th>United Kingdom</th>
<th>Denmark</th>
<th>Austria</th>
<th>Ireland</th>
<th>Netherlands</th>
<th>Switzerland</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Winners, Packages &amp; Prices</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Bids Submitted</strong></td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td><strong>Supplementary Bids</strong></td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td><strong>Assignment Bids</strong></td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

34. Of particular note is the Australian example. The Australian Communication and Media Authority (ACMA) has engaged Power Auctions to run their Digital Dividend (700 MHz) auction using the CCA format. In that auction it is proposed that ACMA will disclose nothing more at the end of the auction other than “the names of the winning bidders, the spectrum awarded to each winning bidder, and the final winning prices for each winning bid.”

35. We have also examined the Irish CCA process in detail in regards to information disclosure, and found that both the government regulator and the firm running the auction have come out firmly against the idea of disclosing information at different stages.

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36. The Department's proposal regarding information disclosure is without precedent worldwide, and exposes sensitive strategic decisions to competitors. The conclusion in every other case is the correct one. Only winning bidders, packages and prices should be disclosed following the auction. Individual bids by individual bidders should remain confidential.

Opening Bids

37. Public Mobile submits that the prices proposed for opening bids as presented in Table 4 of the consultation document are unjustifiably high. The average opening price per MHz/pop for the paired licences is $0.48, and the price per MHz is 2.6 times higher in Southern Quebec and Southern Ontario than most other regions.

38. In addition to the average opening price per MHz/pop being at a high starting point, the Department has failed to justify the over two and a half times multiple for areas like Southern Quebec and Southern Ontario.

39. Pricing spectrum artificially high to begin an auction, and pricing the regions that most new entrants actually operate in even higher, may act as a barrier to participation, particularly for smaller carriers. More importantly though, it introduces artificial distortions in the value of spectrum.
40. The purpose of the auction process is to reveal the market value for spectrum in an effective manner. However, setting a high minimum price (especially when combined with the proposed supplementary round bids) can distort bidding behaviour and price determination. For some smaller regions, the proposed prices may be too high to reflect the value of those licenses within a package. The pricing gaps between regions, and between the paired and unpaired licences, could further distort bidding behaviour.

41. The table below illustrates the relatively higher proposed opening bid price for Canada as compared to other jurisdictions that have used the CCA format. Note that even as compared to the Irish auction for sub-1GHz spectrum, the proposed opening bid price is almost four times as high as proposed in Canada.

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Canadian Proposal</th>
<th>Ireland</th>
<th>United Kingdom</th>
<th>Denmark</th>
<th>Austria</th>
<th>Netherlands</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>700</td>
<td>800/900/1800</td>
<td>2600</td>
<td>2600</td>
<td>2600</td>
<td>2600</td>
<td>800/900/1800/2100/2600</td>
<td></td>
</tr>
<tr>
<td>Opening price ($CAD/MHz/pop)</td>
<td>0.48</td>
<td>0.11</td>
<td>0.001</td>
<td>0.003</td>
<td>0.006</td>
<td>0.001</td>
<td>0.02</td>
</tr>
<tr>
<td>Price paid ($CAD/MHz/pop)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.17</td>
<td>0.05</td>
<td>0.15</td>
<td>0.23</td>
</tr>
</tbody>
</table>

42. While the opening bids in the 2008 AWS auction were not uniform (as measured on a $/MHz/pop basis), they were all significantly below the levels proposed for the 700 MHz auction. For the auction to run efficiently, the Department should lower the opening bid prices closer to the Irish precedent of $0.11 per MHz/pop. It should be noted that considerable work on benchmarking of opening bid prices has been undertaken in relation to the Irish multi-band spectrum auction. At a minimum, opening prices should be no higher than those assigned to the AWS spectrum auction in 2008.

43. Industry Canada has chosen the CCA format because it believes it is the most efficient and fair way to allocate spectrum. Public Mobile asks the Department to let the auction format work as it is supposed to and not create a barrier to efficient bidding by starting the auction with opening bid prices that are artificially high.

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6 A total of five reports on benchmarking were produced, see [http://www.comreg.ie/radio_spectrum/consultations_and_associated_documents.713.1096.html](http://www.comreg.ie/radio_spectrum/consultations_and_associated_documents.713.1096.html).
Eligibility Points

44. The purpose of the eligibility points system is to force bidders to reveal their demand from the beginning of the auction, so that price increases will lead to a monotonic move towards lower demand. However, the downside of rules on eligibility points is that they may distort bidding by encouraging bidders to bid for packages with relatively more eligibility points rather than their most preferred package. This increases the flexibility for bidders later in the auction more than would be possible by bidding for a smaller package. Industry Canada is proposing to reduce this problem through the revealed preference limit rule; which implies that bidders can shift to a package with more eligibility points if the price increase for that package has been smaller than the price increase for the package which the bidder has bid for in the latest round.

45. Public Mobile welcomes the revealed preference limit rule, but points out that the problem remains. Bidders will still have incentive to bid for packages with many eligibility points in order to maintain their flexibility later in the auction.

46. Increased flexibility regarding eligibility is important, as the difference in price increases for packages is only one reason to shift between packages. Other reasons may be budget constraints and updated beliefs about the common value of the frequency. A budget constraint, i.e. a limit on how much an operator can spend on the auction, may imply that bidders want to shift to a package with more eligibility points if that package is cheaper in absolute terms (a different starting level implies that a package may still be cheaper in absolute terms even though the price increases for the package has been higher than for the package which the bidder has been bidding for.) One of the purposes of the clock rounds is to reveal information about the common value of the frequencies. This in turn may imply that bidders update their valuations during the auction, and as a result they may want to shift to a package with more eligibility points.

47. The potential distorting effect of the eligibility rule is compounded by the proposed distortion in the assignment of eligibility points to regions and licenses. To maintain consistency and to provide bidders flexibility in their package choices, comparable licences and packages of licences should require the same number of eligibility points. Otherwise, bidders are forced to choose between (1) non-optimal bidding packages and (2) reduced future flexibility.

48. The proposal to extend the distorted opening prices to the eligibility points significantly compounds this problem. As the table below shows, there is a vast gap between the eligibility points required to bid on two regions that are very similar in size and between 10 MHz of paired (1 license) and unpaired (2 licenses) of spectrum. As shown, the Southern Ontario licence area and those of the four western provinces have approximately the same population. However, the points required to bid on each package are vastly different. Even more extreme, the two unpaired licences for Southern Ontario (covering the same population with the same total spectrum) require barely one-fifth the number of eligibility points. As a result, the auction rules, as proposed, distort the ability of bidders to switch between these different packages.
Population and Bid Point Eligibility Comparison: Southern Ontario vs. Prairies and the West

<table>
<thead>
<tr>
<th>Population (Millions)</th>
<th>Paired Eligibility Points (10 MHz)</th>
<th>Both Un-Paired Eligibility Points (5 MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Ontario</td>
<td>10.09</td>
<td>523</td>
</tr>
<tr>
<td>(Tier 2-08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manitoba, Saskatchewan, Alberta, British Columbia</td>
<td>10.28</td>
<td>244</td>
</tr>
<tr>
<td>(Tiers 2-09 to 2-13)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

49. This distortion was not present during the 2008 AWS auction, when eligibility points for all regions and for all spectrum were based on the same metric: 1 point for 5 MHz of spectrum for 100,000 population, as shown in the table below. At a minimum, the eligibility points should be strictly based on the amount of spectrum (5 MHz or 10 MHz) and the population size of the region. This would, in the examples above, allow bidders the flexibility to switch between regional packages and between different licenses as prices change.

2008 Auction Result Comparison: Southern Ontario vs. Prairies and the West

<table>
<thead>
<tr>
<th>Population (Millions)</th>
<th>Paired Points (10 MHz)</th>
<th>Unpaired Points (5 MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Ontario</td>
<td>8.81</td>
<td>180</td>
</tr>
<tr>
<td>Manitoba, Saskatchewan, Alberta, British Columbia</td>
<td>8.98</td>
<td>184</td>
</tr>
</tbody>
</table>

50. However, the flexibility in the auction could be further increased by simplifying the eligibility points. This will not conflict with the purpose of eligibility points (to ensure a monotonic reduction in demand as prices increase) and will provide bidders greater flexibility.

51. Public Mobile proposes to simplify the eligibility points by reducing (or removing) the differentiation between regions. Concretely, Public Mobile proposes to group the regions into three groups:
### Eligibility Point Proposal

<table>
<thead>
<tr>
<th>Regional Population</th>
<th>Amount of Regions in Canada</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 2 million</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Between 2-4 million</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>More than 4 million</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

52. This simplification will increase flexibility and increase shifting between regions in the primary rounds, and reduce the tendency to bid for packages with many points in order to maintain flexibility in later rounds. This will also allow for truer price revelation in the primary rounds.

53. As an example the simplified system will enable bidders to shift back and forth from bids on regions within a group, e.g. Manitoba and Saskatchewan, instead of only allowing shifts from Manitoba (24 points) to Saskatchewan (21 points), but not the reverse, as the proposal from the Department implies.

54. Another example of how a simpler system may be more efficient than the Department’s proposal, is that the Department’s system may induce bidders to bid on Southern Ontario (523 points) regardless of whether they are interested in operating there or not, as this will enable bidders to shift to bidding on a package comprising almost all other regions in Canada. Public Mobile’s proposed simplified rule will make it easier to shift between regions without having to artificially maximise your bidding points from the start.

55. The eligibility point rule concerns how bidders are allowed to switch between different packages in the clock rounds. Public Mobile proposes a new eligibility point rule that is simpler, fairer and more transparent than the one proposed by the Department.

#### Supplementary Round Bidding

56. In paragraph 56 of Annex B in the consultation document, the Department states that:

“In addition, a reserve bid for every licence, at the opening bid price, will be included in the determination of winning bidders at the end of the allocation stage. This process will act as though Industry Canada is a bidder in the auction, placing a bid on every licence at the opening bid price. The inclusion of a reserve bid for every licence is to ensure that the incremental value that a bidder would be prepared to pay for an additional licence is at least the opening bid price of that licence.”
57. This proposal breaches one of the fundamental principles of CCA auctions, namely that prices are determined for packages and not for individual frequency blocks and may lead to unsold blocks and thus inefficient use of spectrum. The minimum price should apply to the package and not as an incremental price per licence.

58. A consequence of implementing the Department’s proposed rule in paragraph 56 of Annex B is that there may be unsold frequency blocks, even though there are willing buyers. This is even more likely due to the high opening bids, as referenced above. In addition, as demonstrated below, it can discourage bidders from honestly revealing their full set of preferences.

59. This can be illustrated in an example with only two bidders. In the example, the optimal combination (based on the values of the frequencies) is that Bidder 1 buys all frequencies except for Block A and Block C, which goes to Bidder 2. All bids are well above the minimum prices for the package. However, the Department’s proposed rule in paragraph 56 of Annex B implies that Bidder 2 will only buy Block C, while Block A remains unsold (Industry Canada buys the Block). This implies a suboptimal allocation of resources.

60. In addition, it discourages the honest revelation of preferences during the supplementary round. Bidder 2, by not submitting a package bid that consists solely of the C Block license, would actually succeed in acquiring both A and C. As a result, the proposal can discourage bidding for packages that might be impacted by the Industry Canada supplementary round bids.

61. Public Mobile thus submits that the Department should delete the proposal put forward in paragraph 56 of Annex B of the consultation document; as two unfortunate consequences can arise from this proposal. First, Industry Canada may win licenses although some bidders were willing to buy them (see example above); this is not an efficient spectrum allocation. Second, Industry Canada may increase prices for some bidders. Such price increases are not related to the competitive pricing of spectrum that the very efficient CCA format would otherwise guarantee. It should be noted that no other regulator in any jurisdiction using the CCA format that we reviewed has adopted the approach that the Department is proposing. The proposal
essentially introduces Industry Canada as a bidder in the auction which is not in the interest of Canadians, the Canadian telecom industry or Industry Canada itself.

Second Price Rule- Nearest Vickrey Pricing

62. Public Mobile is uncertain about the interpretation of the Department's use of “nearest Vickrey” pricing as outlined in Annex B of the consultation document. The use of the term “nearest Vickrey” suggests an equal sharing of collective common costs.\(^7\) Hence if two bidders jointly have to cover $1,000,000 in collective common costs and they each have individual opportunity costs of zero, they will pay $500,000 each. However, the description of the price rule, specifically in paragraph 5 of Annex E, suggests that the Department uses “nearest Vickrey” to signify a sharing of collective common costs that is relative to package sizes.\(^8\) Hence if two bidders jointly have to cover some collective common costs, a bidder that wins a smaller package will pay a smaller part of these extra costs. In the following, we will refer to “nearest Vickrey” as an equal sharing of costs and to “nearest Vickrey weighted by size” as a sharing relative to package sizes.

63. In contrast to Combinatorial Clock Auctions in other jurisdictions, the current proposal by the Department may skew the Canadian auction to be characterised by large nationwide bidders bidding against small regional bidders. This makes the equal sharing of collective opportunity costs of the “Nearest Vickrey” approach unfair. Applying the “Nearest Vickrey” approach in the Canadian auction also gives smaller bidders an incentive to shave bids due to the possibility of incurring a large extra payment on top of the individual opportunity cost.

64. Therefore, Public Mobile supports the proposal of “nearest Vickrey weighted by size”, namely to divide the extra collective opportunity cost in proportion to package sizes. However, Public Mobile proposes that package size be measured by the bidder’s winning package evaluated at the \textit{final} bid prices. Using final bid prices will provide a more fair allocation of the extra costs, if the allocation is based on the actual bids (showing the market value of the packages) rather than the somewhat arbitrary opening prices.

65. The issue of Vickrey pricing concerns how to share the costs when a group of bidders jointly prevent another bidder (or group of bidders) from winning their preferred package. In this case the winning group of bidders jointly have to pay for winning their packages, and the discussion of “nearest Vickrey weighted by size” or “nearest Vickrey” concerns how these costs should be divided among the winning bidders. Public Mobile argues that Industry Canada should adopt the “nearest Vickrey weighted by size” with package sizes being measured by the sizes of the winning bids. This is the most fair way to split the costs of winning between small regional players that only win small packages and large national players that win large packages.

\(^7\) Formally, this corresponds to choosing the core prices that minimize the sum of squared deviations from the individual opportunity costs.

\(^8\) In Peter Cramton’s presentation for the Industry Canada organized “Auction Design Information Session” on 30 May 2012, Peter Cramton refers to this rule as “nearest Vickrey weighted by size” (see slide 37).
**Pre-Auction Deposits**

66. The proposed auction deposits appear to be aimed at making the required deposit roughly equal to the opening prices for an equivalent set of licences. As a principle, this is reasonable for setting the level of deposits required. However, the proposal should be adjusted to align with the above proposals for (1) lower opening prices and (2) restructured eligibility points.

**D. Comments on the proposed amendments to the Conditions of Licence (COLs)**

**Spectrum Aggregation Limits**

67. Public Mobile has voiced its concerns about the Department's proposed “measures to encourage competition” in previous consultations. In summary we believe the spectrum caps proposed by the Department are insufficient for the purpose of ensuring long-term sustainable competition. Further, there has been no aggressive action either to free up additional spectrum or to ensure new entrants have access to additional spectrum, thus severely limiting the options for growth by smaller firms in the wireless market. However, the proposed language in the COLs regarding spectrum aggregation limits appears to adequately reflect the recent policy decision.

68. For further comments please see Public Mobile’s comments and reply comments to Gazette Notice SMSE-018-10 — Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum.

**Eligibility Criteria**

69. Public Mobile asks that any proposed wording of the condition of licence related to Canadian ownership and control be harmonized with pending legislation seeking to amend the Telecommunications Act and the Canadian ownership and control clauses that are affected.

**Mandatory Antenna Tower and Site Sharing**

70. Public Mobile has submitted extensive comments to the Department on antenna tower and site sharing through the consultation initiated by Canada Gazette notice DGSO-001-12. We invite the Department and all stakeholders to reference our comments and reply comments in the above proceeding for our full views on how best to reform the antenna tower and site sharing process.

71. Public Mobile has no additional comments on the proposed wording of the condition of licence related to mandatory antenna tower and site sharing, and we adopt our previous submission as part of our comments on this consultation.

**Mandatory Roaming**

72. Public Mobile has submitted extensive comments to the Department on mandatory roaming through the consultation initiated by Canada Gazette notice DGSO-001-12. We invite the Department and all stakeholders to reference our comments and reply comments in the above proceeding for our full views on how best to reform the mandatory roaming process.
73. Public Mobile has no additional comments on the proposed wording of the condition of licence related to mandatory roaming, and we adopt our previous submission as part of our comments on this consultation.