

**BEFORE INNOVATION, SCIENCE, AND ECONOMIC DEVELOPMENT CANADA**

**IN THE MATTER OF**

**CANADA GAZETTE NOTICE NO. SLPB-002-19—CONSULTATION ON A POLICY  
AND LICENSING FRAMEWORK FOR SPECTRUM IN THE 3500 MHZ BAND**

**IRISTEL, INC. COMMENTS**

**AUGUST 2, 2019**

## INTRODUCTION

1. Iris Technologies, Inc. (“Iristel”) is pleased to submit these comments, on behalf of itself and its affiliate Ice Wireless Inc., in response to Innovation, Science, and Economic Development Canada’s (“ISED”) Consultation on a Policy and Licensing Framework for Spectrum in the 3500 MHz Band<sup>1</sup> (the “Consultation Notice”).
2. The much anticipated 3500 MHz auction will be an opportunity for ISED to release valuable 5G spectrum to mobile operators. Making this spectrum available to operators will allow them to improve services and expand coverage to new areas. ISED must carefully balance the desire of large operators to seize as much of this spectrum as they can to deploy their 5G networks, with the need of smaller mobile operators to expand their coverage areas, and the need of small ISPs who already rely on this spectrum for fixed wireless access to provide service in rural and remote areas.
3. The Canadian wireless market remains highly concentrated. The CRTC’s Communications Monitoring Report 2018 (“CRM 2018”) shows that collectively, Bell Mobility Inc. (“Bell”), Rogers Communications Canada Inc. (“Rogers”), and Telus Communications Inc. (“Telus”) (collectively the “national mobile service providers” or “NMSPs”) hold virtually all of the market share in eleven of the thirteen provinces and territories and a total of 90% of the Canadian wireless subscribers<sup>2,3</sup> and 92% of mobile wireless revenue in Canada.<sup>4</sup>
4. The 3500 MHz auction will provide ISED with an opportunity to correct this imbalance, and allow small operators to acquire spectrum to complement their existing spectrum holdings or to expand to new service areas.

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<sup>1</sup> Canada Gazette, Part I, 5 June 2019, Notice No. SLPB-002-19, *Consultation on a Policy and Licensing Framework for spectrum in the 600 MHz Band. (The Consultation)*

<sup>2</sup> *Communications Monitoring Report 2018 (CMR 2018)*, Canadian Radio-Television and Telecommunications Commission, 2018, p. 160

<sup>3</sup> Inexplicably, the CMR 2018 excluded subscriber data from Freedom Mobile and Eastlink when calculating market share. The Chen Report submitted by the Canadian Network Operators Consortium in the CRTC’s Review of Mobile Wireless Services (CRTC Notice of Consultation 2019-57) corrects this deficiency using publicly available data for Freedom Mobile and estimates for Eastlink. Even after this correction, the data shows that the national incumbents retain greater than 90% of subscribers in all provinces and territories except Quebec and Saskatchewan.

<sup>4</sup> *CMR 2018*, p. 154

## ANSWERS TO ISED QUESTIONS

**Q1A**—ISED is seeking comments on its proposal to implement pro-competitive measures in the 3500 MHz auction.

5. Pro-competitive measures will be essential to prevent NMSPs from shutting out regional mobile service providers and small wireless Internet service providers. Iristel agrees with ISED’s premise that NMSPs “...have the means and incentive to prevent other service providers from acquiring spectrum licences in an open auction.”<sup>5</sup>
6. Iristel notes also that the large regional operators, Freedom Mobile, Videotron and Sasktel effectively shut out all smaller competitors from acquiring low band spectrum in all of B.C., Alberta, Saskatchewan, Southern Ontario, Eastern Ontario and Quebec. Pro-competition measures should not be aimed solely at providing competitive protection only for these entities but should allow smaller competitors and rural WISPs to acquire 3500 MHz spectrum.

**Q1B**—ISED is seeking comments on the use of a set-aside, an in-band spectrum cap, or a combination of both, including the amount of spectrum that should be applied for the use of a set-aside, and/or the amount of spectrum that should be subject to an in-band spectrum cap. Provide supporting rationale for your responses.

7. Iristel recommends the use of both a spectrum cap and a set-aside. However, if only one is to be used, ISED should apply a set-aside. Experience with both the 700 MHz and 2500 MHz auctions show that when a spectrum cap is the sole pro-competitive measure used, the lion’s share of the spectrum is acquired by NMSPs.
8. If a spectrum cap is applied, Iristel recommends that it should be 40 MHz, but in any event should be no more than 60 MHz in order to allow the greatest number of regional and small providers to acquire spectrum. It is reasonable to assume that all NMSPs will attempt to acquire as much spectrum as possible, and large regional incumbent mobile service providers (namely Freedom Mobile, Videotron,

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<sup>5</sup> The Consultation, para. 28

Eastlink and Sasktel) also have the means and incentive to prevent other regional or small mobile providers or WISPs from acquiring spectrum licences in their areas of interest. It should be noted that the regional incumbents also provide cable or fibre-based Internet and have an incentive to prevent WISPs from competing for Internet service in their service areas of interest.

9. In order to prevent further market concentration of wireless services, a set-aside of at least 50% of the total amount of 3500 MHz spectrum should be applied. This would provide up 100 MHz of open product per service area, all of which will likely be acquired by NMSPs. In reality, given that Xplornet will likely transfer its existing licences, this leaves 40-50 MHz for regional incumbents and other set-aside-eligible bidders in most service areas.

**Q1C**—ISED is seeking comments on its proposal to limit the eligibility criteria to bid on set-aside spectrum licences to those registered with the CRTC as facilities-based providers\* that are not National Mobile Service Providers, and that are actively providing commercial telecommunication services to the general public in the relevant Tier 2 service area of interest, effective as of the date of application to participate in the 3500 MHz auction. [Footnote omitted]

10. Iristel agrees with ISED's proposed definition with one notable exception. Providers of one-way satellite broadcast services should not be considered set-aside eligible in a given service area by virtue of the mere fact that they are able to provide satellite-based radio or television services in that service area. The ability to provide one-way satellite broadcast service in no way provides any advantage or ability to provide wireless services in that area because no actual facilities are needed in that area for one-way satellite broadcast service to be offered.
11. Iristel notes that in the 600 MHz auction, Freedom Mobile was considered set-aside eligible in the Yukon, Northwest Territories and Nunavut, presumably because of their parent company Shaw's one-way satellite broadcast service. Freedom Mobile then engaged in "point parking"<sup>6</sup> in those service areas during the clock rounds of the 600 MHz auction which drove up the clock round price and

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<sup>6</sup> Note: "Point parking" is a behaviour whereby a bidder during the clock round of the auction bids on products that the bidder does not actually desire for the purpose of maintaining its eligibility points without driving up the price of products that are actually desired. In an auction where the second price rule is applied, this will drive up the clock round price of the "parked" product. In an auction with no second price rule, it will drive up the actual price.

ultimately resulted in some spectrum going unsold in all of these service areas. While Iristel has no knowledge of Freedom Mobile's expansion plans, it notes that Freedom Mobile is well capitalised and could easily have acquired spectrum in the Northern Territories if its true intention was to do so. It is evident that its bids in the northern territories were made simply to park eligibility points. Freedom Mobile placed dozens of bids, in some cases for all of the set-aside licences in all three northern territories, driving up the clock price of those licences, but ultimately chose not to place a final bid on this spectrum. The effect of Freedom Mobile's actions was to drive up the clock round price of all set-aside licences in all three northern territories. One third of these licences went unsold when the auction concluded. This ultimately harms northern subscribers of wireless services.

12. To be clear, Iristel is not accusing Freedom Mobile of malfeasance. Their actions were within the rules of the 600 MHz auction and not unexpected. However, point parking disproportionately advantages bidders with access to greater capital and who have a correspondingly greater number of eligibility points. It is the responsibility of ISED to ensure that the auction framework protects the interest of all bidders and all consumer who are indirectly harmed when spectrum licences are either unsold or sold to organisations without the intent or means to operationalise the spectrum. ISED should ensure that only those entities that are reasonably expected to offer wireless service in a given service area be considered set-aside eligible in that service area.
  
13. Given that ISED is proposing to not to use a second price rule during the clock round of the 3500 MHz auction, the gaming behaviour described above will be even more detrimental in the 3500 MHz auction as it will have a direct impact on the price actually paid by winning bidders, as opposed to the clock round price in an auction like the 600 MHz that uses a second price rule. For this reason, ISED should only allow a bidder to be set-aside eligible if that bidder actually has the means to provide wireless service in that service area. One-way satellite broadcast services should be specifically excluded from the definition of commercial telecommunications services for the purpose of determining set-aside eligibility as they do not provide any means to offer wireless service.

**Q1D**—ISED is seeking comments on its proposal that any set-aside licences acquired by set-aside-eligible bidders would not be transferable to set-aside-ineligible entities for the first five years of the licence term.

14. Iristel agrees with ISED’s proposal that any set-aside licences acquired by set-aside-eligible bidders would not be transferable to set-aside-ineligible entities for the first five years of the licence term.

**Q1E**—ISED is seeking proposals for other eligibility criteria along with supporting rationale.

15. See paragraphs 10 to 13 above.

**If a spectrum cap is to be applied:**

**Q1F**—ISED is seeking comments on the inclusion of grid-cell and sub-divided licences towards the spectrum cap, and the proposal to allow the return of these licences in order to increase a licensee’s eligibility to bid on additional spectrum within the related licence area.

16. Iristel has no comments on ISED’s proposal to include grid-cell and sub-divided licences towards the spectrum cap. Iristel notes that paragraph 42 of The Consultation creates an obligation for ISED to provide a minimum six-month period between the date of its decision on the 3500 MHz framework and the deadline for applicants to participate in the auction.

**Q2**—ISED is seeking comments on its proposal to use Tier 4 service areas for the 3500 MHz licensing process.

17. Iristel believes that either Tier 3 or Tier 4 would be appropriate for the 3500 MHz auction.

**Q3A**—ISED is seeking comments on its proposal to include all remaining spectrum (including partially encumbered Tier 4 areas) as part of the auction as shown in table A1 of annex A.

18. Iristel agrees with ISED’s proposal to include all remaining spectrum (including partially encumbered Tier 4 areas) as part of the auction. ISED should provide GIS information (for example in .kml format) for all encumbered products prior to the start of the auction. Without this information, it will be very difficult for bidders to evaluate the suitability of encumbered products.

**Q3B**—ISED is seeking comments on its proposal to consider all spectrum acquired through the auction and only Tier 4 licences that will be issued through the transition process, simultaneously in the assignment round of the auction, in order to determine the specific frequency assignments of all licences in the 3500 MHz band.

19. Iristel does not have any comments on this proposal.

**Q3C**—ISED is seeking comments on the proposal that licensees who acquire multiple flexible use Tier 4 licences in a given area, either as a result of the auction or as a result of the transition process, be assigned contiguous spectrum, and that this also apply to partial area licences acquired through the auction.

20. Iristel agrees that all spectrum assigned should be contiguous.

**Q3D**—ISED is seeking comments on the proposal to classify all partial tier licences as encumbered blocks.

21. Iristel agrees that all partial tier licences should be encumbered, but ISED should also consider the possibility of creating unencumbered Tier 5 licences in those Tier 4 areas where the location of the encumbrance allows for this.

**Q3E**—ISED is seeking comments on the proposal to bundle the remaining portions of the encumbered areas offered in the auction as a combined encumbered block of 20, 30, 40 MHz or more, depending on the number of 10 MHz blocks being bundled. In particular the bundle would include the tier areas where existing sub-divided or grid cell licenses are encumbering the majority of the tier. This would apply where the geography of the remaining portions is the same or similar, and/or the remaining area covers a relatively small population. Comments on the proposed list of encumbered service areas where multiple blocks may be combined for the purpose of the auction are also sought.

22. Bundling licences may lead to situation where a bidder obtains more spectrum than needed, and it increases the complexity of the auction, which will have bundled encumbered blocks and unbundled encumbered blocks. Given the relatively small number of blocks in question, it would be simpler to leave all encumbered blocks unbundled.

**If a spectrum cap is applied:**

**Q3F**—ISED is seeking comments on the proposal that the bundled encumbered blocks would not count towards the spectrum cap during the auction, but that any transfers of the licences post-auction would be subject to the spectrum cap and the conditions of licence as described in section 11.2.

23. Iristel does not recommend bundling encumbered blocks, as per paragraph 22 above.

**Q4A**—ISED is seeking comments on its proposal to use generic licences.

24. Iristel agrees that generic licences should be used. Using licences with specific frequencies would greatly increase the complexity of the auction with little benefit.

**If a set-aside is applied (with or without a spectrum cap):**

Q4B—ISED is seeking comments on its proposal to categorize all blocks won by set-aside-eligible bidders as set-aside blocks.

25. Iristel has no comment on ISED's proposal to categorize all blocks won by set-aside-eligible bidders as set-aside blocks, other than to note that it would be consistent with 600 MHz licences.

**If a set-aside is applied (with or without a spectrum cap):**

Q4C—ISED is seeking comments on its proposal to create separate categories for encumbered and unencumbered blocks, as well as open and set-aside blocks.

26. Iristel strongly agrees that there be separate categories for encumbered and unencumbered blocks. In particular, Iristel agrees that all set-aside blocks be unencumbered.

**If only a spectrum cap is applied:**

Q4D—ISED is seeking comments on its proposal to create separate categories for unencumbered and for various encumbered block in a service area.

27. Iristel does not agree that only a spectrum cap should be applied, however if only a spectrum cap is applied, the encumbered blocks should count towards the cap.

Q5—ISED is seeking comments on the use anonymous bidding during the auction.

28. Iristel strongly agrees with the use of anonymous bidding during the auction as this will limit gaming behaviour of competitors who might place bids for the sole purpose of disrupting a rival's bidding strategy.

**Q6**—ISED is seeking comments on its proposal to use a clock auction format for the 3500 MHz spectrum auction.

29. Iristel is concerned that the elimination of the second price rule will greatly increase the effectiveness of interdiction bidding strategies, where the objective of a bid not to acquire a licence, but to punish a competitor by raising its price. However, eliminating a second price rule also greatly reduces the uncertainty of the financial commitment on bids, and this is welcome.

**Q7**—ISED is seeking comments on the proposed structure of the clock stage and on the proposed methodology for calculating processed demands and posted prices after each clock round, as described in annex C.

30. The proposed rules for intra-round bidding are very complicated. Iristel understands that the objective is to reduce the number of rounds in the auction to shorten the timeframe, but these rules add a significant amount of complexity to the auction, which will disproportionately disadvantage smaller organisation who do not necessarily have a team of economists and game theory specialists at their disposal. Iristel prefers a longer auction to a more complicated auction. Iristel recommends that ISED not use intra-round bidding, but instead use smaller pricing increments for each clock round and reduce the time allotted to each round if reducing the overall length of the auction is absolutely necessary. Iristel notes that elimination of a supplementary round will also decrease the duration of the auction.

31. Iristel also understands that ISED wishes to limit the potential for licences to go unsold. Using a clock auction (as opposed to a combinatorial clock auction) with no second price rule, and no supplementary round and adopting Iristel's proposal to reduce the opening bid prices, outlined in paragraphs 45-46 below, will almost certainly ensure that all products are sold.

32. Iristel welcomes the elimination of the "Axiom of Revealed Preference" rules which are difficult to comprehend and provided limited value in the 600 MHz auction.

**Q8**—ISED is seeking comments on the proposed range of percentage increments.

33. Iristel recommends that pricing increments be no more than 5% per clock round, in combination with the elimination of intra-round bidding, as explained in paragraphs 30-31 above.

**Q9A**—ISED is seeking comments on the proposed structure of the assignment stage, including the order of the assignment rounds, treatment of existing holdings, the combination of service areas into a single assignment area and parallel bidding.

34. Iristel does not have any comments on the structure of the assignment rounds.

**Q9B**—ISED is seeking comments on the proposal to apply bidder optimal core prices and to use the “nearest Vickrey” approach in determining the assignment prices.

35. Iristel agrees with the use of a second price rule during the assignment stage.

**Q10**—ISED is seeking comments on the proposed affiliated and associated entities rules that would apply to bidders in the 3500 MHz auction.

36. Iristel is opposed to any rule that allows Affiliated or Associated entities to make separate bids or that applies spectrum limits with regards to non-set-aside licences separately between Affiliated or Associated entities. Specifically, Iristel is concerned that the rules regarding Associated entities could result in the manipulation of bidding to allow aggregation in excess of what is permitted by the licensing framework. Such separation works strongly against smaller providers and new entrants, does not further telecommunications policy with regards to competitiveness and affordability, and is not in the best interest of the consumer.

**Q11**—ISED is seeking comments on the proposed rules prohibiting collusion and other communication rules, which would apply to bidders in the upcoming 3500 MHz auction.

37. Iristel agrees with the proposed rules regarding collusion and other communications.

**Q12**—ISED is seeking comments on its proposal to issue new flexible use spectrum licences in the 3500 MHz band with a 20-year licence term and the proposed wording of the condition of licence above. Licence terms for all flexible use licences, regardless of when they are converted from fixed to flexible use, will terminate on the same date as licences issued through the auction process.

38. Iristel agrees that the licence term should be a minimum of 20 years and come with a high expectation of renewal if deployment conditions are met.

**Q13**—ISED is seeking comments on the proposals on the condition of licence related to transferability and divisibility, and the proposed wording above.

39. Iristel does not have any comments on the proposal for transferability or divisibility of licences.

**Q14**—ISED is seeking comments on the proposed deployment condition of licence as stated above as well as on the proposed levels of deployment.

40. Iristel is concerned with the proposal to require existing operators who provide LTE coverage to be obliged to provide 3500 MHz coverage of up to 90% of the population of their mobile LTE footprint as of June 5, 2019 within five years of the issuance date, and to 97% of the population within seven years of the issuance date. These targets may seem reasonable for deployments in southern Canada, but Iristel's affiliate Ice Wireless currently provides LTE coverage in very small and remote communities in Canada's Arctic. These communities include Norman Wells, NT (pop. 778), Inuvik, NT (pop. 3,243), Behchoko, NT (pop. 1,874) and Iqaluit, NU (pop. 7,740). This LTE service is currently

provided exclusively using low band 850 MHz spectrum which has a much greater coverage range and building penetration than 3,500 MHz. Achieving the same level of coverage using 3500 MHz mid-band spectrum may require significant expenditure for equipment and support structures with no possibility of recovering the investment.

41. Iristel recommends that ISED modify the deployment conditions such that remote communities are excluded from the requirements listed in paragraph 171 of The Consultation, or in the alternative that ISED modify the conditions listed in paragraph 171 for remote communities to 25% for five-year deployment conditions, and 50% for seven-year deployment conditions.

**Q15**—ISED is seeking comments on the proposed conditions of licence outlined in annex H that would apply to flexible use licences.

42. Iristel has no comments, other than those made in paragraphs 40-41 above.

**Q16A**—ISED is seeking comments on its proposal to amend all FWA conditions of licence based on the proposed conditions of licence in annex I.

43. Iristel has no comments on ISED's proposal to amend FWA conditions of licence based on the proposed conditions of licence in annex I of The Consultation.

**Q16B**—ISED is seeking comments on its proposal to apply this amendment on June 5, 2019, plus one year—June 5, 2020.

44. Iristel recommends that the licencing framework for 3500 MHz state that this proposed amendment come into effect on June 5, 2020 or after completion of the auction, whichever comes later.

**Q17**— ISED is seeking comments on the proposed opening bids as presented in annex D.

45. Opening bids should be as low as possible and the final price of each licence set by market conditions. Iristel notes that ISED did not consider proposals to lower opening bids in the 600 MHz auction, and that a significant number of 600 MHz licences went unsold. Canada has some of the highest wireless service prices in the world, and this is spite of multiple efforts on the part of ISED and the CRTC to introduce measures that would reduce prices for consumers. However, Canada also has some of the highest prices for spectrum on a \$/MHz/population basis. It is therefore cynical for ISED to artificially inflate prices by setting high opening bid prices which not only contributes to high spectrum costs, but also limits the ability of smaller providers to participate in the auction by imposing difficult financial constraints in acquiring eligibility points.
46. Iristel recommends that the opening bid prices be reduced by half in order to allow greater participation in the auction by smaller mobile providers and WISPs. This will reduce the number of unsold licences in low population density areas and will not having any impact on the final prices in lucrative high population density areas, since market forces will dictate the final licence prices in these areas, regardless of the opening bid price.

**Q18**— ISED is seeking comments on the proposed eligibility points for spectrum licences in the 3500 MHz as outlined in annex D, and pre-auction deposits as outlined above.

47. Iristel understands that the pre-auction deposit is a necessary component of the auction and is required to ensure that potential bidders will be able to meet binding commitments made during this auction. However, the pre-auction deposit places a significant financial burden on smaller providers who must prove to potential investors and lending institutions that they have sufficient viability to obtain financing for the deposit. In particular, ISED should be sensitive to the time of the application deadline with regards to financial year ends. Most organizations have a financial year end of December 31 or March 31. It is extremely problematic for potential bidders who are not publicly traded companies to obtain financing for a pre-auction deposit if they do not have recent audited financial statements, which can only be provided after close of the financial year. For this reason, ISED

should avoid pre-auction deposit deadlines that occur immediately prior to financial year ends, where possible. Given that ISED is proposing to require a notice for return of licences at least six months before the application deadline (as per paragraph 42 of The Consultation) and that this requirement cannot be binding until a final decision on the auction framework which cannot be rendered before September 2019 by virtue of the deadline for reply comments, Iristel recommends that the pre-auction deposit deadline be no earlier than May 2020.

48. Iristel disagrees with ISED's proposal to round eligibility points to the nearest 10 points for licences with an opening bid greater than \$50,000. More than half the licences will be rounded to the nearest point and there is no practical benefit of rounding the remaining licences to 10 points. All licences should be rounded to the nearest eligibility point.

**Q19**—ISED is seeking comments on the proposed renewal process for spectrum licences in the 3500 MHz band.

49. Iristel has no comments regarding the proposed renewal process for spectrum licences in the 3500 MHz band.

## **CONCLUSION**

50. The 3500 MHz auction presents a good opportunity for ISED to release much needed spectrum for mobile wireless service provider. It will be crucial for ISED to balance the need of large national providers and large regional providers who concentrate on high population density areas with the need of smaller wireless service providers and smaller WISPs who also need 3500 MHz spectrum in their service areas which are predominantly rural and remote.

51. Iristel appreciates the opportunity to participate in this consultation.

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