



October 2, 2017

By email (ic.spectrumauctions-encheresduspectre.ic@canada.ca)

Innovation Science and Economic Development Canada
c/o Senior Director, Spectrum Licensing and Policy Branch
235 Queen Street (6th floor, East Tower)
Ottawa, Ontario
K1A 0H5

RE: Canada Gazette Notice No. SLPB-005-17, October 2, 2017, “Consultation on a Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band”

Dear Sir / Madam;

1. SSi Micro Ltd. is pleased to submit the attached comments to Industry Canada in response to the Canada Gazette Notice SLPB-005-17, **“Consultation on a Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band”** (the “Consultation”).
2. We appreciate the opportunity to provide these comments, and your time and attention in considering same.

Respectfully yours,
SSI MICRO LTD.

[SGD – DEAN PROCTOR]

Dean Proctor,
Chief Development Officer,
SSi Micro Ltd.



Submission to Industry Canada by

SSI MICRO LTD.

In Response to SLPB-005-17

***“Consultation on a Technical, Policy and Licensing
Framework for Spectrum in the 600 MHz Band”***

October 2, 2017

A. Introduction and Context

1. SSi Micro Ltd. ("SSi") is pleased to submit these comments to Canada's Minister of Innovation, Science and Economic Development ("ISED" or the "Department") in response to Canada Gazette notice SLPB-005-17, "***Consultation on a Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band***" (the "Consultation").
2. Our comments, for the most part, are prepared as direct responses to the questions posed by the Department in the Consultation.

B. Background on SSi

3. Founded in 1990, SSi is headquartered in Yellowknife, Northwest Territories, with a Satellite Teleport and Network Operations Centre in Ottawa, Ontario. SSi specializes in the design, deployment and operation of innovative and cost-effective communications networks to support the needs of communities with little to no terrestrial access to the outside world.
4. We understand first-hand the challenges faced in providing effective and affordable service to remote and outlying areas, and in providing a competitive alternative to the incumbent operator in small and remote markets.
5. SSi has deployed advanced satellite networks and local wireless facilities that deliver communications services throughout Nunavut under the "QINIQ" brand, and in communities of the Northwest Territories, an area spanning over three million square kilometres. SSi makes extensive use of both satellite and fibre transport to provide Canadian consumers, businesses and governments with backbone connectivity services.
6. SSi is a licensee of 1900 MHz spectrum in Nunavut, the Yukon and the Northwest Territories, and we are also a licensee of 2500 MHz spectrum in Nunavut and the Northwest Territories.
7. In 2004, in Yellowknife, SSi was the first in Canada to launch state-of-the-art WiMax broadband technology using 2500 MHz spectrum, and in 2005 we became the first (and still only) company to launch broadband service in all 25 Nunavut communities, again using WiMax technology at 2500 MHz, and offering the same service level and pricing to Nunavummiut across the Territory. Since then, the positive impacts of

broadband for consumers, organizations and small business have been clearly evident across the North.

8. SSi is now in the midst of a 3-year, \$75 million investment program into Nunavut communications infrastructure (which investments include \$35 million through ISED's Connecting Canadians program). This has led to infrastructure upgrades in all 25 communities to bring 4G-LTE (operating at 1900 and 2500 MHz) and 2G-GSM (operating at 1900 MHz) last-mile technologies for fixed and mobile data and voice services.
9. Remote area connectivity has many facets, and we are constantly evaluating, developing and integrating new technologies to ensure our offerings remain attractive and competitive. We are very encouraged by the promise the 600 MHz band holds for effective deployment in remote areas of the country so as to ensure that high-capacity mobile broadband networks are made available to all Canadians.
10. We agree fully with the Department that licensing this spectrum *"presents a key opportunity to further support the competitiveness of the newer service providers by ensuring that they will have an opportunity to acquire additional low-band spectrum to effectively compete with the services offered by the more established wireless service providers."*¹
11. We believe that the Department should implement the proposals it has outlined in the Consultation, but with certain adjustments as we recommend in Section D below.

C. Challenges Facing Newer Service Providers in Canada's North

12. As a wireless network operator providing service in some of the harshest climates and remote locations on earth, we understand first-hand and in detail the challenges faced in providing effective and affordable communications services to remote and outlying areas, and in providing a competitive alternative to incumbent operators in small and remote markets.
13. The immaturity of the competitive market in Canada's three Northern Territories has posed a particular challenge. SSi is completing the steps necessary to be a wireless Competitive Local Exchange Carrier ("CLEC") in the areas where Northwestel is the Incumbent Local Exchange Carrier ("ILEC"), so as to offer customers the most functional, and affordable, commercial broadband and mobile wireless services possible.

¹ Innovation, Science and Economic Development Canada (ISED), "Consultation on a Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band," SLPB-005-17, August 2017 (the "Consultation Paper"), paragraph 18.

14. The CRTC announced late in 2011 that it would require Northwestel to interconnect its network to CLECs. However, with the infrastructure that is required for local interconnection still limited in many communities across the North, implementing this policy remains a work in progress. A new entrant, such as SSi, must perform significant construction and other activities, including thorough and extensive participation in regulatory processes to make local interconnection a reality.
15. A related and ongoing challenge has been to secure access to terrestrial backbone connectivity services in the Western Arctic at rates that are just and reasonable, and that permit new entrants such as SSi to compete in the local services market. SSi has been involved with a lengthy series of public proceedings concerning Northwestel's wholesale backbone connectivity service offerings to competitors.
16. Northwestel's terrestrial fibre backbone services are needed by carriers such as SSi to deliver competitive local services, including broadband and mobile wireless services, in the Yukon and Northwest Territories. However, the rates for these services, now regulated by the Commission, have not yet been finalized.
17. In sum, for carriers such as SSi to offer effective and competitive broadband mobile services in Canada's North, regulatory intervention has been required: to ensure that the ILEC offers wholesale backbone connectivity services comparable to the inputs it uses for its own retail services; to attempt to ensure that the ILEC meets competitor quality of service standards, long applicable in other parts of Canada but not yet introduced in the North; and to ensure the price at which the ILEC offers these services is just and reasonable and complies with the CRTC's framework of rules concerning competitor or wholesale services. But again, while much progress has been made, the CRTC has still not issued final approval for the rates at which Northwestel offers these key backbone services.
18. SSi is nonetheless committed to offering high-quality and competitive broadband mobile wireless services in all three Northern Territories. And to this end, SSi has participated in previous licensing processes for spectrum in the 2500 MHz, 700 MHz, and 1900 MHz bands in all three of the Territories.
19. With the benefit of our experience to date, we offer the following comments and suggestions in response to the Consultation Paper's proposals.

D. Specific Comments on the Consultation

Q1A - ISED is seeking comments on its proposal to implement a set-aside as a pro-competitive measure in the auction process for the 600 MHz band.

SSi Comments:

20. SSi strongly supports ISED's proposal to implement a set-aside as described in the Consultation Paper. It is an appropriate and pro-competitive measure to take in licensing this significant spectrum.

Q1B—ISED is seeking comments on its proposal to set aside 30 MHz of spectrum in the 600 MHz band for eligible entities and to have open bidding (no pro-competitive measures) on the remaining 40 MHz in the band.

SSi Comments:

21. SSi supports ISED's proposal to set aside 30 MHz of spectrum in the 600 MHz band for eligible entities and to permit open bidding, without special pro-competitive measures, on the remaining 40 MHz in the band.

Q1C—ISED is seeking comments on its proposal to limit the eligibility criteria to bid on set-aside spectrum to those registered with the CRTC as facilities-based-providers that are not national incumbent service providers, and that are actively providing commercial telecommunication services to the general public in the licence area of interest, effective as of the date of application to participate in the 600 MHz auction.

SSi Comments:

22. SSi is in agreement with ISED's to limit the eligibility criteria to bid on set-aside spectrum to those registered with the CRTC as facilities-based-providers that are not national incumbent service providers.

23. However, SSi proposes modifications to the Department's added proposal to limit the eligibility criteria to bid on set-aside spectrum to those providers that are actively providing commercial telecommunication services to the general public in the licence area of interest, effective as of the date of application to participate in the 600 MHz auction. In particular, we believe that this proposal should be modified

with respect to the spectrum licence(s) to be issued to serve Nunavut, the Yukon and the Northwest Territories.

24. We recommend that the Department take into consideration the challenges, outlined above, to securing wholesale access to backbone transport facilities as well as interconnection arrangements required to operate in Canada's Northern Territories. Despite SSI's active and energetic participation in regulatory processes as well as in bilateral negotiations, these challenges have delayed our full commercial deployment across all three Northern Territories.
25. SSI has nonetheless sought by all available means to secure the spectrum resources it would need to offer commercial service in all three Northern Territories. In 2015, SSI qualified as an applicant in the processes to auction spectrum licences for Broadband Radio Service (BRS) in the 2500-2690 MHz Band and residual spectrum licences in the 700 MHz and AWS-3 Bands.
26. In both cases, SSI sought additional spectrum to serve all three Territories. The conditions set for the open auction of BRS unfortunately priced that spectrum beyond our means, while the opening bid price for spectrum in the 700 MHz band was, similarly, set at a level that prevented SSI's participation.
27. We propose that with respect to the Yukon Territory and Northwest Territories, the Department modify the requirement that set-aside-eligible bidders be actively providing commercial service in the area of interest in either of the following ways:
 - a. Option 1: Require set-aside-eligible bidders to be actively providing commercial service in at least ONE of the three Northern Territories, effective as of the date of application to participate in the 600 MHz auction for any of the licences set aside in one or more of the three Northern Territories; **or**
 - b. Option 2: Modify the proposed band plan and licence the North as a Tier 2 service area, with all three Territories in one licence, rather than unbundled into three separate Tier 4 areas, one in each of the three Territories, as proposed in the Consultation. Clarify as well that set-aside-eligible bidders for the Northern Tier 2 service area must be actively providing commercial service in at least ONE of the three Northern Territories, effective as of the date of application to participate in the 600 MHz auction for the licence in that service area.

Q1D—ISED is seeking comments on its proposal to limit the transferability of the set-aside spectrum for the first five years of the licence term.

SSi Comments:

28. While recognising that similar restrictions have been placed on set-aside spectrum in the past, given the additional proposed requirement for participants to already be providing service in order to be eligible to bid on set-aside spectrum, SSi believes this transferability restriction may not be required.

Q1E—ISED is seeking comments on its proposal to auction the set-aside spectrum as three separate paired blocks of 5+5 MHz.

SSi Comments:

29. SSi is in support of the Department's proposal to auction the set-aside spectrum as three separate paired blocks of 5+5 MHz.

Q2—ISED is seeking comments on its proposal to use Tier 2 service areas across the country, except in the three Territories (Yukon, Northwest Territories and Nunavut) where Tier 4 service areas would apply.

SSi Comments:

30. As described in response to Question 1C above, SSi has concerns with the Department's proposal to license the Northern 600 MHz on a Tier 4 basis.

31. In particular, SSi recommends that the Department adjust its proposed eligibility criteria for bidders on set-aside spectrum in the Northern Territories such that bidders would be eligible if they were actively providing commercial service in at least one of the three Territories at the date of application to participate in the auction of 600 MHz spectrum.

32. In the absence of that adjustment being made, SSi's preference would be for the Northern 600 MHz spectrum to be licensed on a Tier 2 basis, allowing all three Northern territories (Yukon, Nunavut and the Northwest Territories) to be licensed as one block.

33. SSi believes that ISED should be concerned that its set-aside policy actually work to support the competitiveness of newer service providers who are active in the North by not artificially foreclosing their eligibility to bid in certain areas of the North.

Q3—ISED is seeking comments on:

- a) the proposal to use generic licences; and**
- b) the proposal to categorize all blocks won by set-aside-eligible bidders as set-aside blocks.**

SSi Comments:

34. SSi is in support of these proposals by the Department.

Q4—ISED is seeking comments on:

- a) the use anonymous bidding during the auction; and**

SSi Comments:

35. SSi is in support of the Department's proposal to use anonymous bidding during the auction.

- b) the information that will be disclosed to bidders during the clock rounds, as described in annex A (which would also apply to the CCA with a modified activity rule set out in annex B) and annex C.**

SSi Comments:

36. SSi is in support of this proposal by the Department.

Q5—ISED is seeking comments on:

- a) The advantages and disadvantages of the three auction formats being considered for the 600 MHz auction:
 - i. Combinatorial clock auction, using the WARP-based activity rule (annex A);**
 - ii. Combinatorial clock auction, using the GARP-based activity rule (annex B);**
 - iii. Enhanced combinatorial clock auction (annex C).****
- b) Where there is a preference for one of the options, respondents are asked to provide a rationale and explanation.**



SSi Comments:

37. SSi has no comment on these proposals by the Department.

Q6—ISED is seeking comments on:

a) The proposal that winners of more than one block in a single service area be assigned contiguous blocks; and

SSi Comments:

38. SSi is in support of the Department's proposal that winners of more than one block in a single service area be assigned contiguous blocks.

b) The proposed structure of the assignment stage, including the order of the assignment rounds and the combination of service areas into a single assignment round.

SSi Comments:

39. SSi is in support of this proposal by the Department.

Q7—ISED is seeking comments on the proposed methodology for incrementing prices during the clock rounds, as described in annex A.

SSi Comments:

40. SSi is in support of this proposal by the Department.

Q8—ISED is seeking comments on the proposed Affiliated and Associated Entities rules that would apply to bidders in the 600 MHz auction.

SSi Comments:

41. SSi is in support of this proposal by the Department.

Q9—ISED is seeking comments on the proposed rules prohibiting collusion and other communication rules, which would apply to bidders in the upcoming 600 MHz auction.

SSi Comments:

42. SSi is in support of ISED's proposed rules prohibiting collusion and other communication rules, which would apply to bidders in the upcoming 600 MHz auction.

Q10—ISED is seeking comments on its proposal to issue spectrum licences in the 600 MHz band with a 20-year licence term and the proposed wording of the condition of licence above.

SSi Comments:

43. SSi is in support of the Department's proposal.

Q11—ISED is seeking comments on the proposals on the condition of licence related to transferability and divisibility, and the proposed wording.

SSi Comments:

44. Subject to the qualifications we provided in response to Question 1D, above, SSi can accept the proposed conditions of licence relating to transferability and divisibility.

Q12—ISED is seeking comments on the proposed deployment condition of licence.

SSi Comments:

45. SSi supports the Department's proposed deployment condition of licence.

Q13—ISED is seeking comments on proposed conditions of licence outlined in annex G that would apply to licences issued through the proposed auction process for spectrum in the 600 MHz band.

SSi Comments:

46. SSi is in support of ISED's proposed conditions of licence outlined in annex G of the Consultation paper.

Q14—ISED is seeking comments on the proposed opening bids as presented in table 1.

SSi Comments:

47. SSi is fully in support of ISED's proposal whereby, in order to attract auction participants to bid on the Northern licences in the 600 MHz band, the opening bids will be adjusted to 50% of the initial 700 MHz opening bids.

Q15—ISED is seeking comments on the proposed eligibility points for spectrum licences in the 600 MHz as outlined in table 2, and pre-auction deposits as outlined above.

SSi Comments:

48. SSi can support ISED's proposal for eligibility points and pre-auction deposits.

Q16—ISED is seeking comments on the proposed renewal process for spectrum licences in the 600 MHz band.

SSi Comments:

49. SSi is in support of ISED's proposed renewal process.

50. SSi appreciates the opportunity to provide these comments to the Department.

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