

SaskTel Comments:

Gazette Notice SLPB-003-17

Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands

August 15, 2017

EXECUTIVE SUMMARY

1. What follows are SaskTel's submissions in response to Gazette Notice SLPB-003-17 *Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands* ("the Consultation").
2. SaskTel agrees that it is in the best public interest to auction off the residual spectrum licences in the 700 MHz, 2500 MHz, 2300 MHz, and PCS bands.
3. SaskTel does not believe it is in the best interest to auction or issue I Block licences at this time.
4. With no apparent industry direction for development of the I Block, and no plans by any current I Block licence holder to utilize this spectrum in either the short or long term, all of the I block licences, including those licences previously issued and now up for renewal, should all be held by the Department until such time as the industry direction on the I block becomes more clear.
5. The spectrum aggregation limits in the 2500 MHz band have already served their purpose as the entire band is almost fully licensed. Continuation of the spectrum aggregation limits, rather than improving distribution among infrastructure operators, will have a very detrimental impact on wireless broadband service delivery in rural areas. Artificially restricting access to the remaining 2500 MHz blocks restricts SaskTel's ability to improve rural service in an immediate and cost effective manner. If given the opportunity, with the existing infrastructure SaskTel could immediately deploy the unpaired 2500 MHz spectrum blocks to enhance our rural wireless broadband service offerings.
6. In decision CRTC 2016-496¹, the CRTC established access to fixed broadband internet services for rural and remote Canadians as part of the universal service objective, with minimum access speeds of 50 Mb/s download and 10 Mb/s upload. As a service provider keenly focused on providing rural wireless broadband services, SaskTel requires access to suitable 2500 MHz spectrum to pursue the universal service objective mandated by the CRTC, but SaskTel is being hindered by the 2500

¹ Telecom Regulatory Policy CRTC 2016-496, 21 December 2016, <http://www.crtc.gc.ca/eng/archive/2016/2016-496.pdf>

MHz spectrum aggregation limits. In essence, SaskTel is unable to make progress towards fulfilling the universal service objectives in deep rural areas as established by the CRTC because of spectrum aggregation limits still being imposed by ISED.

7. For these reasons, SaskTel recommends that the spectrum aggregation limits be removed for the 2500 MHz band.
8. As an alternative, SaskTel recommends as a minimum that the 2500 MHz residual spectrum blocks being auctioned in this process not count towards the overall spectrum aggregation limits. Allowing more entities to bid on the spectrum in the auction will increase competition which generally results in higher auction revenues. Removing the restrictions would allow the 2500 MHz blocks included in this auction process to be efficiently used to provide CRTC mandated wireless broadband services in rural and remote areas, while still allowing the Department to effectively manage the remainder of the 2500 MHz band.
9. There is also no need to continue the spectrum aggregation limits on the 700 MHz licences included in this auction because the spectrum being auctioned will serve the far North and there is limited demand. Lifting the spectrum cap on these far North 700 MHz licences will likely encourage their utilization and improve service to end users.
10. It is premature to make any decisions on policy or licensing changes to incorporate potential future developments in opportunistic spectrum access technologies. The introduction of licence conditions to accommodate future, opportunistic spectrum access devices and technologies will have a very serious impact on network design and reliability. Modern wireless networks are currently designed based on the principal of exclusive access. Interference sources and levels are all controlled by the licence holder thereby allowing networks to be optimized for maximum performance and efficiency. Changing the spectrum licence conditions from an exclusive access regime to a simple priority access scheme will require large scale changes in network design and optimization principals. Such design and optimization changes would necessitate a complete overhaul of the existing network to properly accommodate potentially random interference sources which is to say nothing of the challenges that would be created for designing and optimizing future networks.

11. Any proposed changes in policy or licence conditions that would permit opportunistic spectrum access technologies must only be made after an extensive and thorough public consultation, conducted at a time when industry direction on such devices becomes more clear.
12. The proposed terms and conditions for the licences to be issued in this Consultation are appropriate except for the I Block spectrum licences. As stated above, all of the I Block licences should be held in reserve by the Department until such time as the industry direction on the I Block spectrum becomes more clear.
13. Consistent with the Canadian Government's "Red Tape Reduction Plan", SaskTel suggests that the information now required to be submitted annually by every licence holder should be only required to be provided at the request of the Department. This will reduce administrative burdens for both licence holders and the Department as most of the information to be provided annually does not change much from year to year, making occasional submissions more practical.
14. Based on the large number of licences being auctioned, a simultaneous multiple round auction ("SMRA") format should be used for these residual licences. The SMRA format allows for full price discovery and more effective expression of value for the spectrum. The sealed bid format proposed by the Department only works well when a small number of licences are being auctioned.
15. The proposed auction processes, terms, and conditions being proposed, save and except for the comments made above, appears to be for the benefit of the industry and Canadians. The proposed 20-year licence term, deployment requirements, and conditions of licence appear to fit the industry model.
16. However, opening bid values for the Regina and Saskatoon 2500 MHz spectrum licences should be based on the rural rate of \$0.051 per MHz-pop rather than the \$0.065 per MHz-pop currently proposed.
17. SaskTel is concerned with the lack of a backup system for document submission in the event that bidders are for some reason unable to use the Canada Post epost Connect system.

INTRODUCTION

18. Saskatchewan Telecommunications (“SaskTel” or “the Company”) is pleased to provide this response to Gazette Notice SLPB-003-17 *Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands* (“the Consultation”).
19. SaskTel is mandated to provide telecommunications services to all residents of Saskatchewan. As part of this mandate, we are required to provide wireless fixed broadband services to both urban and rural subscribers. Many of these rural residents are located in sparsely populated and isolated parts of the province, making it a great challenge to provide these services. The ability to provide fixed wireless broadband is dependent on a combination of the:
- i. Amount of spectrum available;
 - ii. frequency band of the spectrum available;
 - iii. and the distribution of towers.

To make meaningful inroads into providing service over the 660,000 square kilometres of Saskatchewan, especially those outside urban areas and even small towns, there is a need for both a high number of towers and access to significant spectrum resources. Access to 2500 MHz spectrum is critical for SaskTel’s ability to expand fixed broadband coverage and capacity to more remote areas of the province and to improve the quality of the high speed internet in areas that SaskTel already covers.

20. A number of questions raised by the Department caused no concerns for SaskTel and, therefore, SaskTel has provided no comment at this stage. We do reserve the right to comment on these issues should some other party address them in their Comments raising issues affecting Saskatchewan. Failure to address any particular issue or item, or the Comments made by any other party, should not be construed as agreement with those Comments where such agreement is not in the interests of SaskTel.

SASKTEL RESPONSE TO THE CONSULTATION ON A LICENSING FRAMEWORK FOR RESIDUAL SPECTRUM LICENCES IN THE 700 MHz, 2500 MHz, 2300 MHz, PCS AND 1670-1675 MHz BANDS

3. Band Plan and Available Licenses

Q1 — ISED is seeking comments on the choice of licences being made available through this licensing process:

- a. are there other licences that should be made available in this licensing process? and**
- b. are there any of these licences that should not be included in this licensing process?**

21. The appropriate licenses are being made available through the current Consultation, with the exception of the I Block spectrum licences. No additional spectrum licenses should be included in this licensing process.

22. I Block spectrum licences should not be auctioned or issued at this time. A recent Gazette notice regarding renewal of advanced wireless services and other spectrum licences, remarked, regarding I Block:

To our knowledge, there has been no deployment using this spectrum and no commercial mobile broadband devices exist for this band.²

23. SaskTel's experience with technology vendors has found the above statement to be true. This same experience was shared in SaskTel's comments on the recent AWS License Renewal consultation. Furthermore, no current licence holders, Canadian or American, have announced or made any indication of plans to utilize this spectrum. There has been no activity at 3GPP that involves the I Block spectrum.

24. With no current or planned deployments and no future plans by the industry to standardize and develop this spectrum, SaskTel does not believe it is appropriate to auction or issue I Block licences at this time. Any I Block licences that are issued are guaranteed to remain unused for a significant period of time, which would be contrary to the Department's goal of efficient utilization of spectrum. Issuing licences that will

² Gazette Notice SLPB-002-17 "Consultation on a Licence Renewal Process for Advanced Wireless Services and other Spectrum", paragraph 15.

remain unused only benefits spectrum hoarders. It would be prudent for the Department to wait and to properly assess the I Block spectrum at some point in the future when and if this spectrum block is developed.

25. SaskTel recommends that all I Block licences be held by the Department until such time that the industry direction on the I Block spectrum becomes more clear. This would include the eight licences listed in section 3.5 Table 5 of the Consultation, as well as the six I Block licences that are part of the I Block licence renewal process.³

4. Competitive Measures

Q2 — ISED is seeking comments on its proposals to:

- a. maintain the spectrum aggregation limits on the 700 MHz licences;**
- b. maintain the spectrum aggregation limits on the 2500 MHz licences including newly available 2585-2595 MHz licences; and**
- c. not impose competitive measures on other licences issued through this licensing process.**

26. SaskTel does not agree with maintaining spectrum aggregation limits on the 2500 MHz licences in Saskatchewan as this spectrum is needed to serve rural markets with fixed wireless broadband services – the technology that will be at the forefront of delivering CRTC mandated internet speeds to deep rural locations in the future. Maintaining spectrum aggregation limits in the 2500 MHz band does not give the companies serving rural customers an equal chance to acquire this spectrum and does not represent good public policy.

27. Spectrum aggregation limits are an effective means of preventing the concentration of spectrum by carriers serving urban markets. However, retaining the limits on the unpaired 2500 MHz spectrum in Saskatchewan will impede the delivery of an acceptable level of fixed wireless high speed internet service in rural areas and specifically on First Nations reserves. In Saskatchewan, large pockets of rural residents whom cannot be economically served by wireline broadband are dependent on fixed wireless or even satellite based offerings. In order to provide fixed wireless service over large areas or to areas with scattered rural populations, access to spectrum by the base facilities provider is crucial to reasonable service delivery. The

³ Gazette Notice SLPB-002-17 “Consultation on a Licence Renewal Process for Advanced Wireless Services and other Spectrum”.

structure of the auction should not be used to make these rural delivery systems inefficient or non-functional through bandwidth caps or other artificial limitations.

28. Fixed wireless internet, utilizing 2500 MHz spectrum, is a very popular service in rural Saskatchewan. Due to this popularity, SaskTel is experiencing capacity issues on 21 towers that have required stop-sell orders, meaning that no additional customers can be added to those towers because demand is already reaching the limit of what can be provided with current spectrum. In 2016 SaskTel constructed seven towers to offload customers from congested locations, and many of those towers are already nearing capacity. Clearly, SaskTel could increase the capacity of, and the number of people served by, its fixed wireless solution if it had access to additional 2500 MHz spectrum. With the infrastructure in place, SaskTel could immediately deploy the unpaired 2500 MHz spectrum blocks. Maintaining current spectrum aggregation limits artificially restricts SaskTel's ability to improve fixed broadband service offering.
29. Such limits also run counter to the CRTC's goals for improving rural broadband service delivery. In their decisions in Telecom Regulatory Policy CRTC 2016-496⁴, the CRTC established that access to fixed broadband internet services in rural and remote areas is now included in the universal service objective, with minimum access speeds defined as 50 Mb/s download and 10 Mb/s upload. This decision was made by the CRTC so that all Canadians could benefit from access to high speed internet which has become essential to economic growth. Service providers such as SaskTel offering fixed wireless broadband services to rural and remote areas are unable to pursue the 50 Mb/s download and 10 Mb/s upload speeds established by the CRTC in the universal service objective without access to suitable spectrum, in this case 2500 MHz spectrum. In essence, SaskTel is unable to make progress towards the broadband service objectives in deep rural areas established by the CRTC because of the spectrum aggregation limits still being imposed by ISED.
30. Further, spectrum aggregation limits have served their purpose and are no longer necessary for the 2500 MHz band. The 2500 MHz band is almost completely assigned. The distribution of any further 2500 MHz spectrum amongst the service

⁴ CRTC Telecom Regulatory Policy CRTC 2016-496, Dec 21, 2016, <http://www.crtc.gc.ca/eng/archive/2016/2016-496.pdf>

providers will not significantly change with the auction of the residual spectrum blocks, so nothing would be gained by continuing the spectrum aggregation limits for the spectrum about to be auctioned. By allowing more entities to bid without restrictions on the unpaired 2500 MHz blocks included in this auction process, competition will be increased in the auction which generally results in higher auction revenues.

31. Therefore, for all of the reasons stated above, SaskTel recommends that the spectrum aggregation limits be removed for the 2500 MHz band.
32. However should the Department not believe it is in the public interest to remove the spectrum aggregation limits at this time, SaskTel recommends as a minimum that the residual spectrum blocks included in this auction process not count towards the spectrum aggregation limits. This would allow the residual 2500 MHz blocks to be most effectively and efficiently utilized to provide CRTC mandated wireless broadband service in rural and remote areas, and still allow the Department to manage the remainder of the 2500 MHz band.
33. There is also no need to continue the spectrum aggregation limits on the 700 MHz blocks included in the residual auction. These 700 MHz licences cover the far North, and there is limited demand as shown by the results of the initial 700 MHz spectrum auction. The aggregation limits for the 700 MHz spectrum blocks in the far North should be lifted as a means to promote the utilization of the 700 MHz spectrum in this isolated area.
34. SaskTel agrees with the proposal not to impose competitive measures on the other licences issued through this licensing process.

5.2 Deployment Requirements

Q3 — ISED is seeking comments on:

- a. **the likely timeframe for availability of equipment capable of providing access to licensed spectrum on an opportunistic basis;**
- b. **licence terms;**
- c. **the proposal to apply deployment levels to each of the licences as described in annex F; and**
- d. **the proposed conditions of licence as outlined in annexes A through F.**

Opportunistic Spectrum Access

35. SaskTel follows developments in technology and protocols for cognitive and opportunistic access to spectrum. Although advances are being made, and some devices are being tested, it is premature at this time for the Department to make any policy decisions based on this early research work on opportunistic spectrum access.
36. In comparison to the pace of developments in wireless technologies such as 5G, LTE in both licensed and unlicensed spectrum, and even Wi-Fi protocols, there is less focus on developing and testing cognitive radio systems and dynamic spectrum access (DSA) protocols. And make no mistake, the work and coordination devoted to developing early stage wireless technologies, like CDMA and UMTS are significant. Only now has the industry started phasing CDMA out, after it was in use for almost 20 years. 5G technology is currently under development, and may not be in wide use for 2 or 3 years, and it has been under development for at least five years.
37. Opportunistic spectrum access and DSA protocols are years away from being implemented and significant challenges remain in the development path. Although opportunistic spectrum access has been proposed as one solution to future spectrum shortages, this is a long term solution. Significant development or deployments of cognitive or DSA systems in exclusively licensed mobile spectrum bands are at least 5 years away with real implementation likely much later. As previously stated, it is very premature to make any policy decisions on opportunistic spectrum access with such uncertainty still the reality.
38. A core criteria for the design, planning, and implementation of high performance mobile wireless networks such as LTE and future 5G networks is the assumption that the operator has exclusive access to the spectrum being utilized. The operation and optimization of these networks is rooted in the principal that the network operator maintains control of the spectrum block and has the capability to address any interference or noise levels in that spectrum. Moving from a model of exclusive spectrum access to a model of priority spectrum access would completely disrupt the network design and optimization parameters necessitating a complete overhaul of the current and future network infrastructures to allow for management of uncontrolled interference sources from other spectrum users, even secondary spectrum users. The costs associated with such work would eventually need to be borne by consumers.

39. SaskTel strongly recommends that any proposed changes in policy or licence conditions only be made after an extensive and thorough public consultation, conducted at the time when mobile technology available and network design principles for opportunistic spectrum access becomes more clear and somewhat realistic. Any movement towards introducing opportunistic access to spectrum in exclusively licensed spectrum is a major change not only to the existing and future network technologies and service levels, but also to the network service provider's business and investment models. Potential impacts to existing and future wireless networks, service levels, and business models must be carefully considered before work on policies to accommodate opportunistic access to spectrum begins.

Licence Terms: 700 MHz, 2500 MHz, WCS, PCS Licences

40. The proposal to issue the 700 MHz, 2500 MHz, WCS, and PCS spectrum licences for 20 year terms is reasonable. These spectrum bands have well developed ecosystems, and no change to the use of these bands is anticipated during that time.

41. SaskTel expects a continued reliance on LTE networks even after 5G networks are introduced. The Department's assertion that no significant changes are expected in these spectrum bands over the long term is both reasonable and appropriate given current evidence. Providing a 20-year licence will allow for more certainty in making the long term investment decisions required for wireless infrastructure.

Licence Terms: I Block Licences

42. The Department has already noted that there have been no I Block deployments in the US or Canada, and that no development of devices capable of using this spectrum is underway. There is no evidence to counter this view.

43. As a result, all of the I Block licences should be held by the Department until such time as the industry direction on the I Block spectrum resolves to permit the Department to manage effective spectrum deployment.

44. Should the Department choose to issue I Block licences, a 10-year term would assist with effective spectrum management. Given the uncertain use cases, the shorter licence term would give the Department more flexibility in re-evaluating the prospects for this spectrum when and if this spectrum is developed for use.

Deployment Requirements

45. The proposed deployment requirements for the 700 MHz, 2500 MHz, WCS, and PCS spectrum bands as given in Annex F of the Consultation are reasonable and appropriate.
46. No I block licences should be auctioned and issued at this time, however, should the Department decide to auction and issue I Block spectrum licences, the proposed deployment requirements are reasonable and appropriate.

Conditions of Licence

47. The proposed conditions of licence listed in Annex F of the Consultation for the 700 MHz, WCS, and PCS spectrum licences are reasonable and appropriate.
48. The proposed conditions of licence for the 2500 MHz spectrum, except for the conditions of licence related to spectrum aggregation limits in this band, are also reasonable and appropriate. As discussed above, SaskTel recommends that the spectrum aggregation limits be removed for the 2500 MHz band. As outlined above, the spectrum aggregation limits for 2500 MHz have served their purpose already and are no longer necessary due to the near complete assignment and broad distribution of 2500 MHz spectrum. The distribution of 2500 MHz spectrum amongst the service providers will not significantly change through auction of the residual spectrum blocks, so nothing would be gained by continuing the limits. As discussed above, the continued application of the aggregation limits is impeding SaskTel's delivery of wireless broadband to isolated rural areas, and therefore negatively impacting rural Canadians.
49. I Block licences should not be issued at this time, but rather should be held in reserve by the Department until the industry direction on the I Block spectrum becomes more clear. However, should the Department decide to issue the I Block spectrum licences, then the proposed conditions of licence for the I Block spectrum licences are reasonable and appropriate.
50. Modifications to the licence conditions on annual reporting would help reduce administrative burdens both for the Department and licence holders. In the Consultation, the proposed conditions of licence include requirements for licence

holders to submit an annual report for every spectrum licence. Said annual report includes corporate annual reports and financial statements, along with detailed deployment reports on the implementation of each spectrum licence. For those operators currently required to adhere to the research and development (R&D) investment requirements, the annual report also requires submission of audited financial statements and a detailed R&D expenditure report. As wireless networks grow and evolve, and the number of licences held by operators increases, the administrative burdens to create and manage these reports multiplies as well.

51. In 2012, the Treasury Board of Canada launched the “Red Tape Reduction Plan” (the Plan) – a plan that remains active to this day. The Plan is the product of business community input to a year-long commission, targeting specific irritants to businesses and the systemic barriers that unnecessarily frustrate and burden Canadian business with additional delays, costs and bureaucracy. As part of the plan, the Commission called on regulators to reduce the regulatory burden on business. Thirty-one initiatives identified to:

- i. Streamline regulatory approval processes;
- ii. **Reduce reporting requirements and information demands; and**
- iii. Improve the coordination of compliance and enforcement activities.

Consistent with the Plan’s objectives, SaskTel suggests that the Department consider moving from an annual reporting process to an “on request” model where the Department would request each licence holder to provide these reports such as the deployment updates only when required by the Department. We believe this will reduce the administrative burdens on both the Department and spectrum licence holders, while still preserving the ability to maintain timely access to the information required by the Department to manage the spectrum licences.

6. Auction Format and Rules

Q4 — ISED is seeking comments on its proposals:

- a. to use the sealed-bid auction format for the auction of residual licences, and
- b. on the timelines set out in the Proposed Table of Key Dates.

52. A Simultaneous Multiple Round Auction (SMRA) auction format should be used for the residual spectrum licences. The SMRA format allows for full price discovery, and bidders can most effectively express their value of the spectrum. The proposed sealed bid format is only efficient and effective when a small handful of licences are being awarded. The large number and variety of licences proposed to be awarded in this auction better lends itself to the SMRA format.

53. An SMRA auction format will take longer to complete, however, the drawbacks of the delay will be far outweighed by the benefits of an open and transparent ascending bid SMRA auction process with effective price discovery. An SMRA auction can be conducted during the latter half of February with the initial and final payments due as per the March dates identified in the Proposed Table of Key Dates.

Q5 — ISED is seeking comments on its proposal to include package bidding for 2500 MHz licences in the sealed bid auction format.

54. In the event that the sealed bid auction is chosen over the SMRA, which should not be done for the reasons discussed above, the Department's proposal as described in section 6.2 of the Consultation to allow package bidding of the 2500 MHz licences within the groupings shown in Table 6 should be implemented.

Q6 — ISED is seeking comments on its proposal to use a second-price rule for this auction and the Vickery price determination mechanism.

55. If the sealed bid auction is chosen despite the objections above, the proposal to use the second price rule, including bidder optimal core prices and the "nearest Vickery" price determination approach, as described in the Consultation is reasonable.

Q7 — ISED is seeking comments on the proposed opening bids as presented in tables 7, 8, 9, and 10.

56. The opening bids for all three Tier 3 2500 MHz licences in Saskatchewan should be based on the rural rate of \$0.051/MHz/Pop. SaskTel would deploy the unpaired 2500 MHz to improve both the coverage and capacity of its fixed wireless internet service in rural and deep rural Saskatchewan. Although the Regina and Saskatoon licences each cover the respective Census Metropolitan Areas (CMA) the spectrum will not

benefit urban residents who receive broadband services via wireline from many providers. The primary beneficiaries for deployment of unpaired 2500 MHz spectrum are rural residents.

57. Other opening bids as presented in tables 7, 8, 9, and 10 of the Consultation are reasonable and appropriate.

7. Bidder participation – affiliated and associated entities

Q8 — ISED is seeking comments on its proposed rules regarding Affiliated and Associated Entities, which would apply to applicants and bidders in the upcoming auction of residual spectrum licences.

58. The proposed rules regarding Affiliated and Associated Entities are reasonable and appropriate.

Q9 — ISED is seeking comments on the rules prohibiting collusion and other communication rules, which would apply to bidders in the upcoming auction of residual spectrum licences.

59. The proposed rules prohibiting collusion, along with the other communication rules to be imposed on bidders, are reasonable and appropriate.

8. Auction Process

Q10 — ISED is seeking comments on:

- a. the proposed auction process for the auction of residual licences;**
- b. the proposed use of Canada Post’s ePost Connect services for auction applications, associated documentation and bid forms; and**
- c. section 8.12, the proposal to auction some or all of the frequency bands separately. Please include any preferences on the order of the bands.**

60. In the event that the Department does not utilize the SMRA auction process, the auction process for the residual licences as described in section 8 of the Consultation is reasonable and appropriate.

61. SaskTel has no experience using the Canada Post epost Connect services, and therefore does not have an opinion on its suitability for use in the submission of documents in the residual spectrum auction process. SaskTel does note the

statement in the Consultation that the service is certified to transmit confidential documents up to the Protected B classification level.

62. SaskTel also notes that there appears to be no mechanism for the backup submission of documents in the event of unforeseen circumstances that might make the Canada Post epost Connect service unavailable. The Department should provide some means for the backup submission of documents for use in unforeseen or emergency situations.

63. There are no gains to be made by auctioning the bands separately as proposed in section 8.12. No dependencies between the licences being offered exist seeing that they are in different bands with very little overlap in geography. It would be most prudent and efficient to auction all of the residual licences in a single round.

9. *Post-auction licensing process for unassigned licences*

Q11 — ISED is seeking comments on the proposed renewal process.

64. The proposed renewal process is reasonable and appropriate.

CONCLUSION

65. It is in the best public interest to auction off the residual spectrum licences in all bands contemplated in the Consultation, with the exception of I Block.

66. With no apparent industry direction at all for development of the I Block, and no plans by any current I Block licence holder to utilize this spectrum in either the short or long term, no I Block licences should be auctioned at this time. All I Block licences, including those licences previously issued and now up for renewal, should all be held by the Department until such time as the industry direction on the I Block becomes clear.

67. The spectrum aggregation limits in the 2500 MHz band have already served their purpose as the entire band is almost fully licensed. Continuing to impose the spectrum aggregation limits will not result in a large change in the distribution of licences amongst the service providers, but will have a very detrimental impact on the delivery of wireless broadband services in rural areas due to restrictions imposed on

the acquisition of additional 2500 MHz spectrum that can easily alleviate this problem. SaskTel is unable to pursue the broadband access service requirements of 50 Mb/s download and 10 Mb/s upload established as a universal service objective in rural and remote areas by the CRTC in their decision CRTC 2016-496 because of the 2500 MHz spectrum aggregation limits still being imposed by ISED.

68. SaskTel recommends that the spectrum aggregation limits be removed for the 2500 MHz band.
69. Failing that, SaskTel would recommend as a minimum that the residual 2500 MHz blocks being auctioned in this process not count towards the spectrum aggregation limits. Allowing more entities to bid on the spectrum in the auction will increase competition which generally results in higher auction revenues. Removing the restrictions would allow the residual 2500 MHz blocks to be most effectively and efficiently utilized to provide CRTC mandated wireless broadband service in rural and remote areas, and still allow the Department to manage the remainder of the 2500 MHz band.
70. With regards to development of opportunistic spectrum access technologies, it is very premature to make any decisions on policy or licensing changes for this future technology at this time. The introduction of licence conditions to accommodate future opportunistic spectrum access devices and technologies will have a very serious impact on *current* network design and reliability. Modern wireless networks are presently designed based on the principal of exclusive access where interference sources and levels are all controlled by the licence holder allowing full and proper network optimization resulting in maximum network performance and efficiency. Degrading spectrum access from exclusive down to priority access will require large scale changes in network design and optimization principals, resulting in the requirement for a complete overhaul of the existing network to properly accommodate potentially random interference sources.
71. Any proposed changes in policy or licence conditions to allow opportunistic spectrum access technologies should only be made after an extensive and thorough public consultation, conducted at a time when industry direction on such devices becomes more clear, and where the focus is solely on network design and operation.

72. With the exception of the I Block spectrum licences, the proposed terms and conditions of licence for the licences to be issued in this process are reasonable and appropriate. However, consistent with the Canadian Government's "Red Tape Reduction Plan", SaskTel suggests possible changes to the annual reporting process to reduce administrative burdens, including the option of only requiring the information now submitted annually by every licence holder to only needing to be provided "on request" of the Department. This would reduce burdens not only for licence holders but for the Department as well.
73. Based on the large number of licences being auctioned, an SMRA auction format should be used. The SMRA format allows for full price discovery and more effective expression of value for the spectrum. The sealed bid format proposed by the department only works well when a small number of licences are being auctioned.
74. Other than recommended use of the SMRA format, the proposed auction process, terms and conditions being proposed are reasonable and appropriate. However, the opening bid values for the Regina and Saskatoon 2500 MHz spectrum licences should be based on the rural rate of \$0.051 per MHz-pop given the intended use and utility of the spectrum.
75. The lack of a backup system for document submission in the event that bidders are for some reason unable to access or use the Canada Post epost Connect system is concerning.
76. SaskTel is pleased to have had the opportunity to provide our inputs and comments to the important issues raised in this Consultation, and hopes that our submission will provide a fuller view of these issues to the Department.